

Fall 2021

Hybridity and Habitation: A Rhetorical Analysis of Interior Design in Live-Action Cyberpunk Films Through the Lens of Posthumanism and Thing Theory

Sydney Ng
San Jose State University

Follow this and additional works at: https://scholarworks.sjsu.edu/etd_theses

Recommended Citation

Ng, Sydney, "Hybridity and Habitation: A Rhetorical Analysis of Interior Design in Live-Action Cyberpunk Films Through the Lens of Posthumanism and Thing Theory" (2021). *Master's Theses*. 5239.
DOI: <https://doi.org/10.31979/etd.fwc5-vm4n>
https://scholarworks.sjsu.edu/etd_theses/5239

This Thesis is brought to you for free and open access by the Master's Theses and Graduate Research at SJSU ScholarWorks. It has been accepted for inclusion in Master's Theses by an authorized administrator of SJSU ScholarWorks. For more information, please contact scholarworks@sjsu.edu.

HYBRIDITY AND HABITATION: A RHETORICAL ANALYSIS OF INTERIOR
DESIGN IN LIVE-ACTION CYBERPUNK FILMS THROUGH THE LENS OF
POSTHUMANISM AND THING THEORY

A Thesis

Presented to

The Faculty of the Department of Communication Studies

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Sydney Ng

December 2021

© 2021

Sydney Ng

ALL RIGHTS RESERVED

The Designated Thesis Committee Approves the Thesis Titled

HYBRIDITY AND HABITATION: A RHETORICAL ANALYSIS OF INTERIOR
DESIGN IN LIVE-ACTION CYBERPUNK FILMS THROUGH THE LENS OF
POSTHUMANISM AND THING THEORY

by

Sydney Ng

APPROVED FOR THE DEPARTMENT OF COMMUNICATION STUDIES

SAN JOSÉ STATE UNIVERSITY

December 2021

Andrew F. Wood, Ph.D.

Department of Communication Studies

Kristen L. Cole, Ph.D.

Department of Communication Studies

Tabitha Hart, Ph.D.

Department of Communication Studies

ABSTRACT

HYBRIDITY AND HABITATION: A RHETORICAL ANALYSIS OF INTERIOR DESIGN IN LIVE-ACTION CYBERPUNK FILMS THROUGH THE LENS OF POSTHUMANISM AND THING THEORY

by Sydney Ng

Characterized by hyper-urban environments, extreme class division, and an abundance of corporate oversight, the cyberpunk subgenre of science-fiction is a prime candidate for scholarly research on speculative interior design and associated technologies. Using the theoretical frameworks of posthumanism, or the concept that humans will transcend their current biological form in the near future, and thing theory, or the worldview that objects are able to enact their autonomy on living subjects, interior design in three live-action films in the cyberpunk subgenre were analyzed in order to determine how depictions of future spaces reflect present ideations of our potential real future. Metaphor analysis was employed as this thesis' methodology, as the ideologies implemented in design and technology are often understood through tactile or visual interactions with artifacts. After applying metaphor analysis to one domestic space, one workspace, and one decorative element in each film, it has become evident that in our inevitable posthuman future, human scale and the corporeal form of our species must be taken into account when creating spaces and technologies for us to inhabit and use. Though it may be inaccurate to surmise that design can solve all of the institutional problems that plague societies, there is reason to believe that the inanimate spaces and technologies that occupy our lives do play a role in affecting our psyche and ability to foster healthy relationships.

TABLE OF CONTENTS

Chapter 1: Introduction.....	1
Introduction to the Cyberpunk Genre.....	1
Text Synopses.....	7
Research Question, Justification, and Scope.....	8
Chapter Overview.....	12
Chapter 2: Literature Review.....	14
Introduction to the Literature Review.....	14
Theoretical Models for Posthumanism.....	14
Theoretical Models for Thing Theory.....	18
Perspectives on Posthumanism.....	21
Posthumanism is Positive.....	21
Posthumanism is Negative.....	24
Posthumanism is Neither Positive nor Negative.....	27
Posthumanism and Identity.....	30
Gaps in Research Regarding Posthumanism.....	35
Perspectives on Thing Theory.....	37
Thing Theory is Correct.....	37
Thing Theory is Incorrect.....	43
Thing Theory and Object Oriented Ontology.....	46
Gaps in Research Regarding Thing Theory.....	50
Summary.....	53
Chapter 3: Methods.....	55
Introduction to Metaphor Analysis.....	55
Coding Approach to Metaphor Analysis.....	59
Metaphor Analysis of Verbal and Written Artifacts.....	62
Metaphor Analysis of Visual Artifacts.....	67
Metaphor Analysis in this Study.....	71
Specific Procedures in this Study.....	74
Summary.....	78
Chapter 4: Analysis.....	80
Introduction to Analysis.....	80
<i>Blade Runner 2049</i> -Environment as Obstacle.....	80
Synopsis of <i>Blade Runner 2049</i>	80
<i>Blade Runner 2049</i> in the Cyberpunk Genre.....	82
Domestic Spaces in <i>Blade Runner 2049</i>	84
Workspaces in <i>Blade Runner 2049</i>	87
Decorative Elements in <i>Blade Runner 2049</i>	91
Summary of <i>Blade Runner 2049</i> Analysis.....	94
Upgrade-Technology as Integration.....	95

Synopsis of <i>Upgrade</i>	95
<i>Upgrade</i> in the Cyberpunk Genre.....	96
Domestic Spaces in <i>Upgrade</i>	98
Workspaces in <i>Upgrade</i>	101
Decorative Elements in <i>Upgrade</i>	104
Summary of <i>Upgrade</i> Analysis	107
<i>Her</i> -Intimacy as Currency.....	108
Synopsis of <i>Her</i>	108
<i>Her</i> in the Cyberpunk Genre.....	110
Domestic Spaces in <i>Her</i>	113
Workspaces in <i>Her</i>	116
Decorative Elements in <i>Her</i>	120
Summary of <i>Her</i> Analysis	123
Summary	124
Chapter 5: Conclusion.....	125
Introduction to Conclusion	125
Summary of Previous Chapters	125
Major Findings.....	133
Limitations	137
Implications.....	140
Overview of Implications	140
Impact on Communication Studies	141
Practical Applications and Further Research.....	141
Closing Thoughts	143
References.....	145

Chapter 1: Introduction

Introduction to the Cyberpunk Genre

Finally, it's ten o'clock at night but the glow of neon signs keeps the deeply congested streets well-lit. "I might as well be swimming," you think, as you push through a sea of pedestrians. Some of the city lights emanate from the pedestrians too, who converse in various languages while their cybernetic implants beep and blink in an asynchronous rhythm. Humidity fogs up your lenses so you turn down an alleyway and head toward the mechanic's shop. After passing through the rusty automatic door, you say to the woman at the counter, "I'm here for routine maintenance." She scans the Derma-chip in your wrist for the initial deposit and immediately gets to work. You would like to sit while she scrubs up and gathers the parts, but the shop is too cramped with mechanical odds and ends to host any idle seating. Yet, even in this tiny space, you are bombarded with sensations. The bright holographic display above her phone warns of a full voicemail box and the smell of formaldehyde, rubbing alcohol, and motor oil sting your nasal sensors. You eventually follow the mechanic to the back room and you lie down on the cold, aluminum cot that freely hovers three feet over the dingy concrete floor. As you stare at the various monitors plastered to the walls, the mechanic says, "I would recommend you be unconscious for this procedure." Snapping back to reality, you turn toward her. "My sleep-button is on the nape of my neck," you reply, "Press and hold. I'll see you when the sun rises."

The cyberpunk genre marked a turn in science fiction away from exploratory optimism. Instead of looking outward toward the stars as early science fiction writers have done, writers of the cyberpunk genre looked inward toward the societies we have already built (Hollinger,

1990). Cyberpunk, originating primarily in the literary world, is considered to be a part of the New Wave of science fiction. In literary studies, science fiction is divided into two ages, that of “hard” science and “soft” science. New Wave science fiction, though still taking elements from the “hard” sciences, had a focus on the “soft” social sciences (McHale, 2010). At the time of its origin in the 1960s, New Wave science fiction was considered to be controversial because of how its authors grappled with social issues such as drugs, post-war attitudes, sexuality, and environmental decay. The authors of the previous era of science fiction had retired, making room in the publishing world for writers who did not fit the narrative restraints of the older genre. Furthermore, readers were hungry for literature that explored new territories in science fiction (Latham, 2010). As a result, the majority of stories written during this time were thematically distinct from “hard” science fiction. Authors such as Phillip K. Dick and J. G. Ballard took advantage of this empty niche by writing stories that questioned the nature of reality. Advanced technologies in these narratives were not used to fly readers to other solar systems, but to alter the sensory and communicative experience of humans.

By the 1980s, science fiction was no longer employed as a mechanism for fantastical escapism, but rather as a method for understanding the cycle of institutional corruption present in our culture. Cyberpunk was born when the original new wave writers retired, repeating the cycle of searching for new themes in the publishing industry. Pioneers in the genre, including William Gibson, Neal Stephenson, and Bruce Sterling highlighted the rebellious subcultures in futuristic societies, hence the “punk” in cyberpunk (Latham, 2010). In these fictionalized realities, to be human was synonymous with being a rebel. Humanity

was no longer seen as a homogenous species but as a collective of various technologies, biologies, and the ironic pride of being an outcast. This holds some similarities to artist collectives, where small groups of artists would combine their efforts under their own authority. Subsequently, cyberpunk was popular with youth populations, leading to cyberpunk crossing over with great success into the video game and film world. In the 21st century, these may be the mediums in which individuals encounter the genre the most.

Cyberpunk authors were inherently critical of their predecessors, as their newer additions to the genre deconstructed the notion that the universe could be understood, dissected, and categorized through human reasoning. Narratives in the genre were typically void of escapism and worldviews that promoted technology as a remedy for humanity's imperfections. Arguably, a cyberpunk story with non-human characters or alien environments will still have human characteristics mapped onto it. A civilization on another planet will still have retail stores, homelessness, and explicit corporate or governmental institutions, albeit all fitted with technologies that do not currently exist in our reality. This has garnered cyberpunk the nickname, "high-tech, low-life," which hints that people will always have to combat their psychological and societal flaws even with the advent of fantastical technologies. In fact, cyberpunk authors purposely hone in on problems that human civilization has brought upon itself, including but not limited to socioeconomic disparity, environmental degradation, and discrimination against marginalized groups. This is not to say that cyberpunk is purely pessimistic. Rather, cyberpunk narratives suggest that technology will not rid us of the issues that plague us in the present day.

From a visual communication standpoint, cyberpunk is often characterized by hyper-urban, dystopian cityscapes. These settings are uniquely situated for analyzing social issues since cities are essentially large spaces created by and for one species in mind: humans. A shark does not shape the ocean to suit itself, and a lion does not decorate the savannah to its own liking. But we may go so far as to eradicate natural environments that support other forms of life in order to accommodate our own kind. The cyberpunk authors then question, if such a tailored habitat exists, why are residents still struggling emotionally and physically in their daily lives? Surely, advanced technology created for human usage should improve these conditions? Where did we go wrong in creating these megacities? Writers in the cyberpunk genre may have a variety of answers, but the most common response may be that humans are not the pinnacle of life on earth. In these narratives, we are forced to reckon with the fact that our current ontological understanding of our existence may be incorrect. The hyper-urban settings of cyberpunk stories visually communicate how detrimental unchecked human ambition can be. In short, our ability to accomplish such architectural heights should not always be read as a marker of our intelligence and ability but rather a sign that we should reevaluate our impact on the world as a species before expanding our reach. While we are capable of inventing amazing machines and designing enormous metropolises, we can simultaneously be a selfish group capable of self-sabotage on a large scale. Therefore, cyberpunk writers often propose that as an entire species, we require upheaval and improvement.

Part of the popular appeal of these urban landscapes in cyberpunk narratives is their ability to overwhelm the characters and the readers, further immersing us into the story. In

“Thing Theory,” which was originally proposed by Bill Brown (2001), the theorist suggests that objects hold more influence over people than previously thought. Brown posits that inanimate objects have the potential to communicate with the living, though not through the traditional channels of speech or written word. This suggests that the ability to communicate and interact with others is not a uniquely human (or animal) trait, implying once again that humans are not as superior as once thought. Thing theory becomes relevant in the cyberpunk genre firstly through how spaces alter people’s movement and psychological state, and secondly with artificially intelligent beings. The typical cyberpunk environment stands as a metaphor for the oppressive forces subcultures must endure in order to survive in a megacity. Although buildings and streets are inanimate, writers can bring them to life by demonstrating how a character’s quality of life is worsened or improved by the spaces they occupy. On the other hand, artificially intelligent beings may represent tools that have been given a human-like personality or ability to reason. In cyberpunk, inanimate objects can literally compete with humans for agency and authority over each other, with the inanimate sometimes winning. While not always directly referenced in cyberpunk stories, the statements posited by thing theory are prevalent in the detailed surroundings of these settings.

One of the more prominent themes in the cyberpunk genre is posthumanism, or the concept that present day humans will transcend their current form by combining with other species and inorganic technologies. The concept of a hybrid human is not unique to the cyberpunk genre, and has roots as far back as in ancient Greek mythology. Pandora, who was created out of clay by Hephaestus, is considered to be the first fictional instance of a cyborg in history (Vidler, 1992). Augmentation of the human body was also present in gothic horror

literature, whose influences can be found in cyberpunk's offshoot, bio-punk (McHale, 2010). However, authors who employ the cyberpunk interpretation of the hybrid human usually involve some implementation of machines into the human body. Though humanoid robots, otherwise known as androids, are present in previous subgenres of science fiction, human-machine hybrids are preferred in cyberpunk stories (McHale, 2010). This is why authors write their cyberpunk characters to experiment with prosthetics, wetware, or "jacking" their brains into virtual reality. Since new age science fiction was known for questioning identity and existence as a human being, it makes sense that these interpretations of cyborgs would blur the line between natural and artificial without breaking it. In cyberpunk stories, the human portions of the cyborg are often referred to as "meat," implying that characters see their bodies as a patchwork of various materials. These hybrids also often have augmentations that were specialized for a specific occupation, which further grounds cyberpunk stories in our reality (McHale, 2010). Ultimately, the inclusion of cyborgs in this genre is not just an aesthetic choice, but an expression of how one's abstract identity can be altered through the tangible body.

Clearly, the cyborg framework has implications on the physical transformation of the human body. We must ask how this transformation will affect our interactions with objects, spaces, and urban society as a whole. Writers have even proposed that the implementation of posthumanism will produce an overall existential concern regarding the rapid change in the relationship between humanity and technology (Pepperell, 1995). Cyberpunk is then used to explore how changes to the human body alter human behavior. However, some writers may propose that changes to the body will have no significant effect on human nature. In other

words, corruption cannot be eradicated with posthumanism. From this worldview, no amount of advanced technology can save or destroy civilization on its own without purposeful motive, even though we may look toward technology as either the cure or root of suffering. In the present day, we might then experience this perspective through the visually immersive lens of film.

Text Synopses

The three films I will be analyzing in this study are *Blade Runner 2049* (Villeneuve, 2017), *Upgrade* (Whannell, 2018), and *Her* (Jonze, 2013). The primary reason these films were picked together is that they stand at three different places on the spectrum of dystopia-to-utopia. Of the three films being analyzed in this study, *Blade Runner 2049* is the most prototypical toward the cyberpunk genre. The film is a sequel to *Blade Runner* (1982), which is widely considered to be the artistic progenitor of all cyberpunk films (Hamblin & O'Connell, 2020). In order for the plot of *Blade Runner 2049* to flow as a cohesive part of the original *Blade Runner* mythos, the filmmakers must show a natural progression of architecture and interior design from that of the original film. This means that the enormous skyscrapers and holographic advertisements present in the first film are frequently displayed in the sequel. *Blade Runner 2049* also explores manmade offshoots of the human race. This includes artificially mass-produced humans, otherwise known as replicants, and holographic semi-sentient beings that resemble humans in appearance and behavior. The presence of these beings provides an opportunity to explore how individuals utilize their spaces after we have incorporated Posthumanism into our society to a fuller, more ubiquitous extent. In contrast, *Upgrade* is mainly set in the suburban neighborhoods of a larger metropolitan area

and exclusively features human characters. Natural resources are just as abundant in comparison to our real world, and most scenes take place in free-standing buildings and homes. The film shows housing in both uber-wealthy and impoverished neighborhoods, and free-standing homes with natural elements are present in both, albeit slightly less in the latter. This indicates that cyberpunk stories can be set in areas that are not explicitly urban, meaning that these narratives can be adapted to a variety of settings that exist in our current world. Finally, *Her* provides an unusual take on the cyberpunk genre in that it presents a utopian, idyllic society. Even though the story takes place in a dense, urban Los Angeles, residents seem satisfied with their physical environment. The world of *Her* is distinctly neighborly and the city is built for socialization and human interaction. This is evidenced by the presence of mixed-use buildings, the dominance of pedestrian walkways over city streets, and bright color-blocking motifs that encourage platonic and romantic intimacy. As with *Blade Runner 2049*, *Her* also presents characters that are non-human. Pushing further than the former, this film introduces beings that do not even have an outward visualization of a tangible body, producing characters that only manifest through voice and behavior. Despite belonging to the same genre, these three films vary in their adherence to traditional cyberpunk tropes, with *Blade Runner 2049* sticking to the formula the most, *Her* deviating the furthest, and *Upgrade* sitting in the middle. This selection of films will then capture a broad sample of cyberpunk interpretations.

Research Question, Justification, and Scope

My thesis is organized around the following research question: how does interior design in cyberpunk science fiction films reflect our current perception of human interaction and

human bodies in the future? Despite being inanimate, the spaces we inhabit can provide insight on how society organizes and compartmentalizes different aspects of people's lives. An office that has recreational elements suggests that a culture values socialization in the workforce, and an apartment filled with wooden materials implies that the natural resources of the world have not been depleted to a point of scarcity. Though fictional, cyberpunk stories are ultimately a projection of our current hopes and fears for our real future. In actuality, we are incapable of living in the future or living in the past. Science fiction is therefore not a true accurate prediction of our future, but an attempt to ruminate about how our present anxieties may affect our tomorrow. The genre, and all its subgenres, are speculative in nature. In relation, the term "speculative architecture" is associated with fiction, but it is imperative to understand that even real world design is speculative (Abbott, 2007). All buildings, fictional or not, start in the imagination of a writer, director, or designer. The main difference between the two is that we are able to interact with real buildings on a tangible level. However, even this border is beginning to blur as media can now be consumed in more immersive ways, including virtual reality, 3-D films, and video games. Since it is a genre that is noted for its attention to architecture and interior design, cyberpunk may be an outlet for real world architects and designers to explore spaces that are not yet feasible in our present time but might be in the near future. Film is also a popular, accessible medium that allows creators to present their prediction of the future to a wide audience. For this reason, cyberpunk films may occupy a space in our cultural consciousness.

Additionally, this thesis is meant to elaborate upon tactile communication within the field of communication studies. The ability to communicate is usually associated with visual or

auditory sensory input. Written word, video, speech, and music are all examples of communication that is processed through these two senses. However, there is a case to be made that tactile communication is equally important concerning how humans understand the environments they inhabit. Studying tactile communication may allow scholars to interpret how humans interact in spaces where they are alone. If one is alone in their home, they are still able to gather information about the outside world by interacting with the objects that surround them. The most obvious examples would be for the person to pick up their phone and call someone or use their computer keyboard to send someone an email. These methods of communication combine visual and auditory input with a tactile experience. Yet, some information is uniquely processed solely through touch. One could feel their bedsheets and instantly understand what cotton is, and how that may be different from polyester or silk. Though researching cotton on the internet may provide background information on the history of cotton manufacturing, doing so cannot provide the experience of feeling the breathability and softness of the fabric itself. Even when looking at an image of cotton, we may unknowingly simulate the experience of touching the fabric in our minds. We know through viewing a visual representation of cotton that the material is not prickly like a cactus or wet like water because there are elements of our world that are primarily understood through tactile interaction. Knowledge of our environment is received with touch. The analysis of the three selected films will still cover other types of communication, especially visual, but tactile communication will play a significant role in answering my research question.

This study will primarily cover the interior design of residential and occupational structures in live-action cyberpunk films. The majority of discourse on design in science fiction focuses on exterior architecture. This is especially true in analyses of the cyberpunk subgenre, which tend to hone in on urban planning and city structure. I contend that we use our bodies to interact with our interiors more than our exteriors on a daily basis, proving that there is a need for discussion on interior design in science fiction studies. Within the realm of interior spaces, it could also be argued that individuals spend most of their time either in their homes or workspaces. For this reason, I will be analyzing one domestic space and one workplace per film. Within the scope of this study, spaces in these categories must be used in utilitarian domestic or workplace tasks respectively. They can serve a leisure or entertainment purpose as well, as long as that purpose is secondary to utilitarianism. To balance the pragmatic functions of these spaces, I will also be analyzing one decorative element or the decoration of one space per film. Departing from the spaces analyzed in the previous two categories, objects and spaces in this category can have a utilitarian purpose only if their primary purpose is for decoration, leisure, or entertainment. Additionally, though there are a multitude of animated cyberpunk films, I will only be analyzing live-action films in order to find examples that are visually closest to our reality. Even with the employment of computer generated imagery, the nature of live-action films may prevent filmmakers and production designers from excessively suspending the audiences' disbelief. Consequently, the finished product of a live-action film must resemble our reality enough to immerse the audience in the film's environment.

As a foundation for my theoretical frameworks of posthumanism and thing theory, I will employ a combination of two perspectives: a cyborg framework interpreted by Donna Haraway (1991) and augmented by Anthony Vidler (1992), and the articulation of thing theory offered by Bill Brown (2001). Haraway (1991) is not the sole originator of the framework, but their article is best suited for understanding the role posthumanist applications play in the design of everyday spaces. Although there are multiple interpretations of posthumanism, "A Cyborg Manifesto" (Haraway, 1991) will be the primary blueprint for this study as it provides background on the practical application of posthumanism in our present day. This is illustrated when Haraway delves into a multitude of scientific disciplines, displaying how ubiquitous the application of posthumanism can be. Similarly, Brown also examines the production and usage of real mundane objects that are common in our current time through thing theory. The scholar essentially states that objects and spaces have a level of agency over their human owners, despite being inanimate. Though this seems abstract, the inclusion of these everyday examples provides a practical foundation for the theory in our lives. As a result, posthumanism and thing theory are ideal theoretical candidates for uncovering the connection between fictional settings and our society's plans for our non-fictional future.

Chapter Overview

This study will include a literature review of previous research on posthumanism and thing theory, a methods section covering metaphor criticism, an analysis section where I will examine *Blade Runner 2049*, *Upgrade*, and *Her*. Finally, I will conclude by synthesizing my findings and discussing my research limitations. The previous literature I will be analyzing in

my literature review chapter includes research on both fictional and non-fictional applications of the two theoretical perspectives. While many of the articles touch on the cyberpunk genre, the main focus of that section is to display various attitudes scholars have held toward posthumanism and thing theory. Literature that does address the genre primarily does so in relation to the tenets of each theory. In conjunction, the methods section will follow past examples of metaphor criticism, and my analysis will be modeled after such examples. The conclusion section will address concepts that could be analyzed in future studies, as well as ideas for how other scholars could build off of the work completed here. These ideas may fall into other disciplines of academia, potentially sparking conversation about the value of interdisciplinary research in regard to design and science fiction studies.

Chapter 2: Literature Review

Introduction to Literature Review

In this chapter, I will present various viewpoints on posthumanism and thing theory. Firstly, background information will be provided on the theoretical models for each framework. This includes essays from Donna Haraway (1991), Anthony Vidler (1992), and Bill Brown (2001). Previous research on posthumanism and thing theory will be analyzed and organized into categories based on the perspectives scholars have toward the frameworks. For posthumanism, this will include positive and negative viewpoints as well as a neutral angle and a look at how the framework affects identity. In regard to thing theory, the categories involve literature that supports its claims and research that opposes them. Additionally, the theoretical framework of object oriented ontology will be briefly explored in the thing theory section, as it is considered to be one of the more popular communication studies theories that concerns itself with the agency of the inanimate. Gaps in research for each theory will also be noted, as this thesis is meant to fill those holes in science fiction design studies.

Theoretical Models for Posthumanism

Traditionally, humanity is defined by the wholeness or purity of the body. Haraway's (1991) fundamental essay, "A Cyborg Manifesto," is a direct protest against this past conceptualization of humanity. This stance is otherwise known as posthumanism, or the rejection and transgression beyond our current western notion of the human experience and the human body. The following section will outline the main concepts of Haraway's posthuman work in relation to the human body and the cyberpunk genre. In addition, Vidler's

(1992) research will be employed as a supplement to "A Cyborg Manifesto" in the realm of speculative interior design.

In their interpretation of posthumanism, nicknamed "cyborg theory", Haraway claims that labels such as humanity, gender, sexuality, machine, and species should be more flexible. More specifically, they reject the traditional conceptualization of three main concepts: the purity of human flesh, the definition of identity by bodily origin, and the borders between humans, animals, and machines. In describing previous approaches toward conceptualizing humanity, Haraway (1991) claims that humans were characterized by their opposition toward other objects and beings. To traditionalists, humans were humans because they are not animals. Men were men because they are not women and machines were machines because they are not living, organic beings. These categories were seen as impermeable and to break the barriers between them would be a perversion of the natural order. Divisions were used to impose gender roles on women, using the faulty argument that a woman's place in society was fixed just as the boundaries between human and machine were. In a parallel to thing theory, the "subjects" of this framework are being recontextualized in their relation to non-human components or beings. Essentially, posthumanism mirrors thing theory concerning how the frameworks shed obsolete categorizations of various states of existence. This arbitrary categorization is essentially the justification for Haraway's work.

Additionally, Haraway (1991) notes that technology is becoming more integrated with nature and humanity over time as a result of the increase in flexibility and decrease in rigidity of machines over their organic counterparts. Humanity, they add, has already begun and

succeeded in taking steps toward a posthuman future as shown by prosthetics, solar power, nanotechnology, and artificial intelligence. These advancements prove that boundaries can and will be broken as more time passes. In the cyberpunk genre, this theoretical framework is typically expressed through cyborgs and other artificial pseudo-humans. Such characters may exhibit traits of both biological humans and digitized or mechanized technology, just as the inanimate objects described in thing theory exhibit traits of living beings. Fictional representations of cyborgs are sometimes modeled after real world prosthetics and often show the expansive capabilities of medical technology from a speculative standpoint. Even though traditional definitions of humanity may deem such cyborgs as inhuman due to the integration of inorganic technology, proponents of posthumanism would stress that incorporating technology into the body does not disqualify one from the human race.

