Concerning Virtual Reality and Corporealized Media: Exploring Video Game Aesthetics and Phenomenology

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Concerning Virtual Reality and Corporealized Media: Exploring Video Game Aesthetics and Phenomenology

by

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A thesis submitted in partial fulfillment of the requirements of the degree of Master of Arts in Liberal Arts with a concentration in Film Studies Department of Humanities and Cultural Studies College of Arts and Sciences University of South Florida

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# Table of Contents

List of Figures .......................................................................................................................... ii

Abstract ................................................................................................................................... iii

Introduction ............................................................................................................................... 1
  Part I: On Corporealized Media .............................................................................................. 1
  Part II: A Brief History .......................................................................................................... 12

Chapter 1: The Problematic Intersection of Blockbuster Aesthetics and Corporealized Media .................................................................................................................................. 15
  Part I: Breath of the Wild .................................................................................................... 15
  Part II: The Best Laid Plans of Mice and Men ..................................................................... 23

Chapter 2: On The Inherent Abstractions of Virtual Reality and The Digital .......................... 26
  Part I: A Need for Extension ............................................................................................... 26
  Part II: Star Trek, A History ............................................................................................... 29
  Part III: So, Why Can’t I Touch My Hands Together? ...................................................... 30
  Part IV: The Networked Game ............................................................................................ 37
  Part V: A Million Gray Areas .............................................................................................. 40

Chapter 3: Synthesizing The Abstract and the Hyper-Newtonian .......................................... 42
  Part I: Stuck Between a Rock and a Cozy Bed .................................................................... 42
  Part II: Superhot VR: Caught in Limbo .............................................................................. 43


Figures ....................................................................................................................................... 60

References ................................................................................................................................. 68
List of Figures

Figure 1 – This shows a player holding the Nintendo Switch in portable mode............................... 60
Figure 2 – Link holds out his Sheikah Slate .................................................................................. 60
Figure 3 – This shows Link inserting the Sheikah Slate into the pedestal ........................................ 61
Figure 4 – A depiction of the Eye of the Sheikah.......................................................................... 61
Figure 5 – This shows the Eye’s appearance in game ..................................................................... 62
Figure 6 – *Pokémon Red and Blue* employ the same basic illusion as *Zelda* ................................ 62
Figure 7 – Link uses his Magnesis ability in order to solve a puzzle .............................................. 63
Figure 8 – This shows the difference between normal shading and cel-shading.............................. 63
Figure 9 – A targeting reticle can be seen in the center of this screen from *Halo 3* ...................... 64
Figure 10 – *SC:BC*’s lack of HUD shows the lack of targeting and intentionality ......................... 64
Figure 11 – The unnamed protagonist of *Superhot VR* as he first dons his helmet..................... 65
Figure 12 – Here we see a number of amassed floppy disks ............................................................ 65
Figure 13 – Here we see a traditional 3D model generated through polygons................................. 66
Figure 14 – The world of Superhot inside *Superhot VR* ............................................................. 66
Figure 15 – *Sports Bar VR* ......................................................................................................... 67
Abstract

Since the birth of the New Hollywood blockbuster out of the Hollywood Renaissance in the 1970s, popular moving image media has continually exhibited an intense interest in play with Newtonian physics and tactile, immediate experience. As the entertainment industry has moved further away from analog and celluloid and deeper into a digital media space, we have begun to see new a new breed of media project that differently engages with our sensorium in order to newly use (and abuse) this interest. I term this digital media project “corporealized media.”

Corporealized media, as I define it, refers to media that includes, but is not limited to, the current undertaking in virtual reality technology and other media that has the primary focus of calling attention to or recognizing the user’s physicality, corporeal form, and embodiment. Through phenomenological readings of contemporary corporealized works, I suggest that current popular use of corporealized media is potentially dangerous and inhibiting to society. It has the ability not just to inform aesthetics, but also to shape our greater understanding of our potential connections to others. Instead of embracing physical contraction, we should aim to collectively accept the possible expansion that abstraction in media allows.
Introduction