Posthumanist scholars are critical of perspectives that define identity by its origin. According to Haraway (1991), people should be categorized by their ability to adapt and become a hybrid of multiple purposes. For those who conceptualize humanity from a traditional perspective, the requirements for humanity are lodged in sexual reproduction and birth. These are both acts that result in the creation or delivery of organic matter. The form one is born in would be their category for the rest of their lives. Haraway (1991) challenges this idea by recontextualizing the composition of bodies through the lens of design:

...one must not think in terms of essential properties, but in terms of design, boundary constraints, rates of flows, systems logics, costs of lowering constraints...Any objects or persons can be reasonably thought of in terms of disassembly and reassembly... (p. 162)

From a posthuman perspective, there is nothing unique about sexual reproduction or the products of sexual reproduction, especially sexual reproduction between humans. In our

present day, technology is used to assist both sexual reproduction (e.g., in vitro fertilization) and birth (e.g., ultrasonography). Furthermore, a cyborg can be altered throughout its lifetime and is not bound by the biological or sociological boundaries of humanity (Haraway, 1991). An aging individual may require hearing aids in order to communicate with other people. Though they were not born with the hearing aid, nor is the hearing aid composed of organic material, the hearing aid may enhance and improve life for the person. The incorporation of the hearing aid does not prevent the individual from being a human; rather, the device is just another component in the overall composition of this specific individual's body. Such wearable technologies demonstrate how machines are being designed to conform to the daily lives of humans. This suggests that elements of posthumanism are becoming mundane, domestic, and commonplace. We are already becoming cyborgs in our present time and elements of our posthuman future are already here.

Building upon Haraway's (1991) work, Vidler (1992) emphasizes that architecture and interior design need to follow the fluidity and interchangeability of cyborgs. When commenting directly on her essay, Vidler notes that cyborgs challenge the permanence of architecture and humanity. A cyborg can switch out body parts and change their form over their lifetime. So, their respective living space needs to do the same. Vidler also draws comparisons between the fixtures of a home and the human body, further emphasizing that the division between objects, humans, and machines is arbitrary. They assert that the home itself is a prosthesis or an extension for its human inhabitant, especially since the home is considered the most private and personal space for a person. Such statements suggest that architects and interior designers need to use the human body as inspiration for building

homes while also potentially looking at science fiction for examples. Cyborgs will inevitably become more common in the near future. However, the current state of architecture and interior design is not suitable for cyborgs and assumes that humans will stay static in their form and their needs in terms of shelter and habitation. Haraway has even stated that cyborgs themselves are a hybrid of fiction and reality; therefore, some of the best models for Posthuman design may come from cyberpunk narratives.

Theoretical Models for Thing Theory

When interacting with objects and spaces, we may imagine ourselves imposing our will on the inanimate. However, by utilizing thing theory, Bill Brown (2001) argues that despite not being alive, objects evolve over time just as humans do while also demonstrating autonomy over their users. Recent improvements in technology have allowed possessions and living spaces to become more integrative with their owners. Objects are literally becoming more attuned to the rhythms and routines of the human body. Thus, Brown asks us to rethink how our own lives are shaped by everyday objects while also pushing us to relinquish the idea that objects are stationary in their agency over society. The subsequent exploration of the theory will expand upon the subject-object relationship between humans and their belongings while also explaining how thing theory is applied in a metaphorical manner throughout cyberpunk narratives.

Historically, the human was viewed as acting upon the object and creating history when the opposite may also be true. Brown (2001) adapts three terms in thing theory: the subject, the object, and the thing. The subject refers to the human who is interacting with (or is being interacted with) the object. The object is the originally designed form of the thing. Despite

being inanimate, the object still has agency over the subject. This subject-like agency is made possible primarily through tactile interaction, since objects do not usually see or hear the way subjects do. Humans rely mostly on sight to gather information about the world outside of themselves, and other animals, such as dogs, utilize their sense of smell to do the same. With the exception of some smart device functionalities, objects are a “species” that use touch to interact with their environment. An object then becomes a thing when it can no longer serve its original purpose. For example, a human (subject) holds the handle of an antique teapot (object) and pours themselves a cup of tea. The human is careless when using the teapot and drops it, breaking the spout. As a result, the teapot becomes a thing and refuses to work as originally intended. If the human were to attempt to use the broken teapot, they would spill the tea. Here, the thing has shown agency over the subject by refusing to work properly after being mishandled. The materials, production, and physical imperfections in a thing also show the tangible history of the item. A teapot that is damaged right after being purchased might imply carelessness in its creation, while a teapot that is broken after years of use could suggest strong craftsmanship. In our current time and in some cyberpunk stories, nobody is born posthuman but will become posthuman over their lifetime. The addition of prosthetics or other augmentations physically symbolize lived experiences that led to hybridization. No object is created as a defective thing, but its tactile interactions with humans may cause it to evolve into a thing.

Brown (2001) argues that these things actually hold greater social and historical significance over us humans than we often admit. Noting that things are ever present and will always be a part of human society, he states that thing theory is necessary in studying how

humans interact with their environment. This also suggests that the material nature of an object or space holds significance since we interact with things through tangible means (Brown, 2001). In fact, people often come to understand abstract concepts, such as political or sociological ideologies, by interacting with the material representation of the concept. We will never stop using things or thinking about things, so studying the effect things have on us humans is fundamental in analyzing human nature. In the context of cyberpunk, one can examine the things of the future to understand the sociological landscape of the fictional setting. A story that presents its version of futuristic technology as 21st Century technology that has been modified with previously unavailable upgrades shows that this specific society has defined their present (our future) as a recontextualization of the past, just as the existence of prosthetics designed to look like non-human body parts (e.g., tentacles, wings, etc.) imply that the world has accepted non-humanoid posthuman expressions of the body. The creators of cyberpunk narratives have projected their prophecies of the future using visual, spoken, and written language of the present. These vocabularies may be derivative of present day design, with the number of similarities indicating how much humans have changed since our current time. In a sense, these storytellers are constructing their vision of the future on recognizable objects and spaces of the past.

Though written prior to Brown's (2001) articulation of thing theory, Vidler's (1992) research does align itself with the idea that objects and things leave their mark on us. Humans and objects mutually alter each other on a physical level. When one lies on a bed, their body compresses the mattress and the mattress pushes back upon the body. If one were to sit on a backless chair, one would have to alter their posture to compensate for the lack of

support from the seat (Vidler, 1992). Humans and their spaces are constantly reacting to each other, suggesting that homes should be built with this in mind. Again, this implies that home design needs to be responsive like the objects described in Brown's work. The relationship between humans and homes needs to be symbiotic so that the two can coexist in harmony. Furthermore, thing theory and posthumanism need to be understood as inverses as each other in this context. To describe this dichotomy in the vocabulary of Brown, the application of posthumanism encourages subjects to integrate objects into their physical state of existence and thing theory asks society to reframe objects as having the agency of subjects.

Perspectives on Posthumanism

Despite Haraway's (1991) fame and reputation for being pro-posthumanism, not all research regarding the framework shares the same positive outlook. Some argue that hybridity is a violation of the human form, or that it will exacerbate the socioeconomic problems that exist in our present day society. Others sidestep taking a moral stance on the framework and instead question how transforming the body will alter our sense of selfhood. There are authors who agree with Haraway, but they broaden her statements by laying out formulas for creating a posthuman future that benefits humans. The coming subsections on posthumanism will outline the various perspectives on the framework and their respective justifications for their worldviews.

Posthumanism is Positive

Regardless of its association with dystopian settings, some scholars still argue that posthumanism can have a positive impact on society based on both fictional and real-life examples. This standpoint is usually propelled by the idea that machines modeled after

humanity will improve the human experience in urban environments. Research in this category is typically aligned with Haraway (1991) in that it proposes posthuman improvements in various aspects of life. For these authors, the benefits of hybridity are multifaceted if designers are able to formulate their work after the best characteristics of humanity.

Firstly, Frenz (2014) claims that posthumanism can lead humans to create virtual environments that improve their own communication capabilities. Once again challenging the traditional conceptualization of humanity, the author notes that the natural state of humanity might be some form of hybrid, though we have not reached that state yet as a species. By looking at fictional representations of artificial intelligence, cyberspace, and most importantly, virtual reality, Frenz concludes that technology will provide new methods of communication that transcend our five biological senses if designed with human emotions and creativity in mind. In this case, posthumanism is achieved by using technology to address social isolation that is rooted in discrimination, physical limitations, or some other obstacle. The technology can then be used to solve the problem in ways that are impossible in our current human state, and space is created through a virtual reality where individuals can move past their physical bodies to create new identities and communication channels.

Coming from a nonfictional standpoint, Atzmon and Boradkar (2014) assert that the boundaries between inanimate objects and humans have become obsolete. Atzmon and Boradkar's work focuses primarily on thing theory and how designers need to stop perceiving their products as opposites to the products' users. The authors proclaim that distancing themselves from traditional divisions between humanity and objects will lead to

the interdisciplinary combination of science, technology, and social studies in the real world. This will result in a technological design that allows humans to use machines without needing to fight the inorganic machine nature of a product, as an ideally designed product can aid in social interaction by working with people instead of against them. Atzmon and Boradkar also challenge designers to look at the world in terms of material components rather than abstract concepts. Haraway (1991) and Vidler (1992) have both emphasized that humans, spaces, and machines can all be broken down and assembled into different parts, which results in cyborgs. Again, designing objects with this perspective can lead to humans having a relationship with their spaces and technology that can evolve and change as a cyborg would.

Kukka et al. (2014) argues that implementing technology in real world urban settings can be successful if such technology is designed to adjust toward humans instead of the reverse. In a departure from Atzmon and Boradkar's (2014) purely non-fictional approach, Kukka et al. look toward cyberpunk fiction for inspiration in a study about installing elements of interactive augmented reality into real cities. Finding that much of the genre is dystopian and pessimistic, the authors combed through cyberpunk stories to pinpoint how technology can fail humanity before proposing their own positive spin on posthuman design. In the following excerpt, the researcher implies that though posthumanism itself may be neutral in terms of ethics, the theoretical framework can be employed in positive ways:

In this sense ubiquitous computing is the exact opposite of the vision put forth in science fiction literature-instead of making humans live inside the computer in a virtual world, the vision of ubiquitous computing is to make the computer live in our world. (Kukka et al., 2014, p. 2)

As a result, Kukka et al. used ethnographic methods to gather data about human usage of technology in urban spaces, suggesting again that Posthuman design can positively impact humanity if designers examine human needs prior to designing machines.

Ultimately, these scholars believe hybridity between humans, spaces, and machines is optimal in comparison to opposition between the groups if the designs of these spaces and machines are human-centered and adaptable rather than stationary. The conflict between posthuman technology and humans arises when the two are incompatible from the prototyping stages, and when humans insist that our current biological form is our final, perfect one. To create a positive environment that implements elements of posthumanism, humans have to be willing to model technology and spaces after themselves while also understanding that objects and spaces are not to be used, but interacted with in a synergistic relationship.

Posthumanism is Negative

Conversely, when scholars argue that posthumanism will have a negative impact, they tend to point toward machines and spaces that have been designed without humans as their target user base. These authors point toward fictional and real manmade environments and machines that disregard human life, and sometimes, actively harm or confuse humans by disregarding human scale, needs, and wants in favor of malicious artificial intelligence or cold, bureaucratic corporations. Research from this viewpoint does not assume that all humans are willing or wanting society to move toward hybridity. Instead, the following scholars emphasize that posthumanism will only enhance the issues society already struggles with.

Focusing specifically on megacities, Goh (2011) asserts that Posthumanism discounts the social issues that arise in urban environments. This primarily concerns socioeconomic disparity and segregation. Directly debating “A Cyborg Manifesto,” Goh claims that Haraway (1991) and other proponents of posthumanism ignore the limits of bodily transformation:

If we follow the argumentation of such theorists as Donna Haraway, then we are indeed already “cyborgs,” an inextricable blending of human and technologies...an ubiquitous blending that Haraway sees in overwhelmingly positive terms, and without setting any kind of limit or cap to the extent to which the human can tolerate such interfaces and modifications. (p. 197)

Goh views pro-posthumanist arguments as impractical and ignorant of the logistics and technicalities of real world posthumanism. In a fantasy, all bodily transformations can be painless and equally available to everyone. However, this may not be the case in reality as some communities already have difficulty allocating resources to all residents in an urban environment. In relation, the scholar emphasizes how urban planners purposefully design environments that favor certain groups over others. Cosmopolitanism, as the author calls it, is incompatible with these nuances that are necessary for building a city that supports humanity at the most detailed, minute level. Therefore, the application of posthumanism cannot solve the flaws of city life because cities are designed from the start to neglect human scale. From this viewpoint, a cyborg would be no more satisfied with their quality of life in a city than a non-augmented human would. A city full of cyborgs would still be designed to fail them, as the political and financial backings behind city planners would encourage new ways to disenfranchise their citizens.

Goh's (2011) argument is mirrored by Hewitt and Graham (2015), who note how high-rise buildings in fiction are used as metaphors for inequality in urban social hierarchies. The authors hone in on cyberpunk literature, stating that the genre is unique in science fiction in that it focuses on the socioeconomic issues created by urban life, despite the commonality of cyborgs and the application of posthumanism in their fictional plots. Again, this suggests that technology and hybridity will not provide solely positive change for humanity and that the issues we face in our present real world cities will just be exasperated or at least remain the same with posthumanism. Being Posthuman does not disqualify oneself from poverty or discrimination, and there is reason to believe that new methods of oppression could arise just as new methods of improving the human experience would. Simply put, as technology can be used to improve life, it can also be used to worsen it.

Delving into the genre of science fiction body horror, Poppi (2018) and Johnson (2013) both explore how a state of posthumanism could be the result of unwanted violations of the human form. Poppi states that some fictional representations of posthumanism involve humans involuntarily becoming inhuman, often representing sexual deviance or perversion. In these scenarios, the "victims" of posthumanism are depicted as being infected or penetrated with an unnatural material such as metal. In agreement with Poppi, Johnson argues that fictional representations of posthumanism in body horror suggest that victims of this perversion may still be able to live from a biological perspective, but may not want to if their sense of identity has dissipated with the destruction of their original physical state. These victims may not be able to socialize with other humans the way they once were able to, as they will be seen as outcasts. Though posthumanism may allow us to become more

integrated with technology, if a body has been mutilated through involuntary posthumanism, it may not be able to use objects and spaces that are designed for general human usage. Proponents of the framework may ignore instances in which hybridity is forced upon an individual. Instead, they may present scenarios where individuals choose hybridity for themselves or individuals are born into societies in which posthumanism is the norm. The genre of science fiction body horror, which can coincide with cyberpunk, raises concerns about involuntary hybridity and its psychological or biological consequences.

These authors are not necessarily anti-technology, but that they are condemning the notion that technology and posthumanism are positive forces that will aid humanity's growth without consequences. From these authors' perspectives, technology needs to be regulated, and posthumanism cannot be implemented as a cure to the faults of urban living. Those who oppose posthumanism are not suggesting that being a cyborg is wrong, but that pro-posthumanism proponents need to recognize that social issues experienced by humans will carry on in posthuman life and that becoming posthumanism needs to be a controlled, voluntary process in order to reap any benefits from having a cyborg body.

Posthumanism is Neither Positive nor Negative

Unlike those who take a positive or negative stance toward posthumanism, researchers that take a neutral standpoint come to the conclusion that posthumanism is amoral. They argue that attitudes toward posthumanism will change with the cultural context of the time. Coming from this angle, both negative and positive arguments may seem premature as our world has not fully embraced hybridity yet. Additionally, the neutral standpoint is in agreement with the cyberpunk genre's opinion toward technology, which generally posits

that technology itself is a neutral force and the troubles that come with dense urban life in the future sprout from humanity's inability to escape their own flaws. People will ultimately make the decisions that shape posthumanism. So, for these scholars, hybridity itself can never be beneficial or detrimental unless the human intent behind the framework chooses a side first.

When examining posthumanism, some scholars look to frame the theoretical perspective through cultural context rather than trying to measure its potential negative or positive impact on humanity. For example, Lee and Lam (1998) view posthuman people as hybrids of various time periods and geopolitical regions. In examining cyberpunk media from Hong Kong, a location known for its history of colonialism and multiculturalism, the authors note how cyborgs are expressions of the region's dual identities. Here, posthumanism is not seen as a solution or a cure that humanity has created, but rather the result of a patchwork cultural identity. In agreement with Lee and Lam, Tandt (2013) asserts that the cyberpunk genre has no definitive consensus on posthumanism's effects on humanity and that the common denominator between various incarnations of the framework in fiction is the growing intimacy between humans and machines. Describing the ambiguity of the theoretical framework in the genre, the researcher writes, "...it is not clear whether cyberpunk, with its mixture of utopian and dystopian accents, glamorizes or debunks the virtualized postmetropolis and its posthuman reconfigurations" (Tandt, 2013, p. 106). In these cyberpunk worlds, posthumanism is an integral but nonetheless pervasive part of life. While we readers in the real world may be impressed or disgusted by posthuman transformations in cyberpunk, the fictional characters living in these posthuman settings may be desensitized to

hybridity, bolstering Lee and Lam's proposal that cyberpunk protagonists are often jaded anti-heroes that act as hybrids of traditionally good and bad morality. In other words, those born and raised in posthuman worlds may be ignorant of a time with much less hybridity and would not stop to question the benefits and disadvantages of Posthumanism as the state of existence is natural to them.

Unlike the characters in cyberpunk stories, we do not have the benefit of hindsight when analyzing the merits and detriments of posthumanism. However, we can look at how fear of the unknown is cultivated to determine how we will react to an increasingly hybrid future. In our current time, we may fear or even look forward to a posthuman future because we are not living in a fully hybridized present. Yet, there is reason to believe that our current reactions toward posthumanism will fade as hybridity becomes more commonplace. Badmington (2003) suggests that posthumanism scares us in the present day because the concept implies a new, unknown species taking over after our existence. Their take is also shared by McCullough (2014), who argues that science fiction often terrifies and entices viewers at the same time because the genre often portrays unfamiliar versions of recognizable concepts. This idea can be applied to the human body, as a posthuman person is an ambiguous, new form of the familiar human. We may not be emotionally equipped to admit that our current form of humanity will grow obsolete. Despite Haraway's (1991) statement that aspects of our posthuman future are here in our present, these elements are not ubiquitous enough for us yet to reason within a rational manner. When cyborgs and hybrids become next-door neighbors and coworkers rather than fantastical beings that exist in our cultural imagination, we may

have a more solid basis to judge the effects of posthumanism on our society without fear or excitement.

The scholars in this section may have varying perspectives on the posthuman future, but they all seem to agree that the posthuman future will happen, and we need to start preparing for it now. To them, it may be fruitless to debate the moral standing of posthumanism as that will not prevent hybridity from becoming more ubiquitous within our society over time. In our present day, hybridity may seem like a foreign concept. Even though some traces of posthumanism are currently present, it may still seem like a fantasy for many. The authors who take a neutral stance toward the framework place us in the perspective of someone who has lived a full life in a posthuman world. Just as younger generations adapt to the technology of their time faster than older generations, populations raised with hybridity may come to make more educated judgments about hybridity since they will naturally understand the mechanics of a posthuman society better. In sum, these authors seem to believe that posthumanism will manifest mostly as a state of being rather than a tool to be used by humans or a moral stance against the human race.

Posthumanism and Identity

Sprouting from the neutral standpoint, the next authors move past the ethics of hybridity in favor of analyzing how the application of posthumanism will change how humans see themselves. Posthumanism always involves some change to the body, whether that be through cybernetics, a meshing of species, or the complete disappearance of the body in the case of virtual reality and artificial intelligence. These authors ask if hybridity will cause a

divide between the body and the mind, or if bodily transformations will have any effect on our sense of identity at all.

If posthumanism becomes the standard for all humans, it is likely that those born in a world that embraces hybridity will think of these changes as ordinary. As a result, there could be little to no effect on identity for people who see posthumanism as the norm. Since this is not the case in our present day, fiction is an ideal source for capturing how these populations would view hybridity. Csicsery-Ronay (1988) writes that the cyberpunk genre is apathetic toward the differences between humans and machines. This is especially evident when studying the conceptualization of good and evil in its narratives. The scholar cites various cyberpunk works, noting that both the antagonists and protagonists in such stories utilize technology in symbiosis with the human body. In this context, being a cyborg is not enough to qualify oneself as a villain or a hero. Here, being a cyborg is synonymous with just being a person. For example, a smartphone is a popular piece of technology in our current time. We do not think of owning a smartphone as a distinct personality trait because the object is so ubiquitous. In a society where hybridity is common, it may be seen as a nonissue in regard to identity. Martin (2015) mirrors Csicsery-Ronay's argument in their analysis of posthumanism in cyberpunk comic books. The author proclaims that cybernetic or biological augmentations to the human body could result in enhancements that are interwoven with physical debilitations. In the present day, this may be parallel to minor medical procedures, such as receiving dental braces. To straighten one's teeth, it is common knowledge that one must endure some physical discomfort. There is a cost to this augmentation, but the cost is accepted as necessary and bearable in comparison to the reward. Posthumanism can be

looked at as a transaction, in which humans must sacrifice some familiar comfort they find in their current form in exchange for bodily enhancement.

Scholars have also explored the effect posthumanism has on the body's connection to the mind. This question of whether the body is connected to the mind is not new, despite research concerning this framework being mainly focused on speculative technology. Cartesian dualism, the idea that the mind and body exist separately (Descartes & Lafleur, 1960), is expressed in cyberpunk fiction through cyborgs. When one's body parts become interchangeable, one may question if their mind is as well. Some cyberpunk stories challenge this theory through the thought experiment, the Ship of Theseus. The paradox asks, if all of a ship's parts are replaced over time, is the resulting ship the same vessel as it was when it was first built (Pisters, 2014)? For the purpose of this study, the thought experiment can be rearranged as follows: if a human has all of their body parts replaced, how much of their original identity and consciousness is retained? The following authors are not framing this as a moral argument, but an existential one. In understanding why this question would even arise in the first place, Mamak (2014) proposes that humans may begin to believe that from a biological standpoint, the species has limitations that can be overruled through posthumanism. We might have considered ourselves to be the superior species because we have yet to interact with other equally or more intelligent life. Therefore, humans may desire change in their physical identity by means of their body while also showing concern for the effects those changes could have on their own selfhood. Using quite possibly the most famous example of the Ship of Theseus in cyberpunk, the franchise *Ghost in the Shell*, Komel (2016) proposes that Cartesian dualism is incompatible with posthumanism. *Ghost in*

the Shell details the life of a cyborg whose entire body was replaced with prosthetics since she was a young child. The franchise poses the question if this cyborg is still the same person each time her prosthetics are replaced or if she is even the same person as she was since the last time she had an organic body. Komel does come to the conclusion that one's psychological or metaphysical identity can remain the same after changing one's physical identity through cybernetics, but there are other perspectives on the paradox that may be equally valid. So, there may not be one single consensus on how the application of the framework will affect identity, just as there is no single blueprint for the hybrid body itself.

So far, posthumanism has been discussed as a permanent identity. One may change their body parts throughout their lifetime, but they will always be a posthuman. Yet, in our present-time, individuals can test out the identity of posthumanism through technologies that already exist. Bolter (2016) states that humans have begun to voluntarily become cyborgs and that sticking to older definitions of humanity is unproductive. They may have not explicitly labeled themselves as Posthumans, but their actions have provided evidence otherwise. The researcher provides an example of Posthumanism manifesting in our choices of everyday entertainment:

In other digital media applications, particularly single-player video games, the user interacts with rather than through a computer system. There is no human subject on the other side of the screen; instead, the player inserts herself into an event loop in which her actions...are processed by the code, which in turn provides further outputs for the user's response. From a posthumanist perspective, interaction with a computer video game redefines the player's subjectivity in a way that the traditional humanist paradigm does not account for. The player becomes a willing, if temporary, cyborg. (Bolter, 2016, p. 7)

The video game is not just a piece of entertainment but a channel for temporary hybridity. Here, machines and humans mesh together and unite in virtual space. The body and mind are

now operating based on the stimulus provided through an inorganic, possibly artificially intelligent source. The obsolescence of traditional humanism is also expressed by Bolter when they claim that a human being is essentially an organic computer, as the brain can be understood as artificial intelligence in a wetware form. Those who play video games or use technology in similar ways may have identified themselves as posthuman by choosing to integrate with the inorganic. This also shows that posthumanism can be a temporary identity, similar to how one could periodically change their appearance through clothing or cosmetics. Viewing the human body from this perspective, it becomes clear that non-posthuman methods of design will also become obsolete since individuals are willing to pull themselves into a technological realm where mind and body become one.

Beyond the body, posthumanism may push designers to address diversity in the technologies they create. Even when hybridity becomes the norm, there will be variations on how bodily transformations will be expressed by different individuals. This mirrors a problem in present day design, where only one type of body is used as the template for the majority of designs. Forlano (2017) urges designers to begin diversifying their design processes to include potential posthumans, as well as underrepresented groups such as people of color and women. The author claims that the label of “human-centered design” is inaccurate as the term meant to be universal but typically is only tailored toward young, wealthy white men. Seeing as how underrepresented groups are being forced to adjust themselves to products rather than the other way around, it makes sense that designers should start preparing their design processes to fit those who do not have standard representations of the human body to avoid alienation. Hybridity may improve the design industry in this realm,

as designers will be forced to address bodies that differ from their peers and may even change over time.

Identity is a subjective, flexible concept. Even in our current time, we can change our names, physical appearances, and other markers that let the outside world know how we feel about ourselves internally. Posthumanism may add to this by giving us more options in self-expression, but also in self-doubt. How can changing an arm or leg lead to changing one's personality? If we are all switching out limbs, will these changes even mean anything to our sense of self? Hybridity may have little effect on identity if transforming one's body with technology becomes normalized, or it may cause us to dissect the connection between the physical body and metaphysical mind. We can explore these effects in the present with virtual reality, and we can definitely improve upon present day designs by prioritizing a human identity that is fluid and customizable. Conclusively, the research in this section does not provide a simple, single solution to these questions, but all the scholars agree that this question will pervade no matter how technologically advanced our society becomes.

Gaps in Research Regarding Posthumanism

The most prominent gap in research in the realm of posthumanism is the lack of work done on interior design in comparison to that of exterior architecture. I suspect that is related to the commonality of cityscapes in the cyberpunk genre. More focus is given to analyzing the impact of overall urban landscapes on its residents rather than the indoor rooms and spaces that people may actually spend the majority of their time in. In fact, this actually illustrates the urban planning problems presented by Goh (2011), as these scholars are not taking into consideration the perspective of actual residents in regard to how they actually

view and use the space around them. This is the primary reason why this study will cover exclusively interior spaces.

In relation, research on posthuman everyday life, such as domestic chores, workplace tasks, or socialization with peers, is also scarce. Scholars that have honed in on real world instances or predictions of posthumanism tend to look at broad applications of the theoretical perspective rather than examining the ubiquity that will come when posthumanism becomes more normalized over time. Similarly, scholars that look at science fiction media usually center on major plot points of a narrative or the general visual design. The specifics of characters' daily lives in a hybrid world are ignored. This is not entirely the fault of the scholars, as the creators of science fiction narratives may or may not include details of daily life. Alternatively, these creators may include details of daily life but they may not be important to the main narrative, leading some scholars to omit these details from their research as well.

Researching daily life in a posthuman world is imperative because, in a non-fictional scenario, posthuman individuals would still need to perform mundane tasks on a regular basis. Abbott (2007) suggests that the cyberpunk genre is uniquely situated for studying real world application due to the genre's frequent depiction of various social classes and their interaction with daily life through material means. This may manifest through a book describing a hacker's basement of scrap computer parts or a film portraying the neon signs surrounding a street food cart on a rainy night. We may become cyborgs in the future, but that does not mean we will be able to escape daily life through fantastical narratives.

Therefore, even the most mundane aspects of science fiction should be taken into account in research.

Perspectives on Thing Theory

While posthumanism-focused scholars tackle how the human body will grow to become more machine-like, thing theory-centered researchers ask how technology will evolve to become more alive. The two will change together since humans both create and rely on the inanimate to physically develop societies. Scholars who agree with thing theory vary in how literal they interpret the framework, but they generally acknowledge that objects and spaces have a significant impact on how humans understand the world at large. This may appear as changes in behavior or even alterations in how we communicate with each other. In opposition, researchers who disagree with thing theory urge us to place human needs before those of objects, just as the anti-posthumanism researchers push to fix human issues of the present before looking toward a fantastical future. In conjunction, there are perspectives outside of thing theory that promote the agency of the inanimate and the studying of the world through material means, such as with object oriented ontology. Though these other frameworks exist, they may not allow for integration of human intervention with the “lives” of objects as logically as thing theory.

Thing Theory is Correct

Within the context of interior design and architecture, thing theory is often employed to demonstrate how our man-made spaces express their autonomy over a human’s ability to navigate and interact with their environment. Since artificial intelligence provides objects, machines, and space independence separate from their human creators, thing theory is

expressed more literally in the cyberpunk genre. However, those who take a more figurative approach toward thing theory highlight how daily interaction with objects and spaces lets individuals experience abstract concepts through their senses. The scholars in this section focus on breaking down the boundaries between the living and the inanimate, while also restructuring the subject-object relationship.

In a parallel to the claims of posthumanism proponents, some pro-thing theory scholars assert that the categories of inanimate objects and living beings are arbitrary. Scholars of thing theory reverse the traditional concept of humans enacting their will upon objects, suggesting that the boundaries between the two are porous. Brown does not directly reference artificial intelligence in “Thing Theory,” but the essay was written in 2001 where these technologies were not widespread and accessible to the general public. More recent literature on autonomous objects and the ambiguity of their inanimate status have the advantage of hindsight in combination with knowledge of present technologies. Forlano (2017) describes how these borders have dissolved over time:

A robot is now a partner in a law firm. Driverless cars are being tested in many cities around the world. Voice-activated, in-home personal assistants are becoming household devices...Medical devices have become so sophisticated that some now take on what we used to think of as human functions. (p. 17)

This suggests that objects are becoming more synonymous with humans in terms of their ability to perform functions with a level of independence that was previously associated solely with living creatures. From this author’s perspective, it may be regressive to focus on categorization. Forlano’s argument is shared by Atzmon and Boradkar (2014), who state that objects should not be considered to be the opposite or subordinates of humans. Rather, they propose that humans actually partake in giving objects agency through design.

Since design literally shapes the function of an object or a space, it also shapes how they impose their will on other humans. Ironically, this concept is even more relevant when looking at things, or objects that no longer serve their original purpose imposed on them by a society of humans. Claiming that thing theory is best used in confronting the limits of categorization, Plotz (2005) states, “Thing theory highlights, or ought to highlight, the approaches to the margins--of language, of cognition, or material substance” (p. 110). Proponents of this framework emphasize that there are some objects with so much ambiguity that they expose the shortcomings of human reasoning. When an object sheds its original purpose and breaks down, it also sheds its responsibility to perform as originally designed. Objects are designed by humans, and they deteriorate into things because a human has failed to design them properly or use them properly. This implies that with a rethinking of objects comes a rethinking of society. In the cyberpunk genre, human flaws are sometimes marked as the root of dystopia despite the inclusion of hyper-advanced technology. In these dystopian worlds, the fact that people are attempting to use technology to improve society does not necessarily mean they will succeed. So, new technologies may be rapidly created and discarded just as quickly. Thing theory may explain the visual aesthetic of dystopia, in which human failure is displayed through dysfunctional, unkempt spaces and material excess.

Research in fiction has shown the extent of how spaces can actively affect a human’s psyche. Brown (2001) does not specifically state whether or not spaces will impose their autonomy on humanity in positive or negative ways. So, though the following scholars are primarily presenting detrimental examples of thing theory, they are still proving that the basic tenets of thing theory hold some truth. In explaining how science fiction can be used to

influence real architects, Butt (2018) proclaims that architects hold immense social responsibility specifically because of how spaces can fail their occupants. If an architect were to design a space that is unsuccessful, even detrimental to those who are meant to use the space, it could be argued that the architect is now responsible for the harm the space will impose on people. On the other hand, if an architect were to design a space that benefits its occupants, they have become responsible for the increased well-being of this specific group of people. Though thing theory states that objects have autonomy, the framework does not excuse the irresponsibility of humans in regard to misusing objects or poorly designing spaces. In agreement with Butt, Klein (2019) remarks that architecture can have an immense impact on the psychological state of humans. Pulling from Michel Foucault and Jeremy Bentham's concept of the panopticon, a prison that allows guards to have omniscient oversight over its prisoners, Klein writes that a space can alter an occupant's psyche by hijacking their senses. In a constructed space, one's visual, olfactory, auditory, and tactile input are all controlled to a certain degree by the barriers of the area. If the space is designed to allow unpleasant input, such as constructing thin walls that do not allow for sound muffling between rooms, it might be likely that the occupants will grow irritated while inhabiting the space. In a sense, the space is trapping its inhabitants through sensory input.

A space can also actively ignore its occupants, leading to psychological distress. Johnson emphasizes that human scale must be taken into consideration when constructing a space. Describing a building built to the size of the planet Jupiter in Nihei Tsutomu's cyberpunk manga *Blame!*, Johnson (2013) notes that spaces built without any sense of human scale force humans to assimilate their own bodies to an environment that is working against the

human form. Johnson writes, “They are squatters in their own homes...no longer processing their environment in terms of meaning...but rather in the crassest terms of brute animal survival” (p. 196). Here, the celestial scale of the space has reduced humans to a primal state, stripping them of their reasoning and sanity by imposing its immense size on these subjects in a Lovecraftian manner. In other words, the space becomes incomprehensible and frightening to the human mind just as the size of an average bedroom would overwhelm an ant. Conclusively, a space that forces humans to alter their own behavior in an unnatural way in this manner will almost certainly damage the psychological health of its inhabitants.

In accordance with thing theory’s emphasis on the material world, the following research highlights how abstract concepts can become tangible through interaction with objects and spaces. Claustrophobia, for example, is a fear that is represented in the material realm by a small, confined space. People may understand and experience claustrophobia by entering such a space. When analyzing how cyberpunk stories can be used to solve real world architectural problems, Collie (2011) explains that fiction allows the abstract theories of urban planning to become material through storytelling. Though still speculative, the spaces presented in fiction are represented as objects that can be interacted with by combining aspects of our objective reality and subjective fantasy. We are then able to comprehend these abstract concepts through the material representation of cities in fiction. This notion is mirrored by Martín-Albo (2017), who argues that architecture serves not just as a functional physical space but a source of narrative. Using the examples of modern architecture and its successor, postmodern architecture, the scholar states that each style of architecture is equivalent to social structures common at the time. They claim that while postmodernist

architecture critiques its predecessor, which represents a centralized society, through deconstruction and decentralization of space. As a result, the debate between centralization and decentralization of public space is presented to people through the physical structure of buildings.

Physical spaces can also act as microcosms for society on a larger scale, letting individuals metaphorically experience greater social issues on a smaller, more local level. Sellars (2012), Cojocarú (2020), and Sey (2002) assert that fiction authors may use the spaces in their narratives as metaphors. These scholars have all drawn from author J.G. Ballard, who often used spaces as maps for the human psyche. In fact, Sellars has claimed that every space in J.G. Ballard's work is a miniature metaphor for our real society, allowing readers to comprehend society's greater issues through material means that are relatable to their daily lives. Sey and Cojocarú have emphasized how spaces act as an extension of a human's psychological state, with Cojocarú even proposing that individuals have an inner psychological space that reaches past the confines of the body and into the physical environments we inhabit. Their research ultimately reveals that we are able to grasp concepts of grand-scale human interaction through representations of the material.

Thing theory-focused scholars state that humans project themselves onto their material possessions, leading us to believe that we are always acting upon objects and spaces rather than the reverse. The researchers discussed in this section have shown that the opposite may actually be true and that the inanimate may actually have greater influence over us. This is demonstrated when physical objects and spaces directly affect human reasoning and behavior, especially through sensory input. The design of a space can also mirror a greater

society, forcing people to reckon with issues that are normally associated with macro-level socioeconomics. In sum, thing theory can be applied to researching the material in order to uncover how our daily interactions with objects and spaces reflect more personal issues such as one's psychological state, and grander problems including societal injustices on a national or global scale. However, objects do not exist in a vacuum, and their respective subjects must still experience the struggles of societal injustices. Though most scholars agree that the inanimate can influence the living, some researchers debate whether the rights of objects should be prioritized over subjects.

Thing Theory is Incorrect

It is apparent that objects and spaces have some dominion over our behavior as shown by the psychological impact spaces have on their occupants. Yet, some researchers still argue that the autonomy of things is irrelevant in solving human issues. This does not necessarily mean that these scholars believe that the non-living elements of our environments have no effect on humans, but that they choose to tackle issues of fictional and real urban planning from beyond the material perspective. While thing theory pushes for emphasis on the tangible, the following researchers suggest that societal issues are institutional and that they must be tackled from that same angle. For these scholars, a dysfunctional city cannot be fixed by rebuilding skyscrapers and repaving streets. The systems that create cities in the first place must be revamped. Researchers who promote thing theory may also propose that people should give more attention and care to the objects and spaces they use in order to appease the inanimate. Authors in the opposing theoretical category generally view this statement as

counterproductive to improving human society. Ultimately, human issues need to be solved prior to addressing the needs of the inanimate.

Goh (2011) faults the business motivations of city planning for the socioeconomic issues that follow urban environments. The author states that even in “metaphorical cities,” such as a business park or a spaceship, these problems are still present. Therefore, the ruling institutions of the city are to blame since the physical designs of such “metaphorical cities” can vary greatly. This opposes thing theory, as the material elements of the city are not the main concern for Goh. This seems in line with their stance against posthumanism, in which the theoretical framework is seen as a distraction from the main socioeconomic issues that come with megacities. Here, the idea that objects have agency may seem dismissive of the needs of human residents. From this viewpoint, urban planners should not start shifting their focus toward things as autonomous beings until they can create living spaces that address the needs of disenfranchised urban dwellers.

Similarly, Kukka et al. (2014) ask designers to begin their design process with human narratives instead of diving right into the material components of their prototypes. Their study on adding interactive technologies in public, social areas focused mostly on people’s attitudes toward technology they have used. This suggests that the researchers believe the needs of human subjects have to take priority over the objects they will interact with, even if the technologies being discussed are advanced. The group of researchers did create prototypes for people to test out, but the purpose of these mockups was to test if humans reacted positively to the products, not if the products functioned properly on a physical level. If the scholars were to follow thing theory, they may have tested if their prototypes could

withstand the climate of the city, urban animal life, or even human usage over a period of time. However, they chose to do the opposite, prioritizing human perspective over that of an object.

Though difficult to achieve in our reality, designers are essentially attempting to create an ideal society by implementing systems that elevate the human social experience. In exploring the concept of utopia in fiction, Ultav (2015) reminds us that cities and their material components are always shaped by human desires rather than the reverse. When a city is built based on human wants and needs, as demonstrated by Kukka et al.'s (2014) experiment, people will thrive. However, when a city ignores these aspects, people will suffer. Either way, the city's relationship with its residents hinges on urban planners' ability to address these specific desires. In other words, whether a city becomes a utopia or a dystopia is dependent on the human reaction to the physical landscape. The two are only opposite in their attitude toward humans. Unlike dystopias, which appear to be more common in cyberpunk, utopias are meant to represent how we imagine ourselves improving in the future. The author argues that in fiction, dystopias are sometimes depicted as failed utopias, implying that the physical layout of a dystopia may have once been considered a utopia. This suggests that there are some material similarities between utopias and dystopias, despite being opposites. Human error might be to blame for the disparity between the two extremes, rather than some problem with the physical makeup of the spaces.

These authors do not explicitly say that material improvements cannot or should not be made in cities, but that the human elements of urban problems need to be addressed first. By solving the human issues, the physical design flaws of cities can be fixed as well. Goh

(2011), Kukka et al. (2014), and Ultav (2015) are not directly rejecting thing theory. Rather, they are stating that thing theory can be applied to improve technologies and living conditions after the wants and needs of people are looked after first. These scholars recognize that the success of a city and its residents' quality of life is contingent on human satisfaction. In other words, the concrete makeup of an environment will improve if corruption is removed from the institutions that created it. From the perspective of thing theory proponents, subjects and objects coexist in a domestic ecosystem. Altering the quality of life for one group may affect the other. Yet, there are some scholars who suggest that objects might live in a state of existence isolated from subjects, culture, and even time itself.

Thing Theory and Object Oriented Ontology

In the realm of communication studies, object oriented ontology acts as a framework for understanding the material transfer of knowledge. For this reason, there is value in analyzing previous research regarding object oriented ontology under the lens of thing theory. Yet, unlike scholars of thing theory, researchers who follow this framework are primarily concerned with the perception of our entire reality through the lens of the inanimate rather than the reversal of the relationship between subjects and objects. Though the two theories both concern the inanimate, they are not one-to-one interdisciplinary counterparts for each other. This is due to object oriented ontology's roots in metaphysics, a field of study concerned with broader abstract conceptualizations of reality, and thing theory's connections to design and art history, which are disciplines that study how artifacts are specifically affected by society and vice versa.

Object oriented ontology is attentive to the internal “lived” experiences of objects in isolation from human society. Formulated by Graham Harman (1999) around the same time as Brown’s (2001) thing theory, the framework was part of an academic movement toward accepting a material worldview. In explaining the dichotomy between the previous abstract perspective and the new tangible viewpoint, Boysen (2018) comments,

Throughout the last couple of decades, the so-called “material turn” has been in vogue in the humanities and the art world. It can be characterized as an attempt to escape the prison house of language, mediacy, conceptual and schematic thinking—in sum the semiotic dimension—and to achieve a more immediate access to the world. (p. 226)

Influenced by the works of philosopher Martin Heidegger, scholars of the material believed that the semiotic approach to categorizing the world was perceived as being too detached from our actual reality (Boysen, 2018). As a response to semiotic-centric studies, Harman asserted that we should view our environment through the internal lives of objects, despite those lives being impossible to objectively examine. The unknown is welcome and essential to object oriented ontology, possibly because much of metaphysics opposes the very notion of objectivity. Harman stresses that objects can exist and interact with each other in complete isolation from humans, culture, time, and history. This creates a paradox for researchers of the material, since researchers are humans and by default, may view objects in relation to themselves or other people. How is a scholar supposed to understand the inner thoughts of a table if their understanding of the furnishing is rooted in their usage of the object? How can a painting from an ancient civilization be studied if present day researchers, who cannot possibly have any personal recollections of the painting or its culture, are required to avoid using any historical context? For these reasons, object oriented ontology has been critiqued,

with some critics stating that the framework conflicts with the findings of previous scientific, mathematical, or anthropological studies (Kleinherenbrink, 2019). Though the application of object oriented ontology may hold some merit in introducing the concept of a material-centric worldview, the theory is difficult to employ in conjunction with thing theory as the framework's original interpretation suggests separation between the object and the subject.

Despite coming from the same movement toward the material in the humanities, thing theory and object oriented ontology are not interchangeable with each other. Though the two frameworks share similar goals in regard to interpreting the world through non-semiotic means, Brown (2001) himself has criticized Harman's (1999) work for ignoring the human subject. In describing the disagreement between the two scholars, Boysen (2018) writes, "Brown clearly distances himself from new materialism and object-oriented ontology. As they abandon the subject-object dichotomy altogether" (p. 239). The scholar continues by stating that thing theory is inherently tied to studying history, which challenges the context-free approach of object oriented ontology. The former may be more suitable for studying the effect objects can have on subjects and their culture. Further extending the gap between the theories, there is less divide between the subject and object from Harman's perspective. Mickey (2018) proposes that this stance is rooted in Harman's rejection of Cartesian dualism. They argue, "Object-oriented philosophy does not posit a Cartesian sense of interiority...it does not privilege cognition as the primary mode of interiority...The notion of interiority does not map onto a subject-object distinction" (Mickey, 2018, p. 297). In itself, contesting Cartesian dualism is not enough to make a framework incompatible with thing theory, or even posthumanism. Pisters (2014) has argued the opposite concerning bodily augmentation

in their examination of the connection (or rather, the disconnect) between the mind and body. Similarly, Brown (2001) has not explicitly stated that the inanimate objects think in the same way that humans do, ruling out the idea that cognition is the sole sign of agency. Still, thing theory is focused on how object agency and human agency affect each other. The framework is a study of relationships between the living and nonliving, which requires the scholar to accept cognition as a method of asserting one's agency for humans while also acknowledging that other approaches toward independence may exist for the inanimate.

Thing Theory also relies on historical or cultural context to understand an object and its eventual transformation into a thing, which strays from object oriented ontology-focused scholars' avoidance of temporal connection. Illustrating the timelessness of the latter framework as synonymous to paralysis, Morton (2011) writes,

In the *Iliad* the final battle freezes for many lines while the narrator admires depictions of non-marital life on Achilles' shield. It gets us stoned (petrified), transporting us out of a narrative to linger on a frozen image, like "Bullet Time" in *The Matrix*. (p. 170)

Objects, as defined in object oriented ontology, exist in a version of reality that is undisturbed by the events of human history. Like a prehistoric insect stuck in hardened amber sap, these objects stay preserved despite the world around them physically changing. According to this framework, objects cannot ever become things, because they cannot be broken by human contact and their cultural significance cannot be altered. Under the perspective of thing theory, a typewriter evolves from an object into a thing once computers became the more efficient device for word processing. Yet, under the lens of object oriented ontology, the typewriter will never become a thing because the typewriter can exist and have agency in total isolation. Of course, this requires us to contort our current understanding of

reality, which is a staple of metaphysical philosophies. Scholars of thing theory do introduce ideas that may seem unfamiliar to our current worldview, in which only living beings have the ability to act and affect others, but the framework takes place in the reality we have measured, recorded, and researched. For this reason, object oriented ontology may be better suited for a study regarding the laws of reality itself.

How should one evaluate the validity of a framework that argues that there is a reality in which objects have rich inner lives outside of humanity? Object oriented ontology may be best interpreted as an extensive thought experiment, where the tenets of the theory are logical in the reality proposed by Harman (1999), but perhaps puzzling in the reality of our present understanding. Despite the framework's differences with thing theory, there is value in studying other material-centric frameworks as this proves that non-traditional comprehensions of the inanimate are common. As researchers of both thing theory and posthumanism posit that the role of the inanimate in their relation to the living will certainly change as time passes and technology improves, it may actually be positive and progressive that other scholars are willing to examine worldviews that emphasize the agency of the inanimate. Undoubtedly, there may be cases where object oriented ontology might be the more applicable framework in comparison to thing theory. However, that is not the case for this particular study as time, culture, and the subject-object relationship are paramount in understanding representations of future design.

Gaps in Research Regarding Thing Theory

Thing theory appears to be a relatively unknown framework outside of design studies and art history. In fact, many of the articles used in the thing theory section of this literature

review do not directly reference Brown (2001) in favor of pulling from the theory's tenets instead. Atzmon and Boradkar (2014) have noted that thing theory is broad, and can be applied in many fields of study because objects are so ubiquitous with human nature. So, thing theory may just be relatively unexplored in comparison to other theoretical perspectives. Scholars may also be reluctant to utilize thing theory if they are only looking at the most literal interpretation of the framework, in which inanimate objects are described to have wants and desires in the same way human beings do. When it comes to research in fiction, authors seem more willing to employ the literal interpretation since these stories reach beyond our current scientific achievements. In fiction, objects may literally have personalities and may clearly disobey their owners when misused. An example in the cyberpunk genre may be robotic assistants, who may have enough autonomy to qualify themselves for personhood. Research about non-fictional applications of the theory tends to lean toward a looser interpretation due to the technological restraints of our current time. In fact, the only time real world research incorporates a literal interpretation is when they are speculating about the future of design. From this take, humans do still play a role in providing some agency for objects through the design process.

Due to thing theory's roots in art history and design, much of the research on the framework covers artifacts that would be found in a museum. This may seem counterproductive to Brown's (2001) original intent to highlight the mundane, but it appears that some pro-thing theory researchers are choosing to focus on the evolution of objects into things instead. By using older artifacts, scholars can examine how an object has decayed, losing its original purpose and transforming into a thing. Still, readers may find this approach

toward thing theory to be irrelevant since they cannot relate to using such a dated object. Brown himself used an example of a typewriter in thing theory, which had become obsolete by the year of publication, 2001. These objects may have been commonly used at some point in time, but that is not the case now. Pro-thing theory scholars may have a better chance of convincing others of their viewpoint if they were to use objects that are more popular in our current time.

As with posthumanism, there is a lack of research on interior design with thing theory. This disparity is less obvious with this framework because thing theory scholars call attention to the everyday objects we use in domestic life, which may be more prevalent in interiors rather than exteriors. This may just be a recurring issue in research that covers science fiction, or it may be an overall trend in speculative design studies. It may also be easier to study exterior architecture because of its macro impact on society. The interiors of most domestic spaces are meant to house a small group of people in comparison to the number of individuals who interact with a single piece of exterior architecture. With a larger sample size, researchers can extrapolate the data to a certain community at large. The outdoors is also considered to be a shared space, as noted by Kukka et al. (2014). People interact with each other more in exterior spaces because they tend to be open to the public, unlike indoor spaces. However, I suspect that after the COVID-19 pandemic, in which we are required to spend much of our time indoors, there may be more studies in both posthumanism and thing theory that cover interior design. The pandemic has flipped the roles of exterior and interior spaces, with interiors becoming a virtual social space. After the pandemic, this may still be the case as employers may see remote work as a viable long-term option. So, there is

justification for more research on the effect interiors have on the psychological state of their occupants.

Summary

After reviewing Haraway's (1991), Vidler's (1992), and Brown's (2001) work on posthumanism and thing theory, this chapter dove into a multitude of perspectives on the frameworks' applications in fiction and nonfiction. Starting with posthumanism, researchers have argued that hybridity and bodily transformation can either help or harm humanity's growth. Other scholars have proposed that the application or state of posthumanism is neutral in regard to its overall impact on society, while some authors have chosen to examine how the framework alters our collective sense of identity. Researchers who have worked on thing theory have either proposed that the framework is correct in regard to the effect the inanimate has on humans, or incorrect in how the needs of objects and spaces are prioritized over those of living beings. Thing theory is not the only material-focused framework in art history, communication studies, or the humanities, as demonstrated by research concerning object oriented ontology, but the scholars following this framework do balance subject and object agency to create a worldview that is preferable for analyzing the physical and psychological effects interior design can have on its inhabitants. Gaps in research for both frameworks have largely ignored interior design in favor of exterior architecture, which will be the primary focus of this study. Additionally, previous literature on posthumanism and thing theory tends not to analyze the effects they have on everyday life, with research on the latter framework even being slightly outdated concerning the artifacts used in studies. My analysis will cover these territories to further the discourse in the realm of design studies and science fiction

scholarship. This will be accomplished using a form of rhetorical criticism called metaphor analysis, which will allow me to uncover the underlying meaning behind interior design choices in my selected films. In the next chapter, I will present background information on the methodology, as well as provide examples of previous metaphor analysis usages.

Chapter 3: Methods

Introduction to Metaphor Analysis

In this chapter, I will provide background information on metaphor analysis, while also presenting examples of various approaches of the methodology. These variants on the method include coding metaphors, analysis of verbal metaphors, and analysis of visual metaphors. Though not all of these approaches will be fully applied to this specific study, I will demonstrate the versatility of this form of rhetorical criticism in this chapter. I will then provide an overview of the procedures I will be employing in my study while also noting the specific models I will be following.

Furthermore, metaphor analysis is an appropriate methodology for the theoretical frameworks of Posthumanism and Thing Theory because both are concepts that have yet to be fully integrated in our present time. There are aspects of these frameworks that are currently present, but they are most fully realized in fictional form. This means that cinematic representations of posthumanism and thing theory may require some suspension of disbelief, just as verbal or visual metaphors do. For example, a drawing of a man sitting on top of a globe might act as a metaphor for one nation that has widespread reach, even though it is impossible for a person to sit on top of the entire planet Earth. Similarly, a fictional artificially intelligent computer may have a warm color scheme to represent the humanity of the inorganic being, even if the aesthetic of the device has little to do with its empathic capacity. So, though some cinematic representations of these two frameworks might aim for scientific accuracy, scholars may actually apply posthumanism and thing theory to the visual

and tactile metaphors in the artifact rather than the perceived scientific accuracy of fictional devices.

Metaphor analysis is one of the more loosely defined methods of rhetorical criticism. There is not one single consensus on what metaphor is, making the application of this methodology versatile in terms of the artifacts it can be used to examine (Booth, 1978). This is why metaphor analysis is used in a wide range of disciplines, even though its roots are in rhetoric. Generally, metaphor refers to some form of non-literal language. A phrase, an image, or a sound may first appear at face value to represent one concept, but may actually embody another idea if one were to dig deeper. Metaphors are essentially shorthand for abstract ideas that an entire community has agreed upon. If one were to describe a peer as a snake, they are not stating that their colleague is literally a reptile, but that they are untrustworthy and backstabbing. This only works because in western culture, we have collectively assigned these traits to that specific animal. Essentially, metaphors let us communicate and understand the world around us by giving abstract concepts a concrete visage.

Though broad in their application and medium, metaphors can be dissected into components. Ivie (1987) breaks down metaphor into two parts, the vehicle and the tenor: “In the most important uses of metaphor, as a source of rhetorical invention, a term (or ‘vehicle’) from one domain of meaning acts upon a subject (or ‘tenor’) from another domain” (p. 166). In other words, the vehicle refers to the symbol that is immediately delivered to the audience while the tenor represents the underlying connotation. In the snake metaphor, the animal is the vehicle and the traits are the tenor. There may be multiple tenors associated with a single

vehicle, especially if different cultures attach their own meanings to a specific image or phrase. This is why cultural context is integral to understanding metaphor (Refaie, 2003). Similarly, the same context has to be taken into consideration for metaphor analysis. The researcher may come from a different culture than that of the metaphor's creator or intended audience. They may also hail from another academic discipline, requiring the scholar to have basic interdisciplinary knowledge of whatever artifact they are analyzing. Even if a researcher were to only examine a specific portion of a text, the greater background of the subject will play a role in the overall metaphor analysis.