Part I: On Corporealized Media

Since the birth of the New Hollywood blockbuster out of the Hollywood Renaissance in the 1970s, popular moving image media has continually exhibited an intense interest in play with Newtonian physics and tactile, immediate experience. As the entertainment industry has moved further away from analog and celluloid and deeper into a digital media space, we have begun to see new a new breed of media project that differently engages with our sensorium in order to newly use (and abuse) this interest. I term this digital media project as “corporealized media.” Corporealized media, as I define it, refers to media that includes, but is not limited to, the current undertaking in virtual reality technology and other media that has the primary focus of calling attention to or recognizing the user’s physicality, corporeal form, and embodiment. Corporealized media is manifest most notably today in the realm of video gaming. With resources now limited not just in the real world (time and personnel) but also in a digital space (storage, RAM, and steady computer performance) we can observe that more visually abstract works have been given the berth to be as equally and yet differently concerned with this Newtonian play as their photorealistic counterparts. While both forms bear this predisposition, a phenomenological barrier separates them. In the digital realm, one can aim for a higher fidelity image, achieving greater photorealism, but this will come at the sacrifice of digital space for a more intensive physics engine or tactile peripherals. This can be seen
in consumer technologies such as virtual reality and the Nintendo hardware line as well as in works such as *The Legend of Zelda: Breath of the Wild* (2017). The current popular use of corporealized media is potentially dangerous and inhibiting to society; it has the ability not just to inform aesthetics, but also to shape our understanding of monetary policy and our greater understanding of our potential connections to others. Such media suggests one singular understanding or construction of reality that leaves us in a problematically limited state, as I have alluded to above. To craft a more nuanced response, I turn to the work of Scott Ferguson. In his upcoming book, *Declarations of Dependence: Money, Aesthetics, and the Politics of Care*, he suggests a very persuasive answer. Analyzing media that mostly precedes contemporary virtual reality or corporealized gaming proper, Ferguson labels works such as blockbuster films as “gravitropic,” noting that this play with Newtonian physics is nearly always brought to the forefront, serving as visual pleasure for the audience. Such works make tactile, sensual, material connections central and primary. But what the industry and spectators view as pleasurable, Ferguson cites as problematic in our visual culture. Tracing this gravitropic tendency well before the Hollywood Renaissance and back to the Florentine Renaissance in the 14th century, he suggests such gravitropic media have been instrumental in repressing abstraction in more than one sphere of life.
This is inherently problematic for Ferguson. Abstraction, in his argument, is a valuable tool in creating a phenomenology that allows for communal care in the largest sense. When abstraction is repressed, a much more contracted and limiting construction arises. Firstly and most perceptibly, media have done this in the aesthetic sphere, leaving little room for visual abstraction amid photorealistic and perspectival artwork. Secondly and more insidiously, this visual rejection has served as a tool that parallels the foreclosure of money’s inherently abstract nature. Gravitropic media, intentionally or not, reifies the neoliberal understanding of finance, precluding us from alternate constructions of monetary relationships. This media, in turn, wholly limits the kinds of interactions we can have with others. It prohibits new social bonds from forming and distantly mediated relationships from thriving. Limiting finance to something private also means preventing real world resources from being deployed for the better of humankind. Physical proximity is treated as primary when we begin to construct money as something finite and tangible. To reiterate, this problematic is compounded by gravitropic media, which only serves to reinforce this untenable construction of finance and society. My concerns are primarily about social foreclosing, but the systems and structures used for financial foreclosing are the very same, and as such prove quite useful when discussing how our sociality might also be unnecessarily limited.
Throughout his body of work, Ferguson provides the terms “Hyper-Newtonian” physics and visual “gravitropism” when labeling the aesthetic of the blockbuster, both of which I find useful for getting to the heart of the aesthetic’s primary interests. Recognizing not just an interest in photorealism that others have previously noted, he suggests an alternative construction for the blockbuster. In his essay, “Towards Unbearable Lightness, or Topsy-turvy Technology in the New Pooh,” he proposes that blockbusters (as well as contemporary video games), “give aesthetic and social significance to costly digital equipment through what can only be described as an amplified Newtonian mechanics. Reveling in speed and aerobatics, leaps and falls, such films focus on direct physical interactions, and position gravity as a constant and overarching obstacle” (166). Yet, when we focus on gravitropic and immediate encounters, we lose sight of our enhanced capability for distant and differentiated interaction with others that media makes possible. This predisposition for kinetic, tactile, immediate, and visually gravitropic pleasures is precisely what corporealized media bring to the fore.

As I have suggested in the discussion of technological tradeoff, a certain level of abstraction is unavoidable in current corporealized media projects. At the level of graphic representation, these works employ lower-resolution visual design in order to let their tactile peripherals shine through. Though abstraction is present, it is then subordinated to discourse concerning enhanced immersion or “realism.” Ferguson’s model of the blockbuster is incredibly valuable here, but we must expand and complicate his tools in order to analyze contemporary corporealized media works.
I have stated that these technologies bear an ability to influence our configuration of the world, but it is important to understand how these media are able to do so. For assistance, I lean on a phenomenological mode of analysis put forth by Scott Richmond in his book, *Cinema's Bodily Illusions: Flying, Floating, and Hallucinating*. In the text, he reads cinema as proprioceptive technology. As Richmond explains, perception is typically broken down into three registers. Exteroception is the perception of the world around us, formed by our sense of sight, sound, touch, smell, and taste. Interoception is perception of our interior body, formed by feelings in our stomachs or in our chests. Then, there is proprioception, which is perception that orients the body in a relationship to its environment, of which the most easily drawn bodily comparison is that of the inner ear function (Richmond 7). Richmond’s view of cinema as proprioceptive technology is incredibly insightful in this regard, as I extend this description to this collection of emerging technologies, all of which aim to modulate perception and create orientation for a subject in a virtual space not of our real world. As a set of technologies that wholly repurpose massive components of our sensorium, dominating our senses of sight, sound, and touch, these technologies allow a game developer an unprecedented level of control in shaping our understanding of our surrounding environment, gaining the ability to exert power over our orientation through proprioception.

I posit that these home technologies serve as a manifestation of all these concerns, literally cutting oneself off from the world of others, instead enveloping an individual in an experience purely interested in the embodied play with physics and sensation. This is done without regard to a community, diving deep into the game, and deviating from the communal aspect of the cinema or the living room. By marriage of Ferguson’s and
Richmond’s ideas, we can press into the unmapped territory of contemporary virtual reality and corporealized media to deepen phenomenological analysis.

It is important to note here that this conclusion is not reached from either Ferguson or Richmond alone. Ferguson does not claim individualization or anti-communality as the central problem of gravitropic media. My concern for individualism stems largely from my own experience with these corporealized gaming titles as well as the ongoing discussion about isolation in gaming. Rather, Ferguson finds that such media inherently limits our understanding of community to an embodied individuality, to immanent, private, finite relationships, and a decentered “thisness” – what he refers to as “haecceity.” Meanwhile, he finds abstraction as a construction by which we can reach a boundless center that allows for multiple actions at once and at a distance. Richmond does not share these same concerns for the media we consume; he postulates that proprioceptive technology is a site of great potential for creating and then recreating ongoing, ever-changing understandings of both self and world. I agree with the sentiment and hope for possibility, but I believe this ability to create an expanded understanding will be incredibly limited when the media presents us with something so contracted in its form.

These predominantly gaming platforms have all exhibited a trend towards Hollywood blockbuster aesthetics in their content. At the risk of sounding obtuse and stating the obvious, this Hollywood blockbuster aesthetic has its origin not in gaming but in the cinema, beginning in the 1970s with films like *Star Wars* (1977) and *Close Encounters of the Third Kind* (1977). As previously stated, on the subject of blockbuster aesthetics within gaming, it is a common presupposition that video games have adopted
and reformed the blockbuster aesthetic. Timothy Crick, Scott Ferguson, Holly Willis, and more have cited this connection in the past. Meanwhile, others such as Steven Shaviro and Alexander Galloway have written on how the relationship between these two media functions. They discuss how the first person (and over the shoulder) position of the camera, montage, and identification have all been impacted by the mingling of these two art forms. However, much of this discussion seems limited when we attempt to extend these ideas to the world of virtual reality. Our camera is not the same as it once was, montage becomes reincorporated in certain genres of games, and the means by which we identify change.

There is something inherently different, not just between games and film, but also between this new era of corporealized gaming and eras of gaming prior. It is not that corporealized gaming lacks utilization of the blockbuster aesthetic, but rather that modern corporealized gaming has created a new phenomenology by which to experience the blockbuster aesthetic, filled with nuances in both input and output that shape a fundamentally distinctive medium.