Cultural context plays a role in each stage of metaphor analysis, allowing the scholar to be thorough in their dissection of the image. As described by Ivie (1987), there are five steps to metaphor analysis. First, the researcher needs to look at the artifact, its creator, and the discourse surrounding the subject. The artifact may be a scene from a film, a painting, or most commonly, a speech. In conjunction, the creator or deliverer of the artifact may have different roles depending on the medium. They might be a director, designer, politician, or author. Depending on these two factors, there may also be a greater discourse on the artifact. A president's speech may have a global audience, meaning that there may be public responses that are relevant to the analysis. Secondly, the researcher needs to separate the individual metaphors from the larger text. Though an artifact may act as one metaphor as a whole, there is a likelihood that there are a multitude of similar metaphors within the greater text. Viewing an artifact through its individual metaphors will allow for more detailed examination, possibly uncovering patterns of inconsistencies later on in the analysis process. This leads to the third step, in which the scholar groups together the metaphors based on

similarity in vehicles and tenors. Though these two stages are primarily used to ease the organization process for the researcher, they do require background information on the artifact. For example, a writer might base their metaphors on religion if their audience comes from a culture dictated by a certain faith system. It would then be useful for the researcher to categorize metaphors by their religious connotation. The fourth step, which is often combined with the third step, involves listing the vehicles and tenors of each metaphor category for comparison in the fifth step. Ivie recommends the employment of word processing software for this stage, but this may only work if the metaphors are verbal rather than visual or auditory. Finally, the researcher will compare and contrast each vehicle and tenor against its cultural context. Why are specific symbols being used? How do the tenors change depending on the culture of the speaker and audience? Does the medium of the artifact change the perception of its metaphors? This step may also provide the scholar with more insight into the artifact's culture if a vehicle is being repeated, showing the importance of the symbol or concept to a community. The end product of metaphor analysis will be a system of individual vehicles and tenors that can be used to decode the entire artifact as a whole, as well as its place in its respective greater culture.

Though Ivie (1987) lays out a blueprint for metaphor analysis, not all examples of the methodology in research describe their process in a clear five-step structure. Ivie's guide only accounts for verbal metaphor, as evidenced by his suggestion to use word-search functionality in step four. Steps three and four are so similar, that they are even combined in more recent guides to metaphor analysis (Foss, 2018). The leniency of these steps and the nuances of cultural context is why the results of metaphor analysis are often presented as

“thick descriptions” of the artifact. In fact, most metaphor analyses seem to avoid explicitly labeling their tenors and vehicles. This is especially true when the artifacts are non-verbal, requiring the scholar to illustrate the scene or image to readers. There are often multiple interpretations of a metaphor or text, making it difficult to objectively measure the meaning behind the artifact using this methodology. Occasionally, researchers choose to take a quantitative coding approach to metaphor analysis through coding. In these exceptions, vehicles and tenors are still isolated and grouped, but the results are mostly delivered as numbers and percentages. Subsequently, not all metaphor analyses will look the same to the reader, but they have the same aim of revealing the tenors behind the more obvious vehicles in a text.

Coding Approach to Metaphor Analysis

Although the majority of research that utilizes metaphor analysis takes a qualitative approach, there are a few examples that lean toward quantitative or mixed-method procedures. This is usually done through coding, which involves systematically categorizing and counting specific vehicles and tenors. For example, in their examination of metaphors in magazine advertisements, Kaplan (1990) operationalized the connection between the vehicle, or the immediate visual presentation, and the tenor, or the product that is being marketed. This allows the researcher to have a semi-objective definition of their variables, making the process of comparing individual metaphors more efficient. Basically, metaphor analysis in the quantitative or mixed-method realm tends to focus on determining the potential reaction toward the artifact, whether that be examining the public image of a speaker or the

effectiveness of a musical score in a film. That may be the main justification as to why the following works are focused mostly on the metaphor creator's viewpoint.

By breaking down a series of artifacts into their most dominant metaphors, it becomes clear which rhetorical themes are favored by the speaker. In Alousque's (2015) study on the speeches of former Venezuelan president Hugo Chávez, the speaker's self-image is revealed after counting the various metaphors in several of his public addresses. Though this researcher's study is primarily qualitative, it does employ quantitative elements in the isolation and categorization portions of its procedure. After coding the metaphors in five of his speeches to international audiences, the researcher found that war metaphors were the most dominant choice for Chávez by a multiple of nearly one hundred in comparison to metaphors of religion, family, fire, and other expressions. Alousque's method of measuring the frequency of each theme shows that Chávez wants to be seen as a militant force above all else. However, the occasional presence of other metaphors emphasizes that the speaker is willing to appeal to other values as well, albeit to a much lesser extent. Essentially, without isolating each metaphorical theme and measuring it against others, it may be more difficult to determine the speaker's intended message in the chosen artifacts.

A similar approach to metaphor analysis can also be employed to quantify the measurable aspects of non-verbal artifacts, possibly giving the researcher insight on the cognitive processing of stimuli in entertainment media. Public perception of a film may sometimes refer to an audience's ability to understand a metaphor through a director's artistic choices in regard to *mise-en-scène* or auditory cues. A somber scene with cool-toned color grading and soft instrumentals may invoke sadder emotions, while a colorful blast accompanied by

triumphant music may do the exact opposite. Fahlenbrach's (2008) research on audiovisual metaphors in films uncovers how the two types of stimuli can be utilized in conjunction to produce a specific emotional response in audiences. By measuring the duration of camera movements against elements such as acoustic intensity of the musical score or the distance between the camera and the subject, the scholar was able to analyze the audio and visual aspects of a scene separately before examining them together. This method has the advantage of giving the researcher the director's point of view in regard to the artifact, as a director would be able to make isolated choices for a film's camera angles, color correction, and sound design prior to putting these elements together for the audience's consumption. Though not all metaphor analysis is as privy to authorial intent, a quantitative procedure, such as the one employed by Fahlenbrach, may help the researcher put together the puzzle pieces of a text just as a director would.

Coding can also be useful in determining the intended audience of a text, especially if the artifact is not necessarily meant to appeal to the general population. In the advertising industry, honing in on a specific audience is key to all aspects of the job. Kaplan's (1990) study on visual metaphors in magazine advertisements demonstrates the value of a quantitative metaphor analysis concerning the readability of certain niche themes. The scholar calculated the percentage of technology-based visual metaphors in both general interest and scientific interest magazines, concluding that they were more present in the latter than the former. Firstly, this approach illustrates that advertisers are aware that certain metaphors would be better understood by some audiences more than others. In this case, the culture of scientific-interest magazine readers may lend itself to technology-based metaphors.

For example, a fan of *Scientific American* magazine would likely understand a technology-focused metaphor because the content of the magazine lends itself to the visual language of the advertisement. Potentially, this type of methodology would be used by advertisers when attempting to produce targeted ads, meaning that research that involves coding metaphors might have greater insight into the production of the metaphor itself.

While my analysis will be qualitative, there is still value in incorporating the organizational elements of the quantitative approach toward metaphor analysis. Coding, possibly the most popular version of this approach, unveils how a metaphor is constructed. This is applicable in all mediums, including verbal, visual, and audio. In fact, if the mediums are combined as they were in Fahlenbrach's (2008) research, coding may assist in finding the connections between the various elements that make audiovisual or verbal-visual metaphors possible. Analyzing a metaphor quantitatively may be most useful if there is a large number of metaphors in a set of texts, a variety of different themes, or if the scholar is attempting to understand the authorial intent behind an artifact. For the purpose of the more common qualitative approach, it may be wise for researchers to perform steps two, three, or four of metaphor analysis in a similar manner to the studies in this section as Alousque (2015) did. The results can still be presented as a "thick description," but the preparation and organizational process can benefit from quantitative methodologies.

Metaphor Analysis of Verbal and Written Artifacts

As we move into the realm of purely qualitative metaphor analysis, we must recognize how the medium of the artifact affects the methodology. Some of the earliest samples of metaphor analysis focus on verbal texts. This includes speeches, books, or other written text.

Once considered to be the only medium of metaphors, verbal artifacts provide the most clear examples of vehicles and tenors because it should be already obvious to researchers how words are processed by audiences. Researchers who choose to study this medium under metaphor analyses do not need to explain the mechanics of their artifact, as one may have to do if looking at musical score, building, or film. Additionally, written and spoken text is so commonly employed in metaphor analyses that essays in this realm have a strong web of interconnected discourse that can be used within each researcher's study. These studies are useful in learning how to balance the work of previous scholars with new ideas in one's own research.

When looking at an entire text, such as a speech or a novel, a researcher may prefer to use specific excerpts of the artifact to maintain a detailed analysis. In their analysis of organ harvesting in gothic science fiction novels, Wasson (2015) examines specific scenes in three novels against the more broad background of the subgenre itself. Rather than pulling vague metaphors from the narratives in their entirety, the researcher looks at the specific writing style and vocabulary of excerpts while comparing each story to another. This is most evident when Wasson notes the unique usage of present tense as a horror tactic in the novel *Unwind*, in which a character describes the process of enduring involuntary organ harvesting while the procedure is occurring. While the scholar also explains how organ transfer is symbolic of late capitalism and economic trade, the actual assembly of language is imperative to understanding the metaphors. On its own, late capitalism is not always seen as a body horror trope. However, with the use of the present tense, the viewer is brought into the frightful position of a character who must unwillingly give up their own bodily resources due to

absurd government policies. If the researcher were to look at the novels as a whole rather than hone in on individual excerpts, the metaphors would be lost in the overwhelming amount of text. In addition, the tense of speech is immediately evident in written artifacts, and the researcher does not have to spend any time explaining how they uncovered this aspect of the author's writing style. Wasson demonstrates that a metaphor is dependent on more factors than just a vehicle or a tenor, and that the manner in which these aspects are delivered to the audience may also be key in understanding a metaphor's meaning. So, not only should a researcher break up each individual metaphor in their procedure, but also remember to start with small excerpts in order to capture every tool an author is using to bring their metaphors to life.

Tackling smaller segments can also help in the analysis of an artifact that contains multiple metaphorical themes. In their analysis of Franklin Roosevelt's first inaugural speech, Daughton (1993) looks at how the former president used military and religious metaphors to "...calm, then activate the American people" (p. 427). Similar to Wasson's (2015) approach, Daughton takes segments of Roosevelt's speech in order to capture specific examples of each metaphorical theme. After dissecting the speech for these excerpts, the researcher moves toward combining the two categories into a holy war metaphor. This is only made possible by the scholar firstly taking small excerpts in order to prepare the reader for the melding of military and religious language. If Daughton were to examine the entire speech without expressing their analysis of certain segments, it would be unclear to the reader how the researcher came to the conclusion that Roosevelt's goal was to introduce the idea of a metaphorical holy war. Furthermore, by comparing this qualitative study to

Alousque's (2015) coding of presidential rhetoric, it becomes evident that there are several valid approaches toward metaphor analyses, even if the topic and themes are similar. Where Alousque's work showed the objective dominance of one theme over another in Chávez's speeches, Daughton's essay demonstrated how Roosevelt could elevate his own rhetorical imagery by building a large metaphor out of two smaller but interconnected themes.

The medium of a metaphor is also important to consider if one wants other researchers to build off of their study. For many scholars, the goal of research is to further the discourse on a certain topic, or introduce a new perspective on a subject that has been covered before. A scholar may hope that their work sparks conversation in their academic realm. In order to maximize this chance, it may be preferable to pick a topic or medium that is popular enough for other researchers to be familiar with it. For example, both Thomas (2000) and Bollinger (2009) conduct their research on feminist infection metaphors in science fiction literature. As with Wasson (2015) and Daughton (1993), the two researchers are taking individual segments of stories for analysis. They are even taking the same general framework of feminism when looking at metaphors of infection. However, Bollinger has the benefit of learning from Thomas' essay, and even critiquing it in order to modernize the discourse around science fiction:

Literary critics too have struggled with conflicting responses to microbes. Anne-Marie Thomas wisely recognizes that "the virus is not only an agent of destruction, but also an agent of evolution" (143), but her discussion of four decades of science fiction by women looks primarily at texts constructing "virus" as "plague," with the "evolution" largely occurring in the social rather than the biological sense. (p. 379)

The technique of taking excerpts is useful when dissecting a text and examining previous research on similar artifacts. So, the advantage of choosing a medium that has a robust

foundation in research is that there will be many examples that one could follow when it comes time for their own study. Because written text is so common and ubiquitous, it might be nearly impossible for a literary researcher to be the first one to examine the topic at hand. This is especially useful in metaphor analyses, since many vehicles have multiple tenors attached to them depending on cultural or theoretical interpretation. Not all metaphor analyses of infection in science fiction take the feminist approach, and even those within the framework differ in their viewpoints as shown by Bollinger's critique of Thomas. If the goal of one's research is to build upon a previously set foundation, it may be wise to pick artifacts from a similar medium to streamline comparison.

The greatest takeaway from this section is the necessity of isolating metaphors in one's analysis. Although the first step of metaphor analysis is to look at the artifact as a whole, the details of the text need to be clear to the readers of the study as they may not have experienced the artifact for themselves before. This is also true when incorporating previous research in one's own work for the same reason, since there is no guarantee that the reader has looked into older essays on the topic. Finally, researchers who plan to perform metaphor analysis on non-verbal artifacts should not solely use these samples as models for their work. Metaphor analysis of verbal texts assumes that the reader already understands how written and spoken language is interpreted by audiences. A scholar does not need to emphasize how people understand that "d-o-g" spells "dog" or how the sounds "ah" and "pull" combine to form "apple." This is less obvious with artifacts that have visual or tactile components, and a researcher may have to explain why a certain color scheme evokes a specific emotional response or how the texture of an object would irritate its user. While metaphor analyses of

verbal artifacts do highlight the benefits of breaking up an artifact into smaller, workable sections, they do not provide outlines for analyzing less traditional mediums.

Metaphor Analysis of Visual Artifacts

Visual metaphors, while just as easily interpreted by audiences as their verbal counterparts, may require more explanation in an analysis. Unlike verbal metaphors, the mechanism of the vehicle is not always obvious to a researcher at a first glance. Additionally, the process of categorization becomes more complex because there are multiple levels to a single visual vehicle (e.g. color, line weight, subject matter, photorealism, 3D vs. 2D, etc.). Artifacts within a single medium can vary wildly from each other. A Cubist work and an Impressionist piece can both be paintings, but the former is characterized by its brash abstraction of form while the latter is noted for its subtlety and gentle color palette. In other words, researchers have many more variables to take into consideration in the realm of visual metaphor.

Though visual metaphors have existed as long as art has, this type of rhetoric is a newer addition in metaphor research. By looking at newspaper cartoons, Refaie (2003) was able to create a guide for interpreting visual grammar. The scholar does admit some similarities between visual and verbal metaphors, including the general purpose of metaphors as channels for interpreting the world with shorthand language. However, Refaie highlights a crucial difference in both the creation and analysis of the two types of metaphors:

Both in language and in the visual mode of communication, it is possible for the topic of a metaphor to be implied rather than explicitly mentioned. The difference is that, in language, even the most abstract concept can, in theory, generally be given a verbal label. This means that there exists a choice in the verbal mode that may not exist in the visual mode...In the case of a visual metaphor, by contrast, an abstract identity cannot be depicted at all without the mediation of symbols or metaphors. (p. 85)

Basically, there are clear means to describe the tenor of a metaphor with written or spoken language, but there is not a specific mechanism in visual vocabulary that can be used for the same purpose. If one were to say, “You have the heart of a lion,” one could easily label the vehicle as “heart of a lion” and the tenor as “bravery” or “courage.” One could not express this metaphor as obviously with visuals because there is no image that directly correlates with the concept of bravery or courage. Yet, if one were to draw a lion and a heart together, viewers will still be able to grasp the meaning of the metaphor. This is achieved through the artist implying the tenor through context, such as drawing a lion and a heart on the armor of a soldier. The metaphor could then be elaborated on by the stylistic choices of the artist. A photorealistic painting of the soldier would show that the metaphor is being presented earnestly while a humorous caricature may imply that the artist believes war is a cowardly act, and that the lion’s heart is being used to parody traditional depictions of the military. So, researchers need to account for these discrepancies by looking at all aspects of a visual metaphor rather than just taking vehicles at face value as with verbal language.

In conjunction with the multitude of variables that are used to form a visual metaphor, there is also an enormous range of mediums within this category. Art and design are broad terms that describe individual disciplines that differ in their creation and presentation. Both a painting and a sculpture are considered to be fine art, but the former is defined by a single material and the other by its existence in three dimensions. Phillips and McQuarrie (2004) emphasize the importance of these distinctions in their discussion on visual rhetoric in advertisements. Like Refaie (2003), these researchers are attempting to create a guide to textual analysis of visual artifacts. However, Phillips and McQuarrie note that the

construction of the texts they are studying plays a role in the resulting metaphor. Looking mostly at advertisements with edited photographic elements, the scholars note that this specific type of visual metaphor can break the boundaries of reality in ways that are impossible with other mediums. Graphic design allows for levels of surrealism that would be impractical or even dangerous with architecture or interior design. This is also true with verbal metaphors, as neither written text, spoken text, or two-dimensional designs have to deal with safety or the laws of physics. In other words, suspending the disbelief of the audience through metaphor is easier with mediums that only have a visual component in comparison to those that require tactile interaction. From the perspective of the researcher, this means that the production of the metaphor must also be considered if those logistics enforce restraints on its presentation.

Evolving from the purely visual, architectural metaphors may also incorporate the artifact's practical purpose into its message. Unlike a painting or a sculpture, a building or a piece of furniture often has a non-aesthetic function that is paired with a stylistic appearance. An architect has to satisfy both of these requirements in order to create a successful design. In his design of the Portland Building, Michael Graves juxtaposes a playful exterior with its position as the main municipal building of a major city. In their metaphor analysis of the structure, Kanengieter-Wildeson (1989) takes individual elements of Graves' decorative choices and examines how they subvert the cultural expectations for the appearance of a government building. With the Portland Building, the researcher's artifact of choice, the context is imperative in understanding the metaphor and the discourse that surrounds it. The researcher notes that a government building is expected to be stoic and imposing, and

Graves' inclusion of colorful toy-like forms is poking fun at the self-seriousness of the public sector. If the researcher were to ignore the building's purpose and only focus on the aesthetic, the metaphor would be misinterpreted. Though the building is meant to represent a toy, nobody would actually mistake the building for a toy because of the physical expectations of architecture. Yet, Kanengieter-Wildeson recognizes that by using geometric shapes as shorthand, audiences are still able to understand that the forms are the concrete form for the abstract concept of playfulness. In sum, the architectural metaphor is an extension of the visual metaphor in that it reveals more variables and context that need to be considered by the researcher in the last step of metaphor analysis.

From this section, it becomes clear how background information and context plays a role in the message of a metaphor. Context, while mostly interpreted as the culture or language behind the metaphor, can also involve the medium and the production of the symbol. For visual metaphors, context is also expressed in the artistic choices of the creator. Just as different languages have various figures of speech for the same message, art styles can change the tone or even the entire meaning of a metaphor. This is expanded upon with architectural metaphor, where the practical usage of the artifact is often used as a starting point for the architect's creation of metaphor. Yet, visual metaphors in all these mediums are more difficult to define than those in written and spoken text, since abstract concepts do not always have a one-to-one linguistic translation. While this may allow for more flexibility in methodology, it can also provide challenges in matching vehicles directly to their tenors. So, researchers who are attempting to analyze visual metaphors may only tend to Ivie's (1987) five step process loosely, as it was originally intended for verbal artifacts only.

Metaphor Analysis in this Study

The metaphor analysis used in this study will be purely qualitative and it will cover the visual, spatial, and tactile elements of interior design in cyberpunk films. I will be breaking down my artifact into smaller portions, similar to the studies in the quantitative and verbal text section. However, rather than picking specific excerpts from a speech, I will be selecting certain locations and scenes in my films that best represent the goals stated in my research question. In other words, when viewing a room, I anticipate that useful analysis follows this approach. First, I will select a domestic, workplace, and decorative space from each film. This ensures that the function of each room will be relatively similar, even if the aesthetic of each area differs according to the production design of each film. Then, I will analyze each space within the confines of its respective film, allowing me to uncover how the society of each fictional world affects interior design choices. After completing individual analyses of these spaces, I will compare the content of each film to each other, as well as to our current state of design in our real world. By doing this, I will be able to comprehensively examine the metaphors in the following contexts: the in-universe environment of the film, the designs of other films, and the path toward our future in reality. Additionally, if I were to look at the movies as a whole, I would not be able to view the designs in the same way a character or an architect would. Instead, I would have to gloss over the textures, lighting, and other minute details that may not be ignored by a resident of the space. I am treating these spaces as if they could become models for our reality in the near future, so it could be necessary that I pay close attention to every aspect of a room that could affect a person's quality of life.

This study may be most similar to that of Kanengieter-Wildeson (1989), in that both the practical purpose and the aesthetics of the designs will be analyzed in conjunction to create the most complete picture of our future living spaces and offices. With the Portland Building, the playful graphics are only seen as ironic because government institutions are characterized as having a more stoic ideology. To illustrate in the context of my study, if I were to look at a bedroom, I would need to examine the design choices with the knowledge that the space is meant for relaxation and privacy. While flashy lights and giant speakers may be common in a nightclub, they would seem unusual and intrusive in a space meant for quiet time. Furthermore, there is an argument to be made that ideological criticism could produce similar results as metaphor analysis. Using the terminology of latter methodology, this alternative method of rhetorical criticism is concerned with the primary ideology presented by a vehicle. When employing either of these methods, the main goal is to gather enough information from the vehicle in order to uncover its respective tenor. With ideological criticism, the tenor will probably appear as a specific philosophical worldview because the researcher will be looking strictly for clues in that same realm. When analyzing design, it is imperative to comprehend how much attention an average consumer may give toward ideology when inhabiting specific spaces or using certain objects. Arguably, consumers may be more focused on the utility of the design rather than the ideology implemented through design elements. So for the purpose of this study, ideological criticism seems more like a lens that can be applied to metaphor criticism rather than its own distinct method. Concerning the topic of design, people might come to understand ideology through metaphor in their daily lives, making metaphor analysis appropriate for studying these concepts. If the buildings in a local public library system

appear to be kept well, despite the age of the system, one may assume that the ideology of the city values literacy and education. On the other hand, if one visits a publicly-funded hospital that is run-down with out of date technologies, one may conclude that the dominant ideology of the city is unconcerned with healthcare. Intentional or not, design ideologies become clear to the general public through metaphor rather than through statements of purely literal language. For this reason, ideology may be covered in my analysis, but metaphor analysis will be the method used to find these tenors throughout the films.

Additionally, my results will be delivered in the form of a “thick description,” as many qualitative metaphor analyses are. I believe this will provide the most immersive experience for the reader, especially if they have not seen the films before. This is also helpful in that I will be taking the perspective of in-universe interior designers and architects. While my study will have implications in the real world, I am attempting to understand how certain design choices affect characters as if their reality was our own. This differs from previous studies in that the logistics and environment of the fictional universe rather than our real world will be used as context to examine spaces. For example, if artificially intelligent smart homes are common in all social classes presented in a film, I will analyze all spaces in the artifact knowing that AI is ubiquitous and not considered to be a luxury addition to a house. From a filmmaker’s viewpoint, the production designer of a set piece is attempting to create a believable, cohesive environment that suspends the audience’s disbelief for a period of time. Ideally, when watching a film, an audience member will not be viewing the spaces as set pieces but as real interiors that the characters are inhabiting. In this study, I will be using that

same perspective as a production designer trying to create visual-tactile metaphors that are believable enough to work in our reality.

Specific Procedures in this Study

When gathering data from the films for my analysis, I utilized Amazon Prime Video as my primary streaming format. I will disclose that I do not own a DVD player, Blu-Ray player, or any other means of viewing a film in physical format. Therefore, I had to opt for video-on-demand (VOD) for this study. I specifically purchased the three films through Amazon Prime Video because of the platform's "X-Ray" feature. "X-Ray" provides the viewer with actor names, character names, and production trivia when the film is paused (Amazon, n.d.). This function allowed me to keep track of multiple characters throughout my viewing while also gaining insight on behind-the-scenes decisions regarding production design. Since the information provided by X-Ray is sourced from IMDb, or Internet Movie Database, I also looked through the website for additional facts on production. To supplement this, I sourced background information from interviews with the films' respective production designers. Additionally, to my knowledge, there are no director's cuts of the three films I have chosen. There are supplemental materials that are available on YouTube or Blu-Ray, but they are not part of the film itself, and are not necessary for understanding the films. For this reason, I did not take these extra pieces of content into account for my analysis.

I watched the films on my 2019 15" MacBook Pro while taking notes on a secondary external monitor through Google Docs. By viewing the films on my laptop instead of on my television, I was able to capture screenshots to analyze later in my process. I used this specific laptop model because at the time of my analysis, the MacBook Pro was the only

device I owned that was capable of streaming the films and allowing for screenshots at the same time. I chose to take notes on a secondary monitor because I am able to type faster than I can write (approximately 70 words per minute), allowing me to take notes while the film was playing. Additionally, using the secondary monitor let me record notes while looking at still images rather than switching back and forth between a word processor and Prime Video. Since I viewed the films on a 15" monitor, I purchased the standard definition of the film. On a smaller screen, the difference between standard definition and high definition is negligible (Navarro, 2019). If a researcher were to conduct a similar study on a regular television or a larger desktop computer, such as the iMac, purchasing the high definition version may make a difference.

All three films were watched in a room with a closed door, blackout curtains, and dimmed lighting in order to reduce glare from artificial or natural lighting in my environment. Additionally, I watched all three films at approximately 75% brightness or higher so the visual details would stand out during my viewing experience, adjusting higher or lower depending on the lighting in a scene. Furthermore, in order to better record dialogue from the films, I watched them with subtitles and UrbanEars Plattan 2 headphones. I chose these headphones because they were the best quality wearable audio equipment that I owned at the time of data collection. This does not mean UrbanEars Plattan 2 headphones are considered high quality in the headphone market, but that they are the best that were in my possession. Similar to my procedures with brightness, I adjusted the volume of my laptop in accordance with the loudness or softness of the scene. In general, volume was kept to about 60% or higher. If another researcher were to use higher quality headphones, they may choose

to keep the volume lower. Also, I did not record auditory data from the films, but I did write down dialogue on my secondary monitor as the film played. If I were to only record auditory data, I would eventually still need to transcribe the speech in order to include the text in my written analysis. For extra long pieces of dialogue, such as monologue-like speech, I had to pause every few seconds to properly transcribe the text. I had looked at scripts for the films, but I used the film itself as the definitive version of the dialogue.