All this is not to say that I disagree with what has been posited before. As I’ve said, I agree that gaming is wrapped up in blockbuster aesthetics. However, these specific platforms also represent an entirely new form through which these aesthetics are expressed. Instead of an abstract connection through a standard controller, these platforms employ haptic feedback, motion control, movement tracking, and a head mounted display. This tactile suite of technologies employed by virtual reality machines and the Nintendo Switch are the essence of this “new corporealized media” and give rise to a new phenomenology by which to experience these aesthetics.
The ability for modulation and re-orientation with corporealized gaming is a pressing issue, though many in the industry and at home might not grasp the severity of its significance. The most popular and well-received titles within these emergent technologies serve to reinforce the blockbuster’s predisposition from gravitropic and immediate sensations, while games that do the alternative have fallen by the wayside. So as to not foreclose ourselves from the possibilities that the digital has to offer, we must be cognizant of how gravitropism is able to inform our understandings of the world. Meanwhile, we must embrace those works that seek to broaden our connections with others through abstraction.

While there are those who consider abstraction in the aesthetic and our transition to digital media to be the site of greater concern, I cannot help but disagree. Vivian Sobchack, in her essay titled, “The Scene of the Screen: Envisioning Photographic, Cinematic, and Electronic ‘Presence,’” cites concern for the abstraction that arises out of our transition from the photochemical to digital process of creating entertainment. She states, “Digital electronic technology atomizes and abstractly schematizes the analogic quality of the photographic and cinematic into discrete pixels and bits of information that are then transmitted serially, each bit discontinuous, discontiguous, and absolute—each bit ‘being-in-itself’ even as it is part of a system.” Here, she expresses a disappearance of concrete materiality when converting to digital technologies, suggesting that something must become lost in this shuffle. She mobilizes her analysis to suggest that utilizing this technology means foregoing the objective elements of the photograph and the intentionality of moving images in cinema. There is value to what is stated, but I take some issue with the premise by which she reaches this conclusion. To imagine the analog
film as entirely continuous “moving images” and to describe the digital film as entirely discontinuous, while perhaps not intentionally disingenuous, misses much to be seen. Let us not forget, analog film, too, is made up by a series of discrete images captured in succession that is then transmitted serially to create an illusion of movement – the movement itself is not continuous or contiguous, though it may appear that way. The analog is just as dependent on technological trickery as the digital is when it comes to suggesting movement, though this effect is achieved in wildly different ways. Both processes can conjure sensations of continuity, though in actuality neither truly employs it. Anxiety for the loss of continuity, I believe, doesn’t fully acknowledge the discrete elements present in analog filmmaking.

She, too, exhibits anxiety in reference to the digital’s capacity to separate one’s interests from the physical body and ultimately ignore the corporeal form. She closes her essay by suggesting that the digital conditions us to the point that we are “devaluing the physically lived body and the concrete materiality of the world.” And yet, this new corporealized gaming seems to be a doubling down of technologies interest in the corporeal. On the contrary to what she claims, I find that our media continually subordinates other realms of experience to physical immediacy and tactility, and it is for precisely this reason that this technology has become so disconcerting. I have an interest in exploring not just how this corporealized gaming has been used to shape our understanding of our world thus far, but also how this technology might be used differently. I believe it is here where Sobchack and I differ the most. She is not incorrect with any of her suggestions – there is indeed merit in the notion that the digital is more discrete and “lossy” than analog media. The fundamental differences she notes are very
real. However, it is clear our valuations of that separation are different. While she cites the devaluing of the physically lived body as problematic, I believe the physically lived body to be currently over-valued and welcome it’s knocking down the totem pole.

Today, corporealized media’s popularity is continually rising, particularly within the sphere of gaming. The last two years have seen a massive spike of interest and consumption in corporealized gaming home technologies. Virtual reality gaming systems and the Nintendo Switch have become some of the most popular gaming hardware purchases, and their growing presence within the industry has made many question how these devices might change the landscape of gaming. I am interested in how the phenomenology of this branch of gaming both develops and departs from eras past. I am curious what happens when the way we interact with a medium fundamentally changes, and what the significance of this change will be for the consumers of this media. The filmic landscape once saw massive shifts as sound, color, and digital practices were integrated into filmmaking. Now, gaming sees a similar advent as it attempts to re-engage our sensorium in new fashions with new tools.