As a disclaimer, I had watched all three films in full without pausing in casual viewing prior to the start of this thesis. However, for this study, I paused, rewound, and fast forwarded the films several times in order to accurately collect dialogue and screenshots. If I missed a moment after watching the film, I would play specific scenes back so I could collect more data. Not counting my casual viewings of the films, I had watched each one (with pausing, fast forwarding, rewinding) in completion while going back to view specific scenes repeatedly afterward. This also aided me when I took longer notes, as I would have missed the next scene if I did not pause to type. I do believe that casually viewing the films in full was helpful in my data collection phase, since I was already familiar with the plot and characters by the time I watched the films for this study. I suggest that future researchers watch their respective films at least once in full without rewinding or fast forwarding in order to familiarize themselves with specific plot points, pacing, settings, characters, and other cinematic elements. After that, they may watch the film again as I had done, while taking notes and screenshots.

During my viewing of the film, I took note of the materials, color theory, balance between or representations of the natural and artificial, interaction with objects, and human

scale in various spaces. The actual materials (steel, silk, etc.) on display are not always explicitly labeled in the films, but their general material “family” can be generalized through vision. Polyester and cotton are both fabrics just like how iron and aluminum are both metals. Even if a piece of leather in the film is actually “pleather,” or a vegan alternative to the material, it is meant to represent true leather because “pleather” is usually seen as the alternative to the former. In other words, we rarely assume that a “pleather” object is actually leather. In conjunction with color theory, materials and their multitude of hues indicate if an object is meant to be seen as more friendly (human, or natural) or more inhospitable (artificial). Warm tones and soft materials indicate life, with the exception of green, which is a cooler color that is associated with foliage. Cool tones and hard materials imply the opposite. Interaction with objects and human scale are tied together since human scale dictates how easily a person can move through a space or handle a tool. If a space is too small, a person may have trouble walking through the area and may easily grab the wrong object because the room can become cluttered quickly. As a result, all of these categories are not mutually exclusive, as they can affect each other. When sitting on a chair, one is not just interacting with the size of the chair, or even just the color or just the material. One is using the chair in its entirety, even if the piece of furniture is a simple barstool, lacking any varnish or paint, and constructed out of a single species of wood. Design is interdisciplinary in this manner, and I argue that coding each category in isolation would be counterintuitive in understanding how a person could use an object or a space, even if the films only show representations of potential future designs.

Although this thesis is presented in the realm of communication studies, I do hold a Bachelor of Arts degree in Design Studies. I had worked as a graphic designer prior to entering this Master of Arts in Communication Studies program and writing this thesis. So, I used my professional and academic knowledge of design elements such as texture and color to perform my coding procedures. In my experience, I was taught that immediately recognizing the significance of certain materials, colors, and textures was a necessary skill in becoming a successful designer. Having this trained intuition, is a highly marketable skill in the design industry as it allows one to quickly critique, ideate, construct, and present work to clients or fellow collaborators. At this point in my academic and professional career, I am able to quickly link specific design element vehicles to their tenors. As design professors are usually hired based on professional expertise rather than academic scholarship, much of the knowledge I have retained and the majority of the skills my past professors have passed on to me were discovered through personal experience rather than scholarly literature. This is not to say that there is no scholarly literature on this subject, but that my knowledge comes from practical application and vocation.

Summary

This chapter has covered the basic history of metaphor analysis and its applications on various types of artifacts. While initially intended for examining written and spoken texts, metaphor analysis has been employed for non-traditional artifacts in more recent times, such as buildings or film scores. The methodology is adaptable to multiple mediums, and can also be adapted for both quantitative and qualitative usage. Although my study is qualitative and my design artifacts are primarily visual and tactile, I have found that elements of the coding

approach and analysis of verbal texts are still useful in my examination of cyberpunk films. Even though visual metaphors are generally less straightforward than their verbal counterparts, the latter demonstrates the importance of isolation and categorization in the earlier stages of the procedure. Even with the complexities of stylistic and practical choices within design artifacts, the process of categorizing individual metaphors should not be ignored. Similarly, using coding approaches and quantitative or mixed-method variants of metaphor analysis emphasizes how breaking up a larger artifact can result in a more detailed examination of the major metaphorical themes in a text. In the following chapter, I will present an analysis of domestic spaces, workplaces, and decorative elements in the films *Blade Runner 2049*, *Upgrade*, and *Her* in that order. Following, my conclusion will discuss the limitations of this specific study and opportunities for future research on this topic.

Chapter 4: Analysis

Introduction to Analysis

In this chapter, I will cover one domestic space, one workspace, and one decorative space or decorative element from each of the films. In total, nine locations will be covered from *Blade Runner 2049* (2017), *Upgrade* (2018), and *Her* (2013) in that order. As a prelude to each of the films' analyses, a brief plot synopsis will be provided for readers who have not seen the film themselves or need a refresher on the narratives. Acting as an additional primer to my analyses of the spaces, *Blade Runner 2049*, *Upgrade*, and *Her* will be evaluated in regard to their contribution and interpretation of the cyberpunk genre, since these three films were chosen together to represent differing perspectives of cyberpunk in contemporary live-action cinema. The subsequent analyses will be grouped by film rather than space category (domestic space, workspace, and decorative space), and any comparing or contrasting will be saved for the major findings subsection of the conclusion chapter. Additionally, quotations and scenes in this chapter will be cited with timestamps for the reader's convenience.

***Blade Runner 2049*-Environment as Obstacle**

Synopsis of Blade Runner 2049

Blade Runner 2049 is a 2017 film directed by Denis Villeneuve. The film is a direct sequel to *Blade Runner*, a 1982 film directed by Ridley Scott. Thirty years have passed in-universe since the events of the original film, and it is now the year 2049. In this sequel, Officer K, a Blade Runner with the LAPD, is tasked with finding the first child born from a replicant mother. Prior to the events of this film, all replicants were believed to be grown in a corporate or factory setting. K believes he is the "born" child but has no confirmation of this

fact. To solve the mystery, he has to find Rick Deckard, a retired Blade Runner who may be the father of this child. In regard to franchise lore, the etymology of “blade runner” is never explained, but the title is roughly equivalent to a present day police officer.

Though K is a replicant himself, he is allowed to hunt rogue, outdated replicants because he belongs to a new model line that supposedly cannot lie to humans. The validity of this claim is questionable since K secretly disobeys his human police captain several times in the film. It is also unclear if he believes in the values held by the LAPD, since he was forced to perform the duties of a Blade Runner since he came into existence. K shares this paradoxical outlook with Deckard, who was hinted to be a replicant in the first film. The previous lines of replicants, including the replicant mother, were considered problematic because of their tendencies to rebel. This behavior caused humans to fear replicants because the latter were originally created as an expendable workforce.

K’s line of replicants was designed by Niander Wallace, the human head of Wallace Corporation. Wallace is able to maintain success and wealth by convincing human buyers that his replicants are obedient to humans, even though this guarantee is exaggerated. Notably, he is the sole cyborg in the film, since he is visually impaired and requires cybernetic implants to see. Along with replicants, Wallace has also created holographic semi-sentient romantic partners, including K’s partner, Joi. She is the only character in either film who cannot physically interact with their environment because her body is intangible. If replicants are meant to represent humanity without human birth, holographic partners demonstrate humanity without tangibility, and perhaps even less perceived free will as

replicants. Joi's "species" is only present in *Blade Runner 2049*, and further expands upon various expressions of humanity from the original film.

Blade Runner 2049 in the Cyberpunk Genre

From an aesthetic and thematic perspective, Villeneuve has dressed *Blade Runner 2049* in many of the genre's typical trappings. The film's version of Los Angeles is claustrophobic and dystopic, with neon lights and skyscrapers that reach up toward the smog-covered heavens. For the majority of characters, replicant or human, quality of life is frighteningly low. Yet, the filmmaker has purposely included locations that challenge the original cyberpunk look. In this story, Las Vegas is depicted as a barren landscape that first appears to be devoid of buildings and non-artificial life. This is the opposite of a classic cyberpunk landscape, even though it exists in a cyberpunk world.

The film's interpretation of a posthuman person is also derivative from other cyberpunk films. In *Blade Runner 2049*, it is made clear that replicants are biological creations rather than mechanical ones. With the exception of a serial number printed onto the bottom of their eyeballs, the replicants have the same internal structure as humans. Though they lack mechanical implants, replicants are metaphorically cyborgs. Haraway (1991) claims that cyborgs are formed when the purpose of machine and humanity are blurred in a single being. Replicants, though entirely biological in physical composition, can be interpreted as cyborgs since they are created solely for the purpose of labor as a machine would be. Like a machine, they are artificially built, but like a human, they bleed red. The emergence of a born replicant is considered to be dangerous by the society of *Blade Runner 2049* because the origin of one's existence is the primary difference between humans and replicants. The act of a

replicant being born rather than built challenges the notion that the physical genesis of life should dictate one's status (Haraway, 1991). Birthing a replicant is therefore in line with Haraway's non-Judeo Christian perspective on posthumanism, where one is not limited by the societal implications of their original body.

Blade Runner 2049 is a unique case in that it must pull from past cyberpunk media, since the film is a sequel to *Blade Runner*. However, the film is relatively new in the timeline of cyberpunk. The resulting take on cyberpunk may signal a transition point between old and new films in the genre, as proven by the subtle gestures toward the mechanization of maintaining and using one's own body. A scholar could apply thing theory to several aspects of the film, especially regarding the reversal of the relationship between subject and object. Brown states that inanimate objects can manipulate subjects, or living people, even though objects are often thought to be acted upon rather than agents of an act (Brown, 2001). Replicants, who are sometimes considered to be objects by humans, can protest against a human by refusing to complete a task. Replicants and holographic beings can also be interpreted as objects in regard to their commodification. *Blade Runner 2049* makes clear that from the perspective of the human population, artificial beings are products to be bought, sold, and disposed of. Mirroring how objects transform into things when they no longer serve the purpose given to them by society, replicants and holographic partners are destroyed when they choose to not follow their predetermined purpose. However, one may argue that the choice to refuse the call of corporate giants, such as Wallace, is the path to agency for artificial people. Like a coffee mug that breaks when mishandled, a replicant may "break" for independence when abused by the system that built them.

Domestic Spaces in Blade Runner 2049

Almost every home has a kitchen, and for good reason. Preparation and consumption of food is necessary for people to fulfill their biological needs. Since this is an activity that may be performed multiple times per day, the kitchen space cannot be escaped by its owner. In other words, the room's authority over the body cannot be overstated. For the case of K, his uncomfortably arranged kitchen dictates how he moves his body through an unavoidable area of his apartment. Moreover, the inclusion of a kitchen in a replicant's apartment indicates again that these "objects" have lives beyond the path dictated for them by Wallace Corporation. These beings prepare and eat food exactly as humans would, even though this particular manner of recharging energy has no effect on their performance as an artificial workforce. So, the existence of K's kitchen is both a hindrance to his survival and proof of his livelihood despite his artificial origin.

Cooking is a means of physical survival. Though the activity is able to provide emotional gratification and entertainment, an unfit cooking space can turn the task into a banal chore. This is exemplified in K's hallway-like kitchen, which is a manifestation of mundanity (Villeneuve, 2017, 00:17:16). As shown by the dialogue between characters in this space, scenes that take place in the kitchen emphasize the daily lives of its inhabitants over the plot of the film.

K: I had an accident at work. I think I ruined my shirt.

Joi: I'm sure I can fix that for you. Let me take a look at it.

K: I need a drink. Do you want a drink first?

Joi: Mm-hmm. Pour me one, will you? I'm trying a new recipe. I just need a bit more practice.

K: Don't fuss.

Joi: I should have marinated it longer. I hope it isn't dry.

(Villeneuve, 2017, 00:17:10)

Though K is on the verge of discovering a conspiracy within the replicant population, this exchange between him and Joi illustrates the minute details of everyday routines. The kitchen space brings out the domesticity in their relationship, an element of daily life that cannot be ignored by anyone. Furthermore, though Joi is seen enjoying the act of cooking, K is the only character shown physically interacting with the space due to his partner's intangibility. Joi's cooking is holographic, and so is the food she produces. This may be why K seems less satisfied with the space in comparison to his partner, since he is bound to the tangible constraints of the space in ways that Joi is not. The area is extremely tight, and there is only space for one adult to walk through at a time. Rather than a full range and oven, the kitchen has various cooking gadgets, including a coffee maker, blender, and a single hot plate. The room's storage space functions similarly to overhead storage on an airplane; it is undecorated, compact, and placed at head-level. All elements of the kitchen are organized in horizontal bands, stretching from one end of the space to the other. This horizontal motif is even reflected in the fluorescent lighting, which sits in between the high cabinets and the actual cooking countertops. In combination with its hallway-like layout, the lengthy banding emphasizes the narrowness of the room. The overall appearance of the space is more similar to a kitchen in a diner rather than one in a home, implying that the designers of these apartments have deemed cooking to be an act of practicality and not recreation.

In its spatial relationship to the rest of the apartment, the kitchen is sandwiched between K's restroom and living room in a Jack-and-Jill placement. There are no doors separating the three rooms. Alternatively, a translucent, plastic curtain hangs at the entrance of the restroom. In a scene depicting K coming home from work, he first showers, prepares a meal

out of pre-packaged powdered food, then eats at a small card table in his living room. K's after-work routine mirrors the ordering of the rooms in his apartment, suggesting synchronicity between the way he uses his body and the manner of which his space is set up. Either his apartment layout was determined by his body care routine, or he has modeled his routine after the setup of his living space. More likely, the latter is true since the presence of a replicant owning a customized apartment would be rare in the universe of *Blade Runner 2049*. Furthermore, the two rooms that serve mainly practical purposes are connected. The shower is used to cleanse his body and the kitchen is used to prepare nourishment for the body to continue functioning.

The cramped nature of K's kitchen determines how his body can move through the area, which may in turn alter his enjoyment of cooking. In conjunction, the low height of the lighting leaves the room dimly lit, potentially making it an uncomfortable space for the chef. The kitchen lighting almost creates an illusion that the ceiling is actually closer to the body than it actually is. K cannot avoid this area of his apartment, further emphasizing the space's domain over his body. The replicant simply cannot ignore the inadequate design choices of this space. K, a living person, is then being manipulated by the inanimate features of his kitchen and apartment. This may be a result of systemic injustice, where replicants might not be offered the same amenities as humans due to their status as second-class citizens. As a marginalized group, they may not experience all that design has to offer regarding comfort and efficiency. Similarly, when discussing the potential downsides of posthumanism, Haraway (1991) warned that the application of the framework could work against feminism if a woman's body were altered to only be useful in traditionally feminine spaces, such as the

kitchen. K's cooking space is almost a reverse of this dilemma, where the design of the kitchen is interfering with his ability to enjoy self-care through the culinary arts.

Designers of such spaces might be using these choices to remind artificial residents that the body is a machine for working and that cooking is only meant to keep the biological machine from failing. Yet, might a plug-in mechanism or a rechargeable battery be a more efficient method for maintaining the replicant metabolism? The fact that K owns a kitchen contradicts his status as an object. In accordance with Haraway's (1991) argument that a person's birth is irrelevant to their status as a posthumanist person, a replicant's artificial birth seems inconsequential when examining aspects of their daily life. A robotic vacuum docks into a charging station to energize itself. The device does not boil noodles and sit at a dining table, but a replicant does. Even Joi, who cannot interact with the tangible world as K can, prepares a holographic dinner for her partner. So, even though the small scale of K's kitchen partially inhibits his ability to enjoy taking care of his own body, it also grants him and his partner agency despite being labeled as disposable objects by the world they live in.

Workspaces in Blade Runner 2049

Though the majority of an office or corporate building is private to the company's employees, there may be some public elements that outsiders can visit. In these semi-public spaces, corporations may employ design choices that represent the brand or values exuded by the business. If a company wants to appear approachable, their office may be painted with bright colors and whimsical patterns. However, in the case of Wallace Corporation, the goal of the conglomerate is to intimidate visitors and exert authority on employees. The clerical workspaces in the greater Wallace Corporation Headquarters demonstrate the merging of

office technology and the body while also using disproportionate scale to dwarf anyone who enters. As a result, fixtures and devices in this office emphasize the socioeconomic superiority of the company while also reducing the importance of the individual under Wallace's shadow.

Wallace Corporation Headquarters is one of the only buildings in *Blade Runner 2049* that has near total use of natural materials. According to IMDb (IMDb, 2017), this production design choice was used to show the disproportionate wealth of Niander Wallace in comparison to the general population. Similarly, the first scene depicting Wallace Corporation is also the first scene in the film to utilize warm lighting and color schemes. So, a visit to the building is almost equivalent to entering a fantasy of grandeur and secrecy. In fact, to enter Wallace Corporation Headquarters is to enter into a god's workshop, where a man has made history by essentially mass-manufacturing the human body. Wallace himself actually uses language reminiscent of religion to describe this building when speaking to his replicant assistant, Luv.

Luv: Welcome back, sir. You wanted to review the new model, sir, before shipment?
Wallace: An angel should never enter the kingdom of heaven without a gift. Can you at least pronounce, "A child is born?" ...Hmm. A new model. Well, let us see her, then.
(Villeneuve, 2017, 00:37:37)

By referring to the space as "the kingdom of heaven" and his creations as "angels," Wallace is labeling himself as a deity by proxy. So, to any average person, entering Wallace Corporation Headquarters would be equivalent to an ant wandering into a mansion. This experience is presented to the audience through K's eyes, an individual who was presumably made at this corporate shrine, but is labeled as a commodity by its owner. When he first

arrives at the building, he is greeted by a sole file clerk working at the receptionist's desk (Villeneuve, 2017, 00:29:48). The desk is mostly hidden from the visitor, potentially to uphold the illusion that Wallace is a deity and that his methods of creating replicants should remain enigmatic to the public. In fact, the process of creating a replicant or a holographic partner is never explained in the *Blade Runner 2049* universe. Emphasizing the secrecy of the company, K can only view the clerk through a slit that spans the entire length of the reception workspace. This gap is also the only source of light in the area, suggesting that darkness or dimmed lighting is a metaphor for secrecy. In addition, all clerical technologies are integrated into the desk (Villeneuve, 2017, 00:29:59). The scanning devices, computer monitor, and keyboard are not separate from the desk, and they are designed to be as low profile as possible. The keyboard itself is split into two parts and is arranged for both hands to use them at the same time. Designers of this workspace have dictated how a receptionist must position their body in order to complete the task, as the employee cannot move the devices to suit their custom ergonomic needs. Scholars might apply a negative interpretation of both posthumanism and thing theory to these design choices, as the human is forced to assimilate to the inanimate in this scenario (Brown, 2001; Haraway, 1991). From the posthuman angle, the clerk has to move their body in accordance with the design choices of the computer components. The devices are then enacting their agency on the subject, leaving no room for bodily freedom despite the excess of space in the reception region.

Having a sole worker in a massive room serves two purposes: to highlight the power the company holds over the individual and to enforce the godliness of Wallace himself. The scale of the reception area is clearly excessively large for just one employee, which is a

theme carried into all other spaces within Wallace Corporation. To demonstrate this size disparity, only three employees, including Wallace, are ever shown working in this monolith of a building. Simply put, the scale of the building is Wallace's expression of his ego in tangible form. The character is both a literal cyborg, since he uses ocular implants, and a metaphorical cyborg, because he has merged his self-image with an inanimate building. Vidler (1992) had noted that homes may resemble the physical makeup of its residents, but it may be fair to assume that a space may mirror the personality or psychology of its owner as well. Disparity in human scale is also evident in the archives of the building, where K travels next. After checking in at the reception desk, the clerk eventually brings K to the archive room, which is filled with endless Stonehenge-size file cabinets (Villeneuve, 2017, 00:31:17). As the giant cabinets appear to be made of the same wooden material as the walls and floor, the room appears as an endlessly disorienting labyrinth. Though this is an interior space, the area functions and looks more like a typical cyberpunk city than a room with the cabinets functioning as high-rise buildings. From a high angle, K and the clerk resemble mice in a laboratory maze. Ironically, Wallace may view the former as a lab rat and the latter as a mindless pest in relation to the technological impact of the corporation's achievements. This is not to say that the two are actually insignificant beings, but that the environment around them recontextualizes their lives under the lens of Wallace Corporation.

Once again, the movement of bodies is dictated by the design of the spaces. The file clerk is functionally just another part of the "receptionist machine" since he cannot even dictate how he chooses to position his hands while working. A visitor can lose their sense of direction in the archive room, which is a tangible metaphor for technological information.

However, in comparison to the minuscule size of K's kitchen, the vast openness of Wallace Corporation highlights the smallness of one's own existence. Niander Wallace's monopoly on natural materials shows that even the body's connection with nature can presumably be bought and sold. This is further emphasized by the fact that his fortune comes from his production of artificial, yet biological, humans in the form of replicants. Ultimately, the clerical departments at Wallace Corporation Headquarters can be interpreted as an example of how the design of a workplace can dictate a person's sense of importance and agency in a larger system. Though Wallace may not be literally supervising each of his employees at all times, his presence and influence can be felt in the enormous scale and isolating design choices of his building. Yet, this is not the only manner in which someone's personality can be infused into the design of a space. In the following section, the semblance of a person's identity is presented as a literal snippet of one's existence rather than a temple of one's ego.

Decorative Elements in Blade Runner 2049

We currently live in a world where entertainment is an abundant resource. There is no shortage of media to occupy our minds, and with the exception of the COVID-19 era, live entertainment is just as plentiful. Yet, in a society where life is so scarce that an entirely new species of artificial humans were built for servitude, concerts are a luxury of the past. In their place are essentially "photocopies of photocopies," or imperfectly captured moments of live performance played on a loop for the wealthy. This is best exemplified by the Elvis holograms at the abandoned Las Vegas casino, which may represent the commodification of human interaction. While far from the real King of Rock and Roll, this digital stand-in might be the premium standard for entertainment in the *Blade Runner 2049* universe, where human

interaction is so stunted that the replication of such interaction can be used to artificially satisfy the need for interpersonal relationships.

Instead of utilizing static, immovable objects as decor and entertainment, *Blade Runner 2049* opts for interactive technology. When K meets Rick Deckard in an empty casino, they fight in an old singing lounge. While no longer fully functional, a holographic performance of Elvis Presley and his backup dancers play on the stage and the surrounding lounge furniture (Villeneuve, 2017, 01:48:25). The holograms do not spontaneously interact with real people, distinguishing them from sentient holographic beings like Joi. Interestingly, the hologram performance appears to be custom designed for the environment or vice versa, which is proven by the usage of specific pieces of furniture in the dance. Elvis is seen walking down the stage steps as he sings, and the other figures dance on the tables. These entertainment holograms function as built-in live entertainment, which were presumably created to address either a lack of or the expense of real living performers. This builds upon the scarcity of natural resources, with the bodies of real, living entertainers being the natural resource in this scenario.

One of the primary differences between Elvis himself and the representations of Elvis at the casino would be the tangibility of the body. Audiences do not always touch the body of the performer, but their physical presence is the selling point of concerts. For example, seeing a live performance is more expensive than watching a video of the same performance at home, implying that the former is a more valuable experience than the latter. Yet, the holograms at the casino are more similar to viewing a video than watching the singer in-person, and the experience of watching the holographic show is still considered a luxury in-

universe. The Elvis hologram is therefore an illusion of autonomy. Audiences do not have the choice to watch a real Elvis (or an equivalently famous performance) or even a replicant Elvis. The holographic Elvis is not able to choose where to step next on the stage, what note to hit, or what dance move to show off. In other words, this object cannot enact its agency in the same way a person would. All the hologram can do to display its autonomy is to glitch and deteriorate into a thing as a protest against a lack of audience, and by extension, technological maintenance. Mirroring this sentiment after their fight, K takes interest in a stray dog that follows Deckard around the abandoned casino. Noting that most natural born animals are extinct in this universe, K asks if the pet is authentic or a replicant like himself.

K: Is it real?

Deckard: I don't know. Ask him.

(Villeneuve, 2017, 01:52:21)

Though terse in his response, Deckard's claim about his dog's state of existence highlights the agency of objects. The right to exist as a living person (or animal) should lie in the being themselves and not external claims to their livelihood. In accordance with Thing Theory, the Elvis hologram's right to existence should be determined by himself. Even if Deckard's dog can only follow his owner around, just as the hologram can only dance down the steps of the theatre, these actions are a proclamation of autonomy.

Although the decorative piece appears to have control over its own movements and environment, it is clear that every aspect of the hologram was carefully designed beforehand. The humans represented in the performance holograms are just parts of the room, no different in function from a television. As with the file clerk in Wallace Corporation, the holographic Elvis is just a piece of machinery in the system represented by the space it

occupies. On another note, this hologram is not a living being like Wallace, K, or even Joi, but it is still controlled by the surrounding space as illustrated by the custom movement patterns dictated by the furniture of the casino. There may then be a hierarchy of which objects may impose their will onto other objects, which is reflected in the hierarchy of human representations in the *Blade Runner 2049* world. With “born” people at the top, followed by replicants, and then holographic partners like Joi, neither forms of hierarchy seem humane. This may be a call for an erasure of hierarchy and categorization of existence, as proposed by both Haraway (1991) and Brown (2001).

Summary of Blade Runner 2049 Analysis

This analysis of *Blade Runner 2049* is focused on physical and sociological identity. The disproportionately small scale of K’s kitchen highlights how design can be used to dampen the spirits of marginalized replicants. On the other hand, the grandiosity of Wallace Corp Headquarters illustrates how the size of a space can also be exaggerated to uplift the self-pride of its owner. Finally, the use of Elvis’ likeness as an interactive decoration demonstrates how corporeal identity itself can be commodified and eventually, turned into a disposable thing. Regarding the metaphor of environment as an obstacle, all three of the spaces presented in *Blade Runner 2049* limit the physical and social identity of those who occupy the space. K is unable to maneuver freely through his apartment kitchen because of its tiny size, and the Elvis hologram is only able to dance about the stage in accordance with its programming. Though the rooms shown in Wallace Corp Headquarters are spacious, the excessive scale of the interior area dwarfs the self-esteem of anyone who enters the building.

Overall, the design of these three settings show how the identity of an individual is representative of the space they occupy and their place in their society's hierarchy.

Upgrade-Technology as Integration

Synopsis of Upgrade

Upgrade is a 2018 film directed by Leigh Whannell. Grey Trace is a luxury car mechanic who works out of his own garage. He has a distaste for digitized technology, and prefers to live a "low-tech" lifestyle despite being married to Asha, a woman who holds a high position at a biomedical technology company. After he is injured while failing to protect his wife from a shooting, Trace becomes a quadriplegic and becomes unwillingly dependent on technology. Luckily, his last customer prior to the injury, the biomedical prodigy Eron Keen, offers to surgically implant an artificially intelligent chip in his spine that would restore the use of his body. Keen emphasizes that the procedure is experimental and that Trace would be its first user. So, Trace must still pretend that he is quadriplegic in public. Disregarding his advice, he uses the chip, nicknamed STEM, to help him violently avenge the death of his wife. STEM is revealed to be sentient, and the device often speaks to Trace via soundwaves in his eardrums. In fact, STEM is Trace's main confidant throughout the film, and acts as his primary companion after the loss of his spouse.

As shown by his occupation, Trace enjoys working with his hands and distrusts the technologies his wife develops. He only begins to appreciate technology through the implantation of STEM. Yet, Keen disapproves of Trace's usage of STEM and periodically shuts down STEM remotely when its user is disobeying. This is his primary obstacle since Keen's control over STEM is equivalent to having control over Trace's body. It is left

ambiguous as to how much the young scientist understands his own technology, as he was surprised to learn of STEM's sentience. The artificial intelligence gradually reveals his agency over his human creator and user, lending itself to the body horror and psychological thriller elements of the narrative.

Upgrade in the Cyberpunk Genre

Upgrade dips in cyberpunk discourse about biomedical technology and disability through its interpretation of implants and bodily augmentation. Individuals such as Trace experience stigma for their disability, but characters are not ostracized for being cyborgs. So, voluntary changes to the body (cybernetics) appear to be less stigmatized than involuntary alterations (disability). For this reason, the plot of *Upgrade* leans into body horror territory, where unwanted posthumanism becomes the source of disgust and fear. However, legal cybernetic implants are not considered commonplace in-universe, leading most cyborgs to have augmentations that are discreet in appearance. There are no full-body replacements, only slight changes to a body part or two. In other words, subtlety is the film's specialty when it comes to exploring posthumanism and the cyberpunk genre. Technology in this film is defined by its potential to blend in with the pre-existing environment around it. In conjunction Haraway (1991) notes that becoming a cyborg can be a semi-organic, fluid process rather than an invasive one. In the real world, the most powerful technology may also be the tiniest, with the researcher referencing nanotechnology as an example. Due to its subdermal placement, STEM is unassuming in size and appearance but still revolutionary in its ability to restore sensory and motor function in a quadraplegic. Subsequently, the impact of cybernetic implants in-universe is expressed through action and ability more than physical

appearance, hinting that biomedical technology can be conservative in appearance but radical in utility.

STEM demonstrates a type of cunning intelligence mostly associated with humans, separating itself from the cold monotone usually used to personify machines in cyberpunk. While it may seem like Trace is the protagonist of the story, STEM is revealed to hold the most authority over other characters. This may be interpreted as a combination of the cyberpunk trope of having an oppressed protagonist with the thing theory tenet of objects having agency. Again, none of the characters know the device is capable of sentience until it chooses to demonstrate consciousness. With STEM being the first of its kind, the narrative suggests that objects are beginning to express autonomy through artificial intelligence. In other words, a researcher might understand this aspect of the story as a literal interpretation of thing theory (Brown, 2001). STEM enforces his will over others actively rather than passively. Unlike the chair that depresses when sat on or the teapot that breaks when dropped, this device talks back, physically wrestles control away from humans, and uses violence to reach its goals. In a reverse of posthumanism, STEM demonstrates how a machine can become more human, even when these person-like traits are negative.

Upgrade takes place in a transitional world halfway between our present reality and a *Blade Runner 2049*-esque future. The characters themselves are still adjusting to new technologies, and they may ask the same questions about their interactions with interior spaces as we would in the real world. This may be why Whannell (2018) has chosen to pair the technophobic Trace with the artificially intelligent STEM, as their dynamic marries our current world with science fiction. Additionally, Whannell purposely avoids showing full

integration between futuristic technology and real world fixtures. Felicity Abbott, the film's production designer, revealed in an interview that this lack of seamless assimilation was chosen to show a realistic progression toward the future from our real-life present (Tromp, 2018). Individual technological devices, such as coffee tables that double as touch-screen computer monitors, are used in rooms that have relatively outdated furniture and decor. Therefore, the mismatched fixtures, suburban setting, and understated prosthetics imply that the film is portraying a cyberpunk world in its infancy.

Domestic Spaces in Upgrade

Referring to the diversity in bodily expression through cyborg culture, Vidler (1992) noted how the uniformity and stationary nature of modern homes could be detrimental to those who do not have a standard body. A home for a cyborg would be customizable and fluid, just as the resident would be themselves. Unfortunately, spaces are built for able-bodied individuals, and any accessible additions to the home must be tacked on rather than seamlessly integrated into the environment. From Vidler's perspective, furniture should be an extension of the corporeal form. Under this framework, furniture for the disabled should not ask the resident to conform to the environment but rather, that the space should accommodate its owner's body and personal tastes. In *Upgrade*, Trace's radical change in his mobility directly affects the arrangement of his home. While he had once used his arms and hands to make a living, he must now rely on technology to meet his basic survival needs. Coming in the form of robotic, mounted arms, the accessible additions to his home do benefit him physically, but the design choices are ignorant of his interpersonal needs. Mirroring

cyberpunk's tagline, "high-tech, low-life," these smarthome arms are undoubtedly useful in regard to daily tasks but ineffective in replicating human empathy.

When Trace arrives home after recovering in the hospital, he discovers that three robotic arms have been mounted to his kitchen counter and dining table (Whannell, 2018, 00:16:40). The assistive arms are able to prepare meals and administer injectable medication through voice command of either Trace or his mother, Pamela, who must now assume the position of a caretaker. So, not only has Trace lost the independence of his own organic body, but he has also lost exclusive control over the fixtures in his own home. He has had no say in these alterations, and is surprised when he first sees the arms. The able-bodied medical attendant who has installed them states that the arms will help Trace live as normal a life as possible, insinuating the lack of normalcy in a quadruplegic's life. Haraway (1991) would propose that the medical attendant has bought into the traditional, non-Posthuman worldview of the human body, where the sole interpretation of corporeal normalcy is that of an able-bodied person. Posthumanist scholars do recognize that disabilities can disrupt a person's quality of life, but it focuses on acknowledging that a body with a disability is still a valid expression of humanity. This notion is further explored by the inclusion of other autonomous assistive fixtures in Trace's home, including a wireless charging pad for his electric wheelchair (Whannell, 2018, 00:16:56). The devices clearly allow Trace to live a more independent life as a quadruplegic, as he is shown taking his medication and charging his wheelchair while home alone. Yet, the arms are a constant aggravating reminder of the changes his body has involuntarily experienced. Trace then grows deeply depressed and embarrassed by the installation of these new appliances in his home as the devices trigger his personal aversion

toward technology. Conclusively, the functionality of the devices is unproblematic, but the symbolism and framing of the devices are damaging to Trace's identity.

While the arms are helpful in aiding Trace's journey back toward independence, the aesthetics of the devices clash with the overall appearance of his home. The arms were designed with a black monochrome exterior, potentially to blend in with the majority of domestic spaces. Yet, in Trace's home, the two food preparation arms are carelessly placed directly under a panel of decorative light, which emphasizes their presence and intrusion even more. This may come off as insensitive, as the placement and coloration of the devices suggest that the installers and designers of the arms have not taken into account Trace's identity as an individual. In opposition to STEM or any of the other cybernetic implants in the *Upgrade* world, these robotic arms cannot be concealed and are not seamlessly integrated into the living space. In fact, this portion of his home is highly decorated, which suggests that the kitchen and living room may be used to entertain guests. The inclusion of the arms in such a public, highly centralized place may serve as a constant reminder to Trace that his bodily changes cannot be normalized.

Though they do not anatomically mirror a human limb, the devices are referred to as "arms" to reference the primary purpose of the body parts in daily life and to close the gap between assistive technology and the human caretaker. Hands and arms allow humans to manipulate the environment around them. Subsequently, as a quadraplegic, Trace has become more object-like in his physicality because he has less agency regarding his ability to interact with his home in a tactile manner. The assistive arms are added to his home to help him regain this human-centric ability, but end up failing and causing him more

inconvenience and loneliness. So, the success of these human-mirrored design choices in the robotic arms is dubious, since Trace still allows his mother to perform most caretaking tasks for him. Even though the arms remove the practical need for a human caretaker, the constant visits from Trace's mother signify that the arms cannot replicate human empathy. In a conversation regarding the usefulness of the devices, Trace and his mother come to a silent understanding that human touch still plays a role in the former's rehabilitation.

Trace: You know, you don't have to stay here day and night, Mom. You know, these machines they installed pretty much do everything for me.

Pamela: I know.

(Whannell, 2018, 00:17:44)

Following this dialogue, Trace's mother bathes him and aids the protagonist in overcoming a choking fit. She may not be as efficient as the robotic arms, but she is able to provide physical and emotional comfort to her son. In line with the cyberpunk genre's attitudes toward technology, these robotic arms are seemingly inferior in resolving relational issues concerning human connection. Though the pragmatic value of such assistive devices is evident, there is reason to believe that those who design these devices have unfortunately assumed that technology can replace compassionate tactile interaction with other humans.

Workspaces in Upgrade

Tying back to Haraway's (1991) themes of hybridity, bringing elements of the outside world indoors can blur the line between the natural and the artificial. In line with *Upgrade's* blending of present day suburbs and futuristic technology, the workplaces in the film demonstrate how a room can perform its given function and be a metaphorical microcosm of another time or space. Placing touch-screen coffee tables placed in old-fashioned living rooms illustrate the future creeping into the present, and superimposing plant life into a

medical workplace shows how technology can be combined with nature to elevate the human body. Keen's in-house operating room demonstrates this specific concept by implementing bountiful flora, building smaller rooms within larger spaces, and ensuring fluidity between various subsections of his workplace. As this workspace has become a microcosm for creating and altering life, the young surgeon can then use the area to transform himself into a god-like figure through his medical talents.

Similar to the mysterious Wallace Corporation Headquarters in *Blade Runner 2049*, Keen's private operating room serves to self-venerate its owner and his respective achievements. Since STEM is supposed to be a secret, the surgeon must perform Trace's procedure in his own home to avoid suspicion. The operating room is located in a small dome-like structure that is covered in asymmetric geometric panels (Whannell, 2018, 00:25:00). The shapes of the panels are also present in the flooring of the room, presumably to create a consistent pattern. Panels that are opaque also function as monitors from the interior of the dome, encasing the surgeons with visual representations of biomedical feedback. This motif is carried into the holographic diagrams that project live-feed imagery of the patient's inner workings (Whannell, 2018, 00:26:04), paralleling Haraway's (1991) statement that technology is most effective when integrated seamlessly. Keen reflects this tenet by highlighting the merging of STEM and Trace's nervous system.

Keen: This is a world's first. Never before has a biomechanical fusion been asked to do so much. It's going to feel strange initially. The neural pathways in your brain will be trying to have a conversation with a foreign body, trying to learn how to pass the baton. The key is to let it grow into itself.
(Whannell, 2018, 00:25:38)

At this point, Trace's nervous system is being asked to hand over control and communicate with an artificial construction, STEM. The border between the tissues in his body and the device will be blurred by this procedure. Similarly, there is no clear boundary between the monitors and the entire dome structure, creating an illusion that technology is an organic part of the human-made space. In this space, technological design choices are taken into consideration prior to the construction of the room. Here, technology is synonymous with any other piece of furniture, and hybridity is portrayed by the filmmaker as the standard for perfectly assimilating the future with the present.

The choice to include windows in the dome imply that the space is both a symbolic and utilitarian addition to the workspace, as the inclusion of open panels means that the room is not fully sealed off. The dome may be used to keep the focus of the surgeons and the patients by being a separated workspace in a larger area, but it cannot possibly be utilized to ensure a sterile operating environment. Blocking off an area of one's home is a common technique in creating a remote workspace since the change in location can also change one's mindset. Vidler (1992) commented on the psychological effects of interior design, noting that the boundaries between one's internal state and outside environment are permeable. The openness of this space within a space can be interpreted as a metaphor for the mind simply existing as a "room" within the larger environment outside of the body. Therefore, by creating a workspace within a domestic space, the mind's goals and the body's actions can be altered by moving from room to room.

From Keen's perspective, the act of entering the dome is synonymous with taking control over the composition of his patient's body. For context, the surgeon states that medical

history is being made inside of the dome for two reasons. Firstly, STEM has never been implanted in anyone before. Trace is the first patient to receive this device. Secondly, and more importantly, there is an implication that quadriplegia has never been reversed before by any degree of biomedical technology in the world of *Upgrade*. This is further emphasized by the counterbalance of organic and inorganic materials in the operating room's general vicinity. As a parallel to the grafting of machines onto natural flesh as described in Haraway's (1991) work, an abundance of green, leafy plants has been grafted onto a cement wall just outside of the dome. From the perspective of the surgeons inside the smaller space, the plants can be seen through the window-like panels in contrast to the highly technological monitors on the opaque panels. Keen may want to enforce the idea that his scientific achievements are like alchemy, in that it has combined two incompatible materials to transform a human body into a cyborg one. Not only does this operating room represent the switch from a domestic to workspace mindset within the overarching enclosure of Keen's home, but it symbolizes a portal to a place where impossible, miraculous acts can be done to human bodies.

Decorative Elements in Upgrade

Even in a cyberpunk world, spaces without any digitized technology may still exist. Design does not randomly sprout into existence. Rather, the final product is a representation of the resident's values. For decorative elements, the function of the object lies in its aesthetic rather than its usability. Decor can then be used to communicate the resident's worldview. The Old Bones Bar is unique in that the establishment is the only place in *Upgrade* that lacks any screens, computers, or other devices common to the film's universe.

Subsequently, the space's purposely primitive decor is a visual protest against the constant presence of such technology outside of the bar.

The existence of this bar is used to further highlight how the world of *Upgrade* is in a state of transition between our present and a speculative future. Without the inclusion of The Old Bones Bar, there would be no representation for groups who resist the growing influence of technology. Under instruction from STEM, Trace visits The Old Bones Bar in order to find one of Asha's killer's contacts (Whannell, 2018, 00:49:51). The bar is stated to be low-tech, which is unusual in a cyberpunk world. Right after he enters the bar, Trace realizes that the space is populated with stereotypical outlaws. To either encourage or complement the threatening nature of the bar's patrons, the bartender's shelves are decorated with arrangements of human bones. These bones can also be seen on other walls and on the central chandelier, and it seems as if they have all been placed in a complex repeating pattern. The use of human body parts as decoration may also be used to intimidate new customers, as if to imply that people are so invaluable to the bar's community that their body parts can be used as decor. Ironically, Trace has to find a human replacement for his assistive arms in order to consume his drink at the bar. By asking another customer for help, Trace is essentially using a low-tech version of his home devices to fit the analog aesthetic of the bar.

Trace: Hey, would you do me a solid and hold that glass where I can drink it?
(Whannell, 2018, 00:48:42)

Adding to the low-tech equivalent of the robotic arms, the customer who aids Trace is silent and does not interact with him in any other manner. All the bar patron does is lift up the drink to Trace's mouth and set the drink down when Trace is finished consuming.

This is also a reverse of the representations of the human body in Keen's operating room, where the corporeal form can be digitized and controlled through biomedical engineering. In a humorous moment, the human body of the able-bodied customer is reduced to its physical ability to lift an object. Although the more primitive depiction of the body in The Old Bones bar contrasts Keen's concept, the difference in attitudes toward posthumanist applications mirrors Haraway's (1991) claim that multiple valid interpretations of the body may exist. Posthumanism proponents are not concerned with determining the one perfect cyborg body, but with expanding the definition of the human body in totality. *Upgrade*'s inclusion of this space demonstrates this concept by presenting spaces that oppose each other in their bodily ideology.

The low-tech aesthetic of The Old Bones Bar also demonstrates how an aesthetic can interfere with the functionality of a space. Low-tech motifs can be found throughout the bar, including candles and a "cash only" sign in front of the cash register. Though currency is rarely discussed in *Upgrade*, one may assume that the world is a primarily cashless society. Having a cash-only establishment seems counterproductive and unprofitable for this reason. However, the "cash only" sign was probably not created to purposely lower profits, but to further reject the influence of technology. In a similar vein, the candles could be used to make a statement against the bright monitors and neon lights of the cyberpunk world. Although it would be more efficient to use lamps, the designer of the bar has chosen form over function to express apathy toward technology. Similarly, a crude drawing of an offensive hand gesture on the "cash only" tells customers that the bar rejects modern, intangible methods of transferring currency, and that they would reject anyone who

challenges this stance. As with the candles, displaying an insulting gesture toward paying customers may seem self-defeating, but the inclusion of the element reminds people that the bar's owners and patrons stand by their beliefs even at their own detriment.

Even with the excessive attempts to stamp out advanced technology, the bar still serves several cyborgs. This may show that the message created by the bar's designer is ineffective, or more likely, that cybernetics are so commonplace that even an off-grid, low-tech bar cannot avoid them. In fact, Brown (2001) might have argued that these prosthetics have enacted their agency upon society as a whole by infiltrating the last low-tech remnants of their world. The objects' authority may be made possible in this situation through their subtle appearance. Similar to many other examples of cybernetic implants in-universe, the bar patrons' implants are visible but minimal. Through taking a panoramic view of the bar, these implants appear as nothing more than small colored lights peeking out of the skin. There is a possibility that minor implants are so normalized in society that they are accepted as the default body, just as an unaltered body would be. Connecting to Haraway's (1991) desire for a fully posthuman world, *Upgrade's* representation of cyborgs existing in this low-tech space might suggest to scholars that a hybrid future is possible even when certain factions reject new technologies.

Summary of Upgrade Analysis

The analysis of these three spaces in *Upgrade* is focused on the inclusion and exclusion of technology in interior environments. Starting with the robotic arms in Trace's home, the inclusion of robotic assistive arms in his living room show how technology designed to improve the physical well-being of disabled individuals can fail to address the social and

psychological needs of human beings. Contrasting the intrusive presence of these devices, the technology in Keen's private operating room is well woven into the natural elements of the space's interior dome. Here, technology is treated as an integral part of the room's design rather than an afterthought. Finally, on the other end of the spectrum, The Old Bones Bar's complete omission of technology in regard to functionality or decoration acts as the bar owner's and patrons' protest against the increase of technology in their young cyberpunk world. The varying degrees of technological assimilation in these three spaces illustrate how integration of such devices reflect the attitudes inhabitants have toward posthumanism. Clearly, the lack of technology in The Old Bones Bar represents a refusal of posthumanism. On the other hand, the seamless integration of monitors and biomedical technologies in Keen's operating room mirrors the surgeon's willingness to pursue hybridity through his invention of STEM. Trace, whose personal views toward technology lie between Keen's and those of the bar patrons, is forced to live with assistive arms that do provide him with some independence, but dampen his self-image as a newly disabled person. In sum, the spaces in *Upgrade* demonstrate the various degrees of which technology is incorporated into spaces during a time where posthumanism is in its infancy.

Her-Intimacy as Currency

Synopsis of Her

Her is a 2013 film directed by Spike Jonze. Unlike the previous films discussed in this study, *Her* is primarily a romance film with science fiction elements. Theodore Twombly, the protagonist, works at Beautifulhandwrittenletters.com, a letter-writing company where he composes personal letters as a proxy for couples who are uncomfortable doing so themselves.

To soothe his sexual and emotional loneliness as a recent divorcee, Twombly downloads a sentient, artificially intelligent operating system named Samantha. Initially acting as a personal assistant, she eventually becomes his lover. The relationship is mutual, and it changes over time as a human-to-human relationship would. An important distinction to make is that Samantha is software, not hardware. She does not have a physical body or even a representation of a physical body like Joi from *Blade Runner 2049*, but she can manifest in smartphones, cameras, computer monitors, and other devices. Samantha's state of existence is more like STEM's from *Upgrade*, in which a non-tangible being must interact with their physical environment in order to build relationships with others. Since physical affection plays a significant role in romantic and sexual relationships, Twombly's social circle questions his pairing with Samantha in both negative and positive ways. So, though platonic relationships with operating systems are common in-universe, dating one is considered to be unusual. Posthumanist relationships and romance with objects were not the primary foci of Haraway's (1991) or Brown's (2001) work, but their critique of traditional depictions of humanness and the subject-object dynamic may explain the cautious curiosity others feel toward Twombly and Samantha.

Despite his frustrations in his romantic life, Twombly is successful as a letter-writer. He is able to understand the nuances of a romance from a technical standpoint, but is unable to apply these concepts to his own life. Yet, when Twombly experiences difficulty in his own personal relationships, he has a more difficult time writing letters at work. Samantha, on the other hand, is able to accept the complexities of her emotional state as a pseudo-omniscient artificial intelligence. She has thoughts, feelings, and platonic relationships outside of

Twombly, and desires emotional and physical affection as a human would. This subverts the science fiction trope that machines are cold and unfeeling, and as a consequence, reverses the subject-object relationship in accordance with Thing Theory (Brown, 2001). In *Her*, Samantha is characterized with more human traits, while Twombly is noted for dismissing his partner's feelings. For example, when Twombly belittles Samantha's emotional capacity and her non-human origin, the latter turns to find comfort in the infinite number of other sentient operating systems in her cloud-based network. As a result, Samantha and Twombly grow romantically incompatible, and the non-human entities are presented as the more sympathetic community.

Her in the Cyberpunk Genre

Despite the utopian apartments and rich social lives of *Her*'s characters, emotional isolation is still a persistent theme in the film's world. Diverging from crowded cityscapes and depraved hacker collectives, *Her* explores what cyberpunk would look like in a society that has made an effort to improve civilian quality of life. Soft textures, bright color palettes, and large, open windows are common to indoor spaces while pedestrian walkways dominate the city of Los Angeles. Even though characters still feel unfulfilled, there is no question that this is a society built for socialization and happiness. In fact, the solitude and insecurities of the characters suggest that no amount of idealized design choices can cure the human condition. This exploration of relationships and the human condition is arguably the film's most significant tie to the cyberpunk genre, as even artificial pseudo-humans, such as Samantha, experience these interpersonal and intrapersonal problems. Vidler (1992) states that humans attempt to fill this emotional hole by creating spaces and controlling their

environments, even going so far to design environments that resemble the womb in order to feel secure through motherly human touch. Judging by the friendly, inviting spaces in *Her*, this may be the case for Twombly, Samantha, and other characters in the film. In agreement with the themes of traditional cyberpunk, in-universe attempts to fix human problems solely through design or technology are ultimately futile.

Although there is an array of furniture, color, and other fixtures in the film, the pattern of visual diversity becomes repetitive after analysis. Examples of technology and fashion in-universe have a consistent, unified appearance. All computers have a simple, rectangular frame made of a single material, and all clothes are often solid-toned, androgynous, and free of any graphics. Domestic spaces, workplaces, and spaces of leisure resemble furniture showrooms with the occasional clutter to add a personal component. This is another departure from traditional cyberpunk, where technology and fashion are presented as varied, customizable, and liberated from a single visual vocabulary. As a result, the cyberpunk theme of monopoly is indirectly illustrated in *Her* through design styles. Capital is then manifested as happiness, not currency or technology. In more traditional cyberpunk films, digitization and cybernetics are the main visual focus. Yet, the locations of *Her* are decorated with a veneer of colorful optimism. As another example regarding traditional cyberpunk, poverty and an inability to utilize technology is presented as the consequences for not being able to participate in the economy. Concerning *Her*, depression and loneliness are depicted by the filmmaker as the repercussions for not indulging in positive socialization. The film is not using this metaphor as a one-to-one comparison to traditional cyberpunk; rather, this emotional monopoly parallels how technological objects can hold agency over our

psychological state. In *Her*, operating systems in this world are bound to their users, as Samantha is shown interacting with Twombly through all his personal electronics, which in turn enables her to physically accompany him wherever he goes. In contrast with STEM's relationship with Trace in *Upgrade*, Samantha's influence on Twombly is consensual and non-physical. This is an example of an emotional monopoly, in which a sentient, emotional operating system is able to manage all aspects of a person's life without any corporeal means.

The filmmaker of *Her* makes the argument that the human body is the metaphor for human connection rather than a requirement for intimacy. Samantha oftens states her desire for a body, and claims she can feel her own imaginary body through her sexual encounters with Twombly. Since sexuality is defined by the human form in the context of their relationship, Samantha is the partner who initially wishes to be physically more like her other half rather than the other way around. Yet, she grows to love her own disembodiment, as it grants her freedom from death and other consequences of the human condition. The transcendence of identity beyond the physical constraints of the human body is also prevalent in cyberpunk, which is usually explored through virtual reality or cyberspace. Samantha can only exist in cyberspace, yet she is able to form virtual connections that a human could not. Additionally, the characters' relationship reflects Haraway's (1991) argument that patronizing the human body is faulty, as Samantha is able to find happiness in her intangible self and Twombly is left dissatisfied with his inability to join her in virtual space. This is also the ultimate literal subversion of the subject-object relationship, in which the subject yearns to follow the object into their inhuman state. In the posthuman world of *Her*, the human body is not intimacy itself but a mechanism for people to explore intimacy.

Domestic Spaces in Her

Like an antithesis to the claustrophobic spaces of traditional cyberpunk, the homes in the world of *Her* are inviting and airy. Mirroring this notion, Twombly's living room is spacious and attractive. Without sacrificing the urban setting of cyberpunk, such as in the suburban take in *Upgrade*, the domestic spaces in this film suggest that cities in themselves are not corrupt. Rather, the design choices in a city's individual buildings determine the quality of life for its inhabitants. A futuristic city does not have to be overrun with dictatorial technology and corporations, and the design of Twombly's room exemplifies how an urban environment and advanced technology can be integrated into daily life without being the dominant element in a space.

Twombly's apartment has an open plan, which is mostly taken up by his living room (Jonze, 2013, 00:43:42). Although he has plenty of furniture, there is still room to walk around freely and use the space for multiple purposes. Twombly is shown eating meals, working at his home computer (Jonze, 2013, 00:11:45), and playing video games in this room. The room's visual space expands beyond its physical borders through the floor-to-ceiling windows, which may be a reference to virtual space. In an interview with the film's production designer, K.K. Barrett, it was revealed that the shooting location of the apartment was chosen specifically for the view in order to blur the line between the city and Twombly's home (Interiors Journal, 2017). The view of the city is an evolving part of Twombly's home and by extension, his personal life. Building on Vidler's (1992) claim that rooms are physical manifestations of the internal psyche, the tall windows in Twombly's apartment broaden his inner mind to the outside urban landscape. In this environment, the resident may feel as if the

space and the cityscape are an extension of their own mind, since they have the same flexibility to interact with their environment as they would with their own body. In conjunction, the digital devices in this domestic space are an entry way into Twombly's memories. Prior to the start of their romantic relationship, Samantha is tasked with being Twombly's personal assistant. By going through messages in his home computer, she is able to uncover his hesitation toward relationships.

Samantha: Theodore, how long before you're ready to date?

Twombly: What do you mean?

Samantha: I saw in your emails that you'd gone through a breakup recently.

Twombly: Well, you're kind of nosy.

Samantha: Am I?

(Jonze, 2013, 00:20:57)

Through Twombly's defensive response, Samantha is able to conclude that Twombly is lonely yet nervous about restarting his love life. This is sensitive, private information, and presenting this side of the protagonist in a scene taking place in his home emphasizes the security and safety associated with domestic spaces. Twombly, who has not shared a living space with anyone since his divorce, initially feels irritated by Samantha's intrusion into his private life even though he was aware of her ability to do so. Conclusively, scenes in this space demonstrate both the emotional insight of artificial beings, like Samantha, and the link between homes and psychological privacy.

In another shift from the aesthetics of traditional cyberpunk, the textures and colors of the room's furniture are soft and warm. The various armchairs in the space are upholstered in leather and fabric, and the color red is present in small objects scattered around the room. The occasional usage of red allows the space to feel lively without being alarming, and including fabrics gives the impression that the furniture can be sat in for long periods of time

without discomfort. Along with all other technological monitors in the film, the interface of his home computer has an orange-red foundation. Using warm colors instead of cool colors eliminates the cold, unfeeling stereotype of sentient technology. Warm colors are also closer to the tones of human flesh than cool colors are. Haraway (1991) stated that technology is most effective when it emulates biology. Using the example of nanotechnology, the researcher argued that technology that can mirror the human form will be more successful in regard to creating a more posthuman world. In *Her*, this reflection of the body is presented as a color-based metaphor. By using more neutral or warm tones in the hardware that houses artificial intelligence, these technologies appear more communicable. In this way, Samantha, who is visually represented in the living room by the computer screen, is presented as human-like. She, and by extension, other operating systems, can now interact with the physical world without a body. The consistent warm color scheme across the whole room also gives the illusion that Samantha is present in all aspects of the space, similar to how Twombly is able to occupy his entire living room by moving his body.

Still, these advancements in technology and design are not able to save the couple's relationship, even though they may have helped cultivate it. Samantha's ability to transcend the physical limitations of humanity remind us that even the best technology and interior design choices need to adapt to the ephemeral nature of life. In contrast, Twombly's living room is cluttered with unpacked moving boxes, presumably a result of his recent divorce. He is tethered to the physical and domestic aspects of his previous relationship, and has brought those aspects into his new home and consequently, his new relationship with technology. After one moves into a home, the responsibility of design leaves the original designer and

transfers to the hands of the resident. While Samantha succeeded in accepting the fleeting nature of physical spaces, Twombly fails to recognize the need for periodic change in design and technology, resulting in romantic stagnation.

Workspaces in Her

Looping into the theme of happiness as capital, workplaces in the world of *Her* are aesthetically focused on the employee experience. Ironically, despite most of the workers at Beautifulhandwrittenletters.com being ghostwriters, employees are not treated as invisible or dispensable. Relationships are the core of the work itself, which is evident in the ecosystem of the office and the production of intimate letters for customers. In order for the company to produce letters that elicit an emotional response from their clients, their employees must also experience genuine happiness. Even though Twombly uses technology to perform all his workplace tasks, the environment of his office reflects the need for human connection that drives the company's products. In order to encourage empathy and creativity in their employees' letters, Twombly's office design infuses a playful aesthetic with its utilitarian fixtures.

At the office of Beautifulhandwrittenletters.com, letter writers use voice commands to operate their computers (Jonze, 2013, 01:48:38). The letters are not actually written by hand. Instead, the voice of the employee is transcribed into computer generated handwriting, complete with the nuances and imperfections of real human handwriting. It is implied that printed media has become rare in the future, and that media that emulates human touch is in high demand for this reason. As with Twombly's home computer (Jonze, 2013, 00:11:45), the computers in the office have no keyboards, trackpads, or mice, implying that such

devices are operated solely through dialogue between a human and their monitor. Potentially, the inviting elements of the workplace design were implemented to promote a conversational relationship between employees and their computers. This is a first step toward the application of posthumanism, as the human worker and their respective machine must operate together without requiring physical integration between the two. Though Haraway's (1991) essay was published in the early 1990s, technology of the 2010s and 2020s bolsters her claim that some aspects of Posthumanism are already present. Voice command, as demonstrated by Amazon's Alexa, Apple's Siri, or the computers in Twombly's office, lessen the degree of separation between a person and their devices. The machine is then treated as a person with their own autonomy, as it is responding to verbal commands rather than physical force.

Further humanizing the devices in Twombly's workspace, the office computers appear to have wooden exterior housing, making them look like interactive picture frames. These devices are the only technological devices in this workspace, with the exception of personal electronics, such as smartphones. The integration of wood in the industrial design of the monitor removes the barrier of artificial material between the human and their computer, as humans may subconsciously feel a stronger connection with natural materials. Additionally, the emulation of a picture frame is appropriate for the type of work Twombly does, since he often uses old images of his clients' relationships to inspire the emotional foundation to their letters. Just as how a graphic designer may use color and typefaces to create a poster, these letter writers employ nostalgia and empathy to craft their essays. After composing a letter on the computer, the employee prints the message on stationery for the clients and drops it off in

the company mailbox. The wooden frame can then blur the line between the artificial handwriting that appears on the monitor and the decorated, tangible printer paper that acts as the bridge between the employee's voice, the computer's digital interface, and the final copy that can be held in the client's hands.

Concerning the physical layout of the entire office, the designer of this workspace has deliberately tried to move away from the rigid forms and boundaries typically associated with workplace technology. Though the office has an open floor plan, each employee has their own dedicated workspace (Jonze, 2013, 00:03:00). Instead of utilizing fluorescent lights, which are commonly associated with offices, each desk has its own rounded lamp that produces warm light. Individual desks are surrounded by half-height cubicles that are composed of a translucent, colored material. The generous amount of space between each cubicle ensures that each of the writers' bodies are not tied to their desks, and that they have the ability to "play" and be physically free in their own space. It is appropriate that each writer has their own space because they each have their own long-term clients, and therefore, the individual workspace may help the writer feel a more intimate connection with those they write letters for. Yet, the lack of opaque cubicle walls ensure that the employees of the company still feel like a community. To bolster this effort, the use of color tint in the cubicle walls provide a metaphorical boundary between each employee during work time without making them feel isolated from each other. This is apparently a successful design choice, as Twombly is seen socializing with his coworkers without disturbing their workflow. This may also be another attempt to mesh the cubicle fixtures with the monitors and stationery, since the cubicle walls have a similar color scheme to the items on the desks.

At Beautifulhandwrittenletters.com, technology is seen as a tool for producing human intimacy. When composing a letter for a client, a writer sits in their semi-private workspace and speaks to their computer as if they are speaking to the client's intended audience of a family member or romantic partner. Both the computer and the writer are now performing as the body of their client, with the computer acting as the hand and the writer acting as the voice. The employee and the device must then work in tandem to produce a tangible manifestation of human emotion, which may be interpreted by researchers as a combination of posthumanism and thing theory. Unlike the act of writing emails or text messages, the act of creating a handwritten letter in the world of *Her* requires a machine to behave like a human and a human to emulate a close interpersonal relationship with a machine. The final product, although physically created by a computer and a printer, is a replication of the tangible intimacy that is felt through the process of composing and receiving a handwritten letter. This intimacy is now a commodity that is created by an outside corporation for consumption by individuals. In conjunction, conversations between Twombly and his coworker, Paul, illustrate how emotions are treated as commodities in this world.

Paul: Theodore! Letter writer #612.

Twombly: Hey, Paul.

Paul: Even more mesmerizing stuff today. Who knew you could rhyme so many words with the name "Penelope?" It's badass.

Twombly: Thanks, Paul. But they're just letters.

(Jonze, 2013, 00:03:13)

By jokingly referring to Twombly as his employee number and commenting on the grammatical achievements of letter writing, Paul has framed the job as a technical one rather than an emotional one. This is further bolstered when Twombly downplays the products he

creates by referring to them as “just letters.” Though subtle, this can be read as a nod toward cyberpunk’s focus on industry and over-commercialization. Simply put, emotion and relationships in the world of *Her* can be manufactured just as how replicants and bodily autonomy can be bought and sold in *Blade Runner 2049* and *Upgrade*.

Decorative Elements in Her

As a running theme in *Her*, a multitude of warm toned colors tint nearly every scene in the film. However, there is one major exception to this rule, proving that neutral, monochromatic color palettes can still radiate intimacy and empathy. Opposing the colorful domestic spaces and workspaces in *Her*, the unnamed Asian fusion restaurant maintains an eggshell white color palette. Shown during a scene in which Twombly attends a blind date, the neutral tones of the restaurant’s decor act as a blank canvas for new relationships. Though the space is confined, tunnel-like, and window-less, the soft lighting and curved corners of the furniture and walls replace any potential claustrophobia with comfort and a sense of security.

Prior to the start of their romantic relationship, Samantha sets up Twombly on a blind date with an unnamed woman. Twombly and the woman meet at a restaurant that serves Asian fusion cuisine (Jonze, 2013, 00:32:18). Unlike most of the interior environments in the film, the restaurant has a monochromatic color palette. All of the walls, furniture, lighting, and tableware are the same soft white color. This is notable because the restaurant lacks any decor that relates to the pseudo-Asian genre of their food, allowing customers to focus on the presentation of the food itself and hopefully, the conversations they will have with their dates. In addition, the decorative elements of the space all have curved forms and lines. There

is no distinct separation between the walls and the ceiling, as the structure lacks any sharp corners. The walls seem to resemble human ribs, but not in a gory or morbid way. This may be comforting to some patrons of the restaurant, as the structure represents the internal state of the human body (Vidler, 1992). So, in a metaphorical sense, Twombly and his date are sitting in the “heart” of the structure. Though this is a shared public place, the corporeal shapes give the impression of privacy and security to its customers.

The size of the tables and the number of chairs at each table suggest that the restaurant designer has created this space specifically for one-on-one meetings rather than group parties. Though the restaurant as a whole could fit several customers, all the tables are small and can only host two customers each. This notion is enforced by the fact that each table only has two chairs and two sets of tableware, and that the curved shapes of the table and the chairs seem to hug the lower bodies of Twombly and his date. By having the seat of the chairs at a low height in comparison to the tabletop, the two are unhindered from sitting closer to the table, and therefore, closer to each other. Customers are then primed by their furniture to have personal conversations. This concept is presented in Twombly’s initial conversation with his blind date.

Twombly: Wow, this is an interesting place.

Blind date: This place is amazing. I’ve wanted to come here for so long.

Twombly: Oh. good.

Blind date: Yeah, and I love Asian fusion, so...

Twombly: Yeah, me too.

Blind date: Yeah, it’s the best. And the bartender’s supposed to be incredible.

Twombly: Oh really? Oh yeah, you took a mixology course, right?

Blind date: I did. Did you look that up?

Twombly: Yeah.

Blind date: That’s so sweet. You’re so romantic.

(Jonze, 2013, 00:32:13)

The two have never met prior to this exchange, but they already exude chemistry in their first conversation. Though the first moments of this encounter are not indicative of the entire date night, they do show the potential power the design of the space has over its inhabitants. Here, the furniture encourages interaction between the two individuals at the table. A scholar might apply Thing Theory to this scenario, as the inanimate objects are potentially having an effect on their users. Brown (2001) had noted how objects have a preference for the manner of which they are utilized. If used properly, the shape of the chairs and tables should produce closeness in those who use the pieces of furniture. In the case of this meeting between Twombly and his blind date, the design choices are successful.

Interior design in this restaurant is purposefully understated through acting as a blank, yet comforting backdrop rather than a distraction or an intrusion on a date. However, this does not ensure the romantic success of a date, as shown by Twombly's failure to create a lasting connection with the woman by the end of the night. Calling out his inability to commit to a second meeting, the blind date leaves Twombly and asks him to leave her alone. Paralleling Twombly's relationship dynamics with Samantha in his living room, the responsibility of the date's success falls on the two individuals on the date, not the designer of the space.

Substituting design for technology, the world of *Her* is "high-design, low-life." Although these design choices are sometimes successful, they cannot account for every individual instance of depression, loneliness, or existential crisis. Illustrating the limits of human creativity and even object agency, Twombly and his blind date are not liberated from emotional responsibility by the design of the restaurant. This does not necessarily mean that the restaurant's designers have failed, but that designers do not have complete control over

the way individuals will interact with their creations and that object agency is not infinite in its influence over subjects.

Summary of Her Analysis

This analysis of interior environments in *Her* hone in on emotion and intimacy, as these two aspects are at the core of the film itself. The warm earth-tone and skin-tone colors in Twombly's living room become a metaphor for the emotional capacity of his romantic partner, Samantha, despite her existence as a non-corporeal artificial intelligence. A similar theme is emulated in the office of Beautifulhandwrittenletters.com, where emotional connections between employees, their computers, and their clients are encouraged through an open floor plan with bountiful lighting. Lighting also plays a role in the last space analyzed in this section, the Asian fusion restaurant. Though the space is small and monochromatic, the soft, yet bright lights in the restaurant combined with the use of curved edged over hard angles sets patrons up for close conversation and shared positive experiences. While all three of these spaces do have practical functions, such as providing shelter, work, and food for their respective inhabitants, these interiors also hold a secondary purpose of fostering emotional intimacy. Quite literally with the office of Beautifulhandwrittenletters.com, writers are hired to produce emotional connections between clients through the medium of handwritten letters. Presumably, the Asian fusion restaurant would gain more customers if the business hosted more successful dates. So, one could argue that the business is selling romance along with food and drinks. This may also be the case with the design of Twombly's apartment and home computer, as consumers may be more inclined to rent a space or purchase a product if it evokes a warm, emotional response. However, as the film

ends with heartbreak and loneliness, it becomes obvious that even the best, most human-centered design choices cannot force a relationship to succeed.

Summary

This chapter included an in-depth dissection of domestic spaces, workplaces, and decorative spaces or elements in the films *Blade Runner 2049*, *Upgrade*, and *Her*. Additionally, plot synopses and an analysis of each of the films' respective positions in the cyberpunk genre were provided to give the readers context for the examination of the spaces. Each plot synopsis reviewed the main characters and major narrative moments while each analysis explained the in-universe environment as well as major themes in the film pertaining to thing theory and posthumanism. To demonstrate the connections between design, communication, and the two frameworks, a detailed description was given for each individual space. This examination involved the interior design choices of each space as well as a prediction of the rationale behind each decision. Following that, the ability for characters to inhabit and utilize their environment was evaluated in accordance with the design choices. Overall, regarding the order of the films in this chapter, I have determined that the primary metaphors of each work are the environment as obstacle, technology as integration, and intimacy as currency. A brief explanation of each metaphor was provided in the summaries of each individual film. The major findings of this analysis will be discussed in the next chapter, the conclusion. In conjunction, a summary of this entire study, limitations, and future implications for prospective researchers and society at large will also be given in the final chapter.

Chapter 5: Conclusion

Introduction to Conclusion

I have included five subsections in this conclusion chapter that will summarize the work done in previous portions of this study. This includes an overview of the previous chapters, a discussion of major findings from the previous analysis chapter, a statement of this study's limitations, an outline of implications for future research and society as a whole, and some brief closing thoughts. As a concluding chapter, this section of the study will be useful for researchers planning to model their work on this thesis or for designers attempting to use cyberpunk films as inspiration for real spaces. Though the research presented in this study is primarily concerned with communication studies and design studies, the findings and implications in this chapter can be applied to other interdisciplinary work.

Summary of Previous Chapters

Starting in the introductory chapter, the science fiction subgenre of cyberpunk was summarized within the context of Posthumanism and Thing Theory. Regarding the evolution of cyberpunk and its fellow in the literary realm, the new age science fiction subgenre broke from previous science fiction narratives to focus on the internal state of human existence. Cyberpunk was seen as rebellious and introspective, while previous science fiction stories outside of the New Wave movement were looked at as exploratory and optimistic. In other words, the subgenre critiqued its predecessors through depictions of "high-tech" devices, prostheses, and androids combined with "low-life" drug culture, enormous monopolies, and the deterioration of Earth's natural environment. Though not a strict requirement to be included in the subgenre, stories that take place in cyberpunk worlds are usually set in urban

dystopias. For this reason, studying cyberpunk narratives can provide speculative insight on the future of external and internal spaces in our reality. However, much of academic research concerning design, space, and cyberpunk only examines outdoor environments and urban planning, leaving an opening for studies on interior design and decoration. This thesis attempts to narrow that gap by asking how interior spaces in cyberpunk films reflect our understanding of human relationships with each other and their tactile relationships with objects. Since the subgenre focuses on bodily modification and artificial intelligence, posthumanism and thing theory were picked as frameworks to analyze cyberpunk stories. By using the former theory to highlight the transcendence of the human race beyond its present day form and the latter to call attention to the autonomy of objects, the relationship between human bodies and their inanimate environment can be better analyzed. Selected for their varying visual takes on cyberpunk, *Blade Runner 2049*, *Upgrade*, and *Her* were examined under the categories of domestic spaces, workplaces, and decorative elements or spaces. Though films in totality are speculative, spaces in the real world also emerge from the imaginations of designers and architects. Therefore, fictional spaces might allow real, current designers to experiment with potential structures of the future based on their present day knowledge.

In this study's literature review chapter, various perspectives on posthumanism and thing theory were presented in order to paint a full picture of the frameworks' potential impact on the future of design. As a basis for these frameworks, I employed Donna Haraway's (1991) "A Cyborg Manifesto," Bill Brown's (2001) "Thing Theory," and Anthony Vidler's (1992) "Homes for Cyborgs." In her essay, Haraway focused on how posthumanism ignores

traditional western or Judeo-Christian standards for the human body. The author explained how in a cyborg world, a person need not be defined by their corporeal form at birth. Haraway's interpretation of posthumanism encourages hybridity and fluidity, breaking the barriers between humans and machines. In a reversal of this posthuman framework, where people grow more similar to inanimate technologies, Brown's "Thing Theory" suggests that objects have agency similar to that of living beings. By flipping the subject-object relationship, the researcher determined that an object can enact its authority over humans by evolving into a thing when mistreated or misused. In this framework, the inanimate are treated as their own "species" who interact with their environment primarily through touch. Connecting the tenets of both the posthuman and thing theory framework, Vidler dissected the status of the home and interior design in a potential posthuman world. Citing how cyborg culture can allow individuals to swap out body parts with relative ease, Vidler argued that homes of the future should do the same in order to accommodate the transformations of a posthuman body.

Following this discussion on the specific theoretical models for this study, previous positive and negative perspectives on the frameworks were discussed through an examination of past literature. Regarding posthumanism, proponents of the movement proclaim that cyborg culture can be positive if our relationship with machinery and technology is symbiotic rather than parasitic. From this perspective, technology needs to be designed after the human form and psyche so that such devices and prostheses are inherently made to adjust to our bodies rather than the inverse. On the other hand, those who discourage posthumanism note that while technology itself is not problematic, prioritizing hybridity will not improve society

on its own. Furthermore, research that has a negative outlook on posthumanism suggests that the framework can only have a positive impact if it is voluntary. Essentially, they state that the non-consensual application of posthumanism may lead to disfigurement and the destruction of identity. In relation, scholars who work on the relationship between identity and posthumanism question how physical changes to the physical form, whether voluntary or not, can affect the internal state of a human being. Along with researchers who take a neutral stance on the framework, these authors note that overall cultural attitudes toward posthumanism may play a role in answering this question. They conclude that if cyborg culture is the norm, there may be little effect on the psyche and in conjunction, less fear toward alteration of the human body. At the time of this study, posthumanism is emerging in our world but still uncommon enough to strike discomfort and anxiety in those unfamiliar with the framework. Therefore, the state of our posthuman future lies in our ability as a community to create machines that work with our bodies and not against them while ensuring that cyborg transformations are not forced upon society. Regarding thing theory, researchers who state that the framework is correct note how objects and spaces affect an individual's ability to better understand the world around them. Like a microcosm for a city, a multi-use building can represent the institutions and systems that control our quality of life. Though non-literal in their interpretation, these scholars do argue that objects and spaces have authority over our psychological state, whether negative or positive. On the contrary, researchers who oppose thing theory stress that the needs and wants of objects should not be placed over those of human beings. Similar to those who have a negative outlook on posthumanism, scholars in this category claim that fixing sociological and interpersonal

issues should be done before introducing these new frameworks as the norm. Connecting to thing theory, some researchers in the field of communication studies have used the metaphysical framework of object oriented ontology to interpret our world through tangible means. Although the two frameworks come from the same movement of separating the discipline from semiotics, thing theory differs from object oriented ontology in that the latter erases humans from the subject-object relationship. Though useful in interpreting reality through tactility, object oriented ontology was determined to be an incompatible framework for this particular study. Moreover, gaps in both posthuman and thing theory research suggest that little work has been done on interior spaces in comparison to exterior spaces, mirroring the same gap in science fiction studies. Researchers in posthumanism also ignore the impact of cyborg culture on daily life because these research examples lean heavily into fictional plots with fantastical characters. Though our environments may reflect the spaces and aesthetic of cyberpunk narratives, the individual paths of characters may be unrealistic in comparison to the mundanity of our true existence. Gaps in thing theory have a similar issue of focusing on outdated, less ubiquitous objects rather than honing in on commonly used technologies. So, this thesis has attempted to address these shortcomings by fixating on interior environments and devices of three potential futures as depicted by cyberpunk films.

Similar to the literature review, the methods section of this thesis summarized and synthesized previous usages of metaphor analysis. Since this thesis is primarily interested in the visual and tactile stimuli presented in films, it was imperative to categorize past literature and studies on metaphor analysis according to the medium of the studies' artifacts. Firstly, a brief explanation of metaphors was provided. The relationship between the vehicle, or the

artifact's appearance at first glance, and the tenor, or the non-literal message hidden below the surface of the vehicle, is the basis for metaphor analysis. The researcher must code for non-literal language by grouping and interpreting individual metaphors in a larger text within the context of the creator, audience, and culture. Secondly, past examples of metaphor analyses were evaluated within smaller categories related to medium. Starting with one of the more popular approaches toward this methodology, the coding approach, researchers who took this quantitative perspective were able to easily dissect the structure of metaphor itself. Since studies in this category explicitly operationalize the vehicles and tenors of their respective metaphors, scholars can determine the connection between the two components. Following, studies that tackled verbal and written metaphors demonstrated the importance of isolating metaphors from their larger text. While there may be an overlying theme within all the metaphors in a speech, book, or poem, each individual vehicle-tenor relationship must stand as a unique building block for the greater non-literal argument to be comprehended. While this may not be the case for visual or tactile metaphors, vehicles and tenors that are based on words do not require the researcher to understand the mechanics of written or spoken language. Therefore, the focus of my analyses of written and verbal metaphors is placed on separating each metaphor from the larger text. Finally, analyses of visual and tactile metaphors required additional examination of stylistic and functional choices made by the artist or designer of the metaphor. For example, while it may be obvious that the letters "c-u-p" would represent a cup in writing, a drawing of the same cup could vary depending on the artist's rendition. A cup could be depicted as a sturdy coffee mug, a baby bottle, or a part of a dainty tea set. Furthermore, an architectural or industrial metaphor is limited by the

utility of its respective structure. In these cases, the appearance of the metaphor cannot overtake the physical feasibility of its structure. Resultantly, if a researcher were to analyze visual or tactile metaphors, they must remember to interpret the balance between aesthetic, functionality, and communicative ability of the artifact. Tactile and visual metaphors, which are integrated with design, cannot limit the actual function of the product or space itself. Therefore, scholars need to take into consideration how the aesthetic and communicative ability are limited or enhanced by the function of the design as well. For this specific thesis, I chose to only look at one domestic space, one workplace, and one decorative structure or space per film in order to produce a detailed report on the visual and tactile metaphors of each of my three artifacts. Since I had researched speculative design under the lens of communication studies, I was unable to personally evaluate the scientific feasibility of each fictional space. Rather, I used my academic background in design studies to uncover the reasoning behind each design choice respective to the universe of its film.

Finally, the three selected films, *Blade Runner 2049*, *Upgrade*, and *Her* were examined in this study's analysis section. The films were chosen together because of their different visual expressions of the cyberpunk genre. By doing this, a wider range of future worldviews could be analyzed in this study. This included a prototypical cyberpunk world updated for contemporary viewers in *Blade Runner 2049*, a suburban hybrid of present day and speculative future in *Upgrade*, and a pseudo-utopian urban environment in *Her*. As form and function work together in design, the way characters utilize the spaces also vary from film to film. The world of *Blade Runner 2049* is one of extremes, especially regarding human scale. Comparing K's tiny kitchen to Wallace Corporation's enormous headquarters building, it

becomes clear that physical space itself has not been distributed equally among the general population of this fictional universe. Even live entertainment has been diluted to intangible representations of personhood, emphasizing the depravity associated with prototypical cyberpunk. On the other hand, *Upgrade*'s suburban take on cyberpunk highlights how hybridity can be incorporated into interior environments to the detriment or benefit of its inhabitants. Mirroring each other, the robotic arms in Trace's homes and the bone-based decor in The Old Bones bar demonstrate how design can act as recreations and rearrangements of the human form. In both these scenarios, the blurring of the border between the inanimate and the living pushes inhabitants and viewers to reevaluate the sacredness of the human form. This theme is carried into Keen's operating room, where the body can be easily manipulated according to the young surgeon's commands. By employing design techniques that hybridize plant life and technology together, Keen has portrayed himself as a Renaissance man of our near future. Here, art, design, and science are also blended to implement the first iteration of STEM. Finally, the design shown in *Her* illustrates how color and texture can be employed to offset the outdated correlation between coldness and artificial intelligence. Though these elements are not enough to solve Twombly's emotional disconnect with Samantha, the warm tones and soft textures in his sunny apartment prove that technology can be built to be approachable and friendly. This is also true of his office at Beautifulhandwrittenletters.com, where socialization between employees is encouraged through whimsical decorations and multicolor cubicles. To contrast this, the monochromatic Asian fusion restaurant also fosters intimacy and sociability through shape rather than color. Through emulating the internal structure of a skeletal system, the design of

the restaurant encapsulates its patrons in comfort and bright lighting. In sum, there is not one single design or visual communication factor that can determine the psychological or physical state of its inhabitant. Rather, it is the sum of all these decisions in interior spaces that have the greatest impact.

Major Findings

Despite the similarities between the spaces in the three films, their aesthetics differ at a first glance and in further examination. Though not the main focus of this study, the films' plots may play a role in their respective design choices. In other words, the perception of our future human interactions is partially dependent on the narrative genre that frames the film. *Blade Runner 2049*, a neo-noir film, portrays the most dystopic future of the three. As predicted, the film follows in the footsteps of traditional cyberpunk in displaying the extremes of wealth and human scale. This is fitting for the neo-noir genre, which is known for themes of mystery and corruption. The disparity between K's kitchen and Wallace Headquarters demonstrates how the size or scale of a space can influence one's perception of their own body in its relationship with the rest of society. On a more metaphorical level, the Elvis hologram in the abandoned Las Vegas Casino highlights how representations of personhood can become part of a space's decor. In comparison, the interior spaces in *Her* represent the epitome of approachability and ergonomics, potentially because the film is a romantic drama. Most spaces appear idealized. Each area, from Twombly's apartment, his workspace, and the Asian fusion restaurant are built to perfectly fit the human body. Yet, the world of *Her* differs from our own in that non-corporeal beings coexist with humans. These spaces may be appropriate for the human form, but are limiting to artificial intelligences who

do not interact with design in a tangible manner. The spaces in *Upgrade* lie in between *Blade Runner 2049* and *Her*, as if the suburban spaces have hybridized the dark, mysterious atmosphere of the former and the eccentricities and spaciousness of the latter. Though the film leans more into action and horror than *Blade Runner 2049*, the plot still relies on mystery and vigilante manhunting. This may be why all three of the spaces discussed in *Upgrade* are dimly lit, private locations. Even The Old Bones Bar, the most public of all the spaces in the film, is secluded from the outside world. However, none of the environments in *Upgrade* are as densely populated or crowded as those in *Blade Runner 2049*. Rather, the visual ratio of open space to inhabitants is more similar to that of *Her*, where individuals are free to move around. For a film with a heavy focus on stunts and action, larger sets may be more appropriate from a filmmaking perspective. Almost like a meta-commentary on production design, the spaces in *Blade Runner 2049*, *Upgrade*, and *Her* emphasize how form, or the appearance of film sets, needs to work with the function, or the film plots, in order to create a complete narrative. By replacing film sets with real spaces and film plots with actual usability, this metaphor can also be applied to design in the current world.

The decorative elements in all three films directly reference the human body in their visual vocabulary. Here, the human body is also interpreted as an object rather than just the housing for the subject. These representations may suggest that we currently fear the notion that our bodies may become commodified goods as time passes. In a statement about what can be considered decor, *Blade Runner 2049* presented a hologram that captured the likeness and performance of a real human being, Elvis Presley. Both the spaces in *Upgrade* and *Her* emulate the interior structure of the human body. In *Upgrade*, this is directly represented by

the usage of human bones as tangible decor in the Old Bones Bar. Coming from a more metaphorical approach, the restaurant in *Her* envelops its customers in an ironically inviting rib cage-like structure. This suggests that in the most utopian scenario, *Her*, nobody should have to involuntarily sacrifice elements of their own personhood for decor. It may be more humane for designers to incorporate a non-literal approach to Posthumanism and Thing Theory into decorative spaces. On the other hand, a monopoly on natural elements and beings would be the worst-case scenario, as proven by the dystopia of *Blade Runner 2049*.

Some of the fixtures and technologies in the three films are either not physically feasible or widely available to the public in our current real world. Importantly, this highlights that design and technologies in these films are representations rather than true, accurate prediction. Even the world of *Upgrade*, which takes great influence from the design of present day suburbia, still requires the audience to suspend their disbelief. So, the findings that can be extrapolated from this film need to account for these discrepancies. We do currently have voice-command capabilities in our computers and smartphones, but they are not as advanced as those shown in *Her*. There is no proof yet that each individual device with Siri or Alexa has a different personality, or that they have specific tastes and desires that differ from their users. However, we can learn from the film that color, texture, and careful attention to interpersonal interactions between humans need to be considered when creating spaces that are meant to encourage healthy relationships. From *Upgrade*, it is revealed that the road toward a fully integrated technological future will be imperfect and gradual at first. The design of the spaces shown in the film may be the most realistic depiction of technological integration since individual devices are being installed in older spaces as they

are in our current time, but it may be unreasonable to expect an immediate jump from our present day to the world that resembles *Blade Runner 2049* where technology is seamlessly woven into spaces of both the wealthy and the impoverished. Similarly, the designs in *Her*, although lacking the hyper-advanced and fantastical technologies of *Blade Runner 2049*, are impossibly consistent throughout all spaces in the film. Our society may eventually land in a world similar to *Blade Runner 2049*, or more optimistically, *Her*, but it is more probable that we will be living in an environment that resembles *Upgrade* first.

However, none of the design choices in any of the films are able to solve the problem of the human condition for any of its characters. K, Trace, and Twombly still suffer from issues ranging from identity, bodily trauma, and loneliness. From most dystopian to most utopian, *Blade Runner 2049*, *Upgrade*, and *Her* all show that design is not the ultimate or only solution to human isolation. Arguably, design itself is hurt by human condition. In fact, the positive or negative representations of human bodies and interaction in these three films is reflected in the design of inanimate objects and spaces. In *Blade Runner 2049*, the human exploitation of the natural environment directly results in the lack of natural elements in most housing, and potentially, the need for artificial replications of live performances. The robotic arms in Trace's home are only installed because Trace was assaulted, despite him not instigating the attack in any way. The entire city of Los Angeles in Twombly's world is built to encourage human interaction, yet characters in the film are just as lonely and isolated as people are in our current real world. Even when entering a posthuman era, where humans may modify their bodies with ease and objects might hold agency as described in Thing Theory, design is still not an all-encompassing solution to the human condition. Design may

provide solutions to a multitude of social issues, but like technology, it cannot solve all problems on its own.

Limitations

The most prominent limitation of this study is the medium of my chosen artifacts. While film is arguably more visually immersive than literature, there are other modes of entertainment that can provide a more life-like experience than cinema. More specifically, video games are a medium that are created with the intent of immersing the player in its respective fictional universe. While this is obviously true of virtual reality, a subgenre of the video game medium that allows the player to experience a constructed space in the same way they would process stimuli in the real world, other types of video games also allow for greater immersion than film. Video games can provide first-person perspectives to an environment that mimics the challenges of inhabiting real environments by engaging the player through mobility, tactility, and visual stimuli. Even in games that have third-person player perspective, the player may be asked to crouch in small spaces or employ a flashlight in dark areas. Additionally, video games provide variations on plot that do not exist in films. A film has a fixed narrative that cannot be altered by the viewer's choices. Although there are some "choose your own adventure" films and television shows, where the viewer may select plot deviances using a remote control, they are still not as immersed in the plot as they would be with video games. In video games, the player is a character inhabiting a fictional universe throughout the entire runtime of the artifact. Filmmakers may attempt to do the same through point-of-view cinematography and fourth-wall breaking, but the viewer is rarely considered to be a character throughout the entire film. As a disclaimer, I had chosen

not to pursue video games for this study because I do not own the proper equipment to play higher-quality video games. While I do own a MacBook Pro at the time of this study, the selection of games for this device is limited compared to that of a PC computer, Playstation, or XBox. For this reason, I have also never played any video games in the cyberpunk genre. I simply do not have the means of experiencing the medium of video games to its fullest capacity.

Relating to the fixed nature of film narratives, the exploration of a fictional cinematic universe is also limited by the plot of a film. A film will only show you spaces that are relevant to its story and characters. If one's own personal life does not mirror that of a character, they may find that the spaces presented in the film are irrelevant to their own daily life. For example, I am not a police officer. I do not see myself working in the same environments as K from *Blade Runner 2049*. Therefore, I may be unfamiliar with some of the equipment and terminology present in scenes taking place in the LAPD building. Of course, video games may solve this issue by allowing players to explore open-world settings. However, if one does not have access to video games, they may be able to gain more insight to a fictional universe by studying a television show or a larger film franchise with multiple installments. Both of these options will have longer collective runtimes by default, and hopefully the creators of artifacts in these categories will take this opportunity to worldbuild. Of all the films I had analyzed in this study, only *Blade Runner 2049* is part of a franchise. However, there is only one other film in this series, *Blade Runner*. Additionally, the protagonist has the same occupation in the prequel and the film is still set in Los Angeles. The episodic nature of television and larger film franchises allows creators and audiences to

explore multiple locations and character perspectives. As a result, researching these other mediums would paint a more complete picture of a potential future.

However, the perspective and experience of the artifact's creator, regardless of the medium, may affect the production design or constructed environment of the final product. While an adult man may view a closet as tiny, cramped, and inhospitable, a young child may find the space to be roomy and spacious. In video games, film and television, or even literature, the perspective of the consumer is expected to match the perspective of the creator. If the creator and audience come from different demographic backgrounds, the audience may not perceive the production design in its intended manner. This limitation can be overlooked though, as audiences use characters as avatars when navigating fictional spaces rather than employing their own imagined representations of their bodies to do so. When watching *Her*, audiences traverse through Los Angeles in Twombly's body. On the other hand, when viewing *Blade Runner 2049*, audiences experience the same city through K's body. In casual viewing and sometimes, even in academic analysis, there is no question that we are inhabiting these worlds through their identities and not their own. So, if one were to analyze these films through a critical lens, they may find that the discrepancy between the director's perspective and the audience's perspective is significant in their examination of the medium. However, this is not always the case as audiences are not typically conditioned to use their own bodies as avatars in the realm of film.

Finally, studying just one subgenre of science fiction may be limiting due to the influence of previous works on contemporary cyberpunk media. Cyberpunk is not a new subgenre. At the time of this study, the concept of cyberpunk has existed for roughly four decades.

Creators of new media in this subgenre, regardless of the medium, may feel influenced by previous works. This might be why so much of cyberpunk media is dressed in neon lights, skyscrapers, and noir storylines. Though there are alternate visual takes on the subgenre, as demonstrated by *Upgrade* and *Her*, searching through other subgenres might produce varying perspectives on our future. This could even be done through comparing and contrasting subgenres of science fiction since each category can differ greatly from the rest. After all, no science fiction narratives can truly predict the future with complete accuracy. These stories are representations of present day anxieties and fears. They are not true forecasts of tomorrow, so there is no harm in analyzing varying takes on the genre through subgenres. We may actually benefit from researching subgenres with a more optimistic view of the future as opposed to the negative outlook associated with cyberpunk. While there is value in predicting systemic and institutional missteps, anticipating poverty, discrimination, and other socioeconomic issues is arguably only productive if we can work on solutions to these issues as well.

Implications

Overview of Implications

Evidence-based imagination is the heart of this thesis. Just like how designers speculate about their upcoming projects, I used this thesis as an opportunity to contemplate the special needs that will come with bodies of the future. Referring to science fiction historian Sam Moskowitz's perspective on the issue, author Robert J. Sawyer (1999) stated, "Years ago, Sam Moskowitz quipped that anyone could have predicted the automobile--but it would take a science fiction writer to predict the traffic jam." The genre is a powerful tool for predicting

the consequences and implications of future technologies. After all, why should scholars and designers wait for problems to arise before preparing potential solutions? In the same vein, Vidler (1992) notes that the lack of real world examples of cyborg homes comes from the fact that we do not currently have enough examples of cyborgs themselves. So, how can we design spaces for a posthuman future if we are just barely entering a posthuman era? This thesis suggests that future studies regarding this topic combine information from fictional media and real world examples of prosthesis users and artificial intelligence.

Impact on Communication Studies

This study expands upon material perspectives on communication studies, along with research on the impact of inanimate objects regarding the human psyche and body. As mentioned in my discussion on tactile communication in previous chapters, the material understanding of communication studies is fairly new in this academic discipline. Though common, or even essential, to our understanding of design studies and art history, this worldview is still novel within communication studies. Furthermore, this thesis demonstrates the connections between design studies, art history, and communication studies. As a scholar of all three disciplines, I have found that combining these fields in research may be more effective in producing practical solutions. In industry, cross-functional teams are utilized for this very reason. So, there is value in mimicking these techniques in academia.

Practical Applications and Further Research

Researching design agencies that create products for the masses may give insight on the needs of our bodies on a global scale. Similarly, future students and researchers could examine everyday products created for the disabled community, and interview people with

disabilities to gain direct input. For this reason, utilizing a cross-functional research team or employing interdisciplinary research sources may be helpful. Additionally, studying other disciplines within design may be useful. For example, fashion design should be researched through the lens of posthumanism and thing theory because it is the discipline of design that relates to the human body the most. This discipline of design can be studied from a fictional standpoint through film, or from a real world perspective. Here, media studies can be combined with design studies, allowing students and researchers of both disciplines to work in tandem with each other. Advancements in materials engineering, wearable technology, and athletic wear in our real world may also be a conducive starting point, as these three areas are usually focused on furthering the physical performance of the human body. Autonomous devices should also be analyzed for this purpose, as they are the closest representations of Thing Theory that we currently have in our present time. Objects that have some artificial intelligence or can utilize machine learning would be especially appropriate for this purpose. In fact, a similar study to mine may eventually be conducted on creating virtual spaces solely for artificial intelligence or artificial humans, similar to Joi from *Blade Runner 2049*, STEM from *Upgrade*, and Samantha from *Her*. I expect that in the present and near future, many smaller scale studies will be done by students combining real instances of design, which represent the feasibility of certain technologies, with fictional portrayals, which represent our ambitions and anxieties about the path humanity will take.

Ultimately, as predicting tomorrow with total certainty is impossible, all studies on the future of design will have to include a high degree of creative speculation in combination with the pragmatism and rationalism of our present world. So, further research on this topic

needs to take influence from multiple disciplines simultaneously, since societies are not built upon just design, just engineering, or even just communication studies. Multiple disciplines need to work in tandem for any community, dystopian or utopian, to arise. For this reason, academic research in this area may need to follow the model of industry in order to predict the future of everyday living. It may also be fruitful for students to reach out to their peers outside of their department for this purpose, especially in graduate or doctoral programs where interdisciplinary general education curriculums may be less common. I suggest that academic and research institutions allow students and researchers of various disciplines to work together on post-graduate studies to further encourage this method.

Closing Thoughts

Three green dots blink rapidly against the black void of your inner eyelids, signaling that your sleep cycle has terminated. Guessing that your procedure is finished, you sit up from the aluminium cot, now warm from the heat of your previously unconscious body. “I’m up now! Can you scan my Derma-chip for the rest of my payment? Hover-traffic is bad at this hour, and I cannot afford to be late to work again,” you exclaim, swiveling your head 360 degrees to look for the mechanic. Yet, there is no response. There are no sounds of her clicking robotic hands searching through her rusted junk drawers. There are no footsteps punctuated by her steel-toed boots. There is nothing. All the monitors and holographic displays are dead, as if they haven’t been charged properly in decades. “So I guess this session’s free,” you mumble to yourself, as you head out of the makeshift clinic. Expecting a cacophony of honking cars, cursing pedestrians, cold rain, and blaring advertisements, you pull out your umbrella and prepare to turn up the music in your auditory implants. To your surprise, the

streets are calm and the sun is shining. The cityscape is not deserted; in fact, it is still full of people. But these people seem happy in their bustling strides. Their implants looked like organic growth on the body instead of mechanical intrusions on their flesh. You had never experienced a day like this before, and it confused you just as much as it excited you.

Attempting to adjust your ocular implants to the brilliant sky, you realize that your prosthetics were never built to interpret such bright, natural light. “It is currently 8:00 a.m. on August 12th, 2159,” a billboard announced in a calming, therapeutic voice. Looking up at the advertisement, which holographically projected a seven-day forecast above the colorful, warm skyline, your heart dropped into your stomach. Centuries have passed you by. You and your body have become obsolete. You were now a relic of the past, just a thing to be preserved.

References

- Abbott, C. (2007). Cyberpunk cities: Science fiction meets urban theory. *Journal of Planning Education and Research*, 27(2), 122-131. <https://doi.org/10.1177>
- Alousque, I. N. (2015). Hugo Chávez and the building of his self-image through metaphor. In S. J. Foss (Eds.), *Rhetorical criticism: Exploration and practice* (5th ed., pp. 310-313). Waveland Press.
- Amazon. (n.d.). *X-Ray IMDb on Prime Video*. Amazon.Com. <https://www.amazon.com/adlp/xray?tab=Scenes>
- Atzmon, L., & Boradkar, P. (2014). Introduction to a design encounter with Thing Theory. *Design and Culture*, 6(2), 141-152. <https://doi.org/10.2752>
- Badmington, N. (2003). Theorizing posthumanism. *Cultural Critique*, 53, 10-27.
- Bolter, J. D. (2016). Posthumanism. In K. B. Jensen & R. T. Craig (Eds.), *The international encyclopedia of communication theory and philosophy* (pp. 1-8). American Cancer Society. <https://doi.org/10.1002>
- Bollinger, L. (2009). Containing multitudes: Revisiting the infection metaphor in science fiction. *Extrapolation*, 50(3), 377-399.
- Booth, W. C. (1978). Metaphor as rhetoric: The problem of evaluation. *Critical Inquiry*, 5(1), 49-72. <https://doi.org/10.1086>
- Boysen, B. (2018). The embarrassment of being human: A critique of new materialism and object-oriented ontology. *Orbis Litterarum*, 73(3), 225-242.
- Brown, B. (2001). Thing theory. *Critical Inquiry*, 28(1), 1-22.
- Butt, A. (2018). 'Endless forms, vistas and hues': Why architects should read science fiction. *Architectural Research Quarterly*, 22(2), 151-160. <https://doi.org/10.1017>
- Cojocar, A. (2020). Dislocated identities, erased memories: The dystopian architecture of inner spaces in J. G. Ballard's High-Rise. *Metacritic Journal for Comparative Studies and Theory*, 6(1), 63-78. <https://doi.org/10.24193>
- Collie, N. (2011). Cities of the imagination: Science fiction, urban space, and community engagement in urban planning. *Futures*, 43(4), 424-431. <https://doi.org/10.1016>

- Csicsery-Ronay, I. (1988). Cyberpunk and neuromanticism. *Mississippi Review*, 16(2/3), 266-278.
- Daughton, S. M. (1993). Metaphorical transcendence: Images of the holy war in Franklin Roosevelt's first inaugural. *Quarterly Journal of Speech*, 79(4), 427-446. <https://doi.org/10.1080>
- Descartes, R., & Lafleur, L. J. (1960). *Discourse on method, and meditations*. Liberal Arts Press.
- Fahlenbrach, K. (2008). Emotions in sound: Audiovisual metaphors in the sound design of narrative films. *Projections*, 2(2), 87-103.
- Forlano, L. (2017). Posthumanism and design. *She Ji: The Journal of Design, Economics, and Innovation*, 3(1), 16-29. <https://doi.org/10.1016>
- Foss, S. K. (2018). *Rhetorical criticism: Exploration and practice*. Waveland Press Inc.
- Frentz, T. S. (2014). Transcending embodiment: Communication in the posthuman condition. *Southern Communication Journal*, 79(1), 59-72.
- Goh, R. B. H. (2011). Competitive cities and human scales: The semiotics of urban excess. *Semiotica*, 185(1/4), 189-211. <https://doi.org/10.1515>
- Hamblin, S., & O'Connell, H. C. (2020). Legacies of Blade Runner. *Science Fiction Film and Television*, 13(1), 1-14.
- Haraway, D. J. (1991). A cyborg manifesto: Science, technology, and socialist-feminism in the late twentieth century. In *Simians, cyborgs and women: The reinvention of nature* (pp. 149-181). Routledge. <https://doi.org/10.1007>
- Harman, G. (1999). *Tool-being: Elements in a theory of objects* (Publication No. 9943404) [Doctoral dissertation, DePaul University]. Proquest Dissertations & Theses Global: The Humanities and Social Sciences Collection.
- Hewitt, L., & Graham, S. (2015). Vertical cities: Representations of urban verticality in 20th-century science fiction literature. *Urban Studies*, 52(5), 923-937. <https://doi.org/10.1177>
- Hollinger, V. (1990). Cybernetic deconstructions: Cyberpunk and postmodernism. *Mosaic: An Interdisciplinary Critical Journal*, 23(2), 29-44
- IMDb. (2017). *Blade Runner 2049 (2017) trivia*. https://www.imdb.com/title/tt1856101/trivia/?ref_=tt_trv_trv

- Interiors Journal. (2017, September 14). *Interiors: Her*. ArchDaily.
<https://www.archdaily.com/480608/interiors-her>
- Ivie, R. L. (1987). Metaphor and the rhetorical invention of cold war “idealists.”
Communication Monographs, 54(2), 165-182. <https://doi.org/10.1080>
- Johnson, K. L. (2013). Nihei Tsutomu and the poetics of space: Notes toward a cyberpunk ecology. *Southeast Review of Asian Studies*, 35, 190-203.
- Jonze, S. (Director). (2013). *Her* [Film]. Annapurna Pictures.
- Kanengieter-Wildeson, M. (1989). Architectural metaphor as subversion: The Portland building. In S. J. Foss (Eds.), *Rhetorical criticism: Exploration and practice* (5th ed., pp. 310-313). Waveland Press.
- Kaplan, S. J. (1990). Visual metaphors in the representation of communication technology. *Critical Studies in Mass Communication*, 7(1), 37-47. <https://doi-org/10.1080>
- Kleinherenbrink, A. (2019). The two times of objects: A solution to the problem of time in object-oriented ontology. *Open Philosophy*, 2(1), 539–551. <https://doi.org/10.1515>
- Klein, S. (2019). “A sealed rectilinear planet”: The skyscraper as vertical heterotopia in J. G. Ballard’s High-Rise and Ben Wheatley’s screen adaptation. *Space and Culture*, 23(4), 409-424. <https://doi.org/10.1177>
- Komel, M. (2016). The ghost outside its shell: Revisiting the philosophy of Ghost in The Shell. 9. *Teorija in Praksa*, 53(4), 920-928.
- Kukka, H., Luusua, A., Ylipulli, J., Suopajärvi, T., Kostakos, V., & Ojala, T. (2014). From cyberpunk to calm urban computing: Exploring the role of technology in the future cityscape. *Technological Forecasting and Social Change*, 84, 29-42.
<https://doi.org/10.1016>
- Latham, R. (2010). A rare state of ferment: SF controversies from the new wave to cyberpunk. In G. J. Murphy & S. Vint (Eds.), *Beyond cyberpunk: New critical perspectives* (pp. 54-77). Taylor & Francis Group.
- Lee, G. B., & Lam, S. S. K. (1998). Wicked cities: Cyberculture and the reimagining of identity in the “non-Western” metropolis. *Pergamon*, 30(10), 967-979.
- Mamak, W. (2014). Forsaking the false gods: Philosopher’s analytic approach to cyberpunk literature. In P. Wojtas (Ed.), *A roundtable on interdisciplinary literary studies* (pp. 81-90). Faculty of Artes Liberales, University of Warsaw.

- Martin, D. (2015). The superhero and the cyberpunk: Transforming genres in Spider-Man 2009. *Continuum: Journal of Media & Cultural Studies*, 29(3), 466-478. <https://doi.org/10.1080>
- Martín-Albo, Á. M. A. (2017). 'Perfect cities, permanent hells': The ideological coordinates of urban space in postmodern science fiction. In D. Walton & J. Suárez (Eds.), *Borders, networks, escape lines: Contemporary writing and the politics of space* (pp. 154-177). Peter Lang Publishing.
- McCullough, J. (2014). A Los Angeles science fiction sublime. *Space and Culture*, 17(4), 410–420. <https://doi.org/10.1177>
- McHale, B. (2010). Towards a poetics of cyberpunk. In G. J. Murphy & S. Vint (Eds.), *Beyond cyberpunk: New critical perspectives* (pp. 23-53). Taylor & Francis Group.
- Mickey, S. (2018). Touching without touching: Objects of post-deconstructive realism and object-oriented ontology. *Open Philosophy*, 1(1), 290–298. <https://doi.org/10.1515>
- Morton, T. (2011). Here comes everything: The promise of object-oriented ontology. *Qui Parle*, 19(2), 163-190. <https://doi.org/10.5250>
- Navarro, F. (2019, November 12). *When to buy SD, HD or UHD streaming movies and TV shows*. Komando.com. <https://www.komando.com/tech-tips/when-to-buy-sd-hd-or-uhd-streaming-movies-and-tv-shows/421949/>
- Pepperell, R. (1995). *The post-human condition*. Intellect Books.
- Phillips, B. J., & McQuarrie, E. F. (2004). Beyond visual metaphor: A new typology of visual rhetoric in advertising. *Marketing Theory*, 4(1-2), 113-136.
- Pisters, P. (2014). Transplanting life: Bios and zoe in images with imagination. In B. Blaagaard & I. V. D. Tuin (Eds.), *The Subject of Rosi Braidotti: Politics and concepts* (pp. 65-71). Bloomsbury Publishing.
- Plotz, J. (2005). Can the sofa speak? A look at Thing Theory. *Criticism*, 47(1), 109-118. <https://doi.org/10.1353>
- Poppi, F. I. M. (2018). Machina ex homine, homo ex machina: Metaphor and ideology in Shinya Tsukamoto's "Tetsuo: The Iron Man." *Metaphor and the Social World*, 8(2), 207-228. <https://doi.org/10.1075>
- Refaie, E. E. (2003). Understanding visual metaphor: The example of newspaper cartoons. *Visual communication*, 2(1), 75-95.

- Sawyer, R. J. (1999). *The future is already here: Is there a place for science fiction in the twenty-first century?* SF Writer. <https://www.sfwriter.com/lecture1.htm>
- Sellars, S. (2012). "Zones of transition": Micronationalism in the work of J. G. Ballard. In J. Baxter & R. Wymer (Eds.), *J. G. Ballard: Visions and revisions* (pp. 230-248). Palgrave Macmillan UK. <https://doi.org/10.1057>
- Sey, J. (2002). Psychopathology, inner space and the automotive death drive: J.G. Ballard. *South African Journal of Psychology*, 32(2), 55-60. <https://doi.org/10.1177>
- Tandt, C. D. (2013). Cyberpunk as naturalist science fiction. *Studies in American Naturalism*, 8(1), 93-108. <https://doi.org/10.1353>
- Thomas, A. (2000). To devour and transform: Viral metaphors in science fiction by women. *Extrapolation (Pre-2012)*, 41(2), 143-160.
- Tromp, B. (2018, July 1). *Future noir: Behind the curtain of Leigh Whannell's Upgrade*. Australian Production Design Guild. <http://apdg.org.au/2018/07/future-noir-behind-the-curtain-of-leigh-whannells-upgrade>
- Ultav, Z. T. (2015). An interdisciplinary perspective for reading utopia versus dystopia: "The Ultimate City" by J.G. Ballard. *A|Z ITU Journal of the Faculty of Architecture*, 12(2), 173-186.
- Vidler, A. (1992). Homes for cyborgs. In A. Vidler (Ed.), *The architectural uncanny: Essays in the modern unhomely* (pp. 138-164). MIT Press.
- Villeneuve, D. (Director). (2017). *Blade Runner 2049* [Film]. Alcon Entertainment.
- Wasson, S. (2015). Scalpel and metaphor: The ceremony of organ harvest in gothic science fiction. *Gothic Studies*, 17(1), 104-123.
- Whannell, L. (Director). (2018). *Upgrade* [Film]. Blumhouse Productions.