I believe there are at least three primary phenomenological trends we can identify within the gaming landscape. The first is by leaps and bounds the most popular and dominant. Following a through line that can be traced through other popular gaming modes and blockbuster filmmaking, this phenomenology’s principal interests are in cultivating proximate, physical encounters, concretization, individuating of the user, intentionality, and ultimately a contraction of the user’s sensorium. This camp includes the most popular of AAA franchises developed today – *Fortnite*, *Battlefront*, and *Super Smash Bros* among hundreds more. Second, there is an alternate (much less popular)
phenomenology that does quite the opposite. It is one principally interested in distantly mediated relationships, abstraction, collectivity, non-intentionality, and an expansion of the sensorium. This includes games that prioritize their social connectivity aspects over physics-focused gameplay, such as *Second Life* (2003) or *Werewolves Within* (2016).

Third and finally, there is a unique crowd of games that finds itself straddling the line between these first two groups, either through developer choice, technological restriction, or a subtle combination or the two. Works such as *Superhot VR* (2016) or *Sea of Thieves* (2018) can be found within this category. This third group at least partially embraces the abstract nature of computing technology or virtual reality at the level of visual design or social experience, but through gameplay still seeks to reify the physical construction present in dominant AAA games and blockbuster film.

If these phenomenological descriptors do not conjure positive or negative values to the reader on their own, I will state plainly that I believe our second group is the most undervalued and underutilized within the aesthetic. While it has not seen nearly as much attention by the industry or in the gaming discourse, I find it a potentially important tool for expansion and improvement of modern society. I source this from the very terms that make up these phenomenologies; our popular media incites contraction, limiting us to a bounded physical space instead of constructing abstract connections. Yet, what goes ignored allows for an expansion and connectivity through media.

In Chapter 1, I look at *The Legend of Zelda: Breath of the Wild* (2017), a work that typifies this first, more problematic mode. I explore how this game both continues and nuances the gravitropic tendencies of popular media. Chapter 2 looks at this second group: abstract works that represent and express the boundless potential our media can
illuminate when not tending to prescribed limits such as physics in an inherently non-
physical space. I do this through close analysis of the virtual reality game *Star Trek: 
Bridge Crew* (2017). Finally, Chapter 3 examines *Superhot VR* (2016), investigating the 
synthesized blend that has adopted traits of both camps, bearing a complex and 
sometimes contradictory ontology. Before all this, though, we will take a step back and 
look at how corporealized media first rose to prominence.

**Part II: A Brief History**

Corporealized media, like anything, did not simply pop into the marketplace fully 
formed. While this suite of technologies might feel like a natural combination today, it 
has undergone countless iterations in the last few decades. Holly Willis cites the origin of 
this technology as far back as the 1950s with Morton Heilig’s invention of the 
Sensorama, an arcade cabinet-style device that featured a short film with motion seating, 
accompanying smells, and fan-simulated winds all matching the on-screen display (148). 
This was not so out of place in the 1950s, as this time similarly saw the uptick in 3D 
films using anaglyph glasses, color filmmaking, widescreen projections, AromaRama, 
multichannel audio, and more. All of these technologies, in some way or another, sought 
to draw on our sensorium to make the moviegoing experience more embodied and tactile.

Video games, only existing as fledgling technology demonstrations at the time, 
would have to wait longer to see the same kind of embodied integration. With the 
incorporation of light gun technology (which had been around in some capacity as early 
as the 1930s in mechanical arcade games), video gaming saw its first corporealized 
controller with the Nintendo Entertainment System Zapper, used in the popular title *Duck 
Hunt* (1984). In *Duck Hunt*, the game players orientation in relation to the TV screen
would matter for the very first time. How effectively you aimed your arm meant life or death for virtual ducks. Nintendo would continue to attempt to innovate corporealized home gaming, releasing the Virtual Boy in 1995, a home console touting a stereoscopic 3D headset as its means of display. Just as with 3D in film, the intent was to create a display that would be more akin to how we perceive with binocular vision (for we perceive the visual world in three dimensions, lessening the jump in logic for us to understand the game world as we do our on). In 1997, Nintendo introduced the Rumble Pak, a controller attachment that would cause vibrations when certain actions happened in game. Firing a virtual gun now gave the player haptic feedback simulating recoil, getting hit caused a vibration that reminded players they were taking damage, and so on. In 2006, the Nintendo Wii was released, which featured a motion controller as its default means of operation. Today, the company’s most recent innovation exists in the form of the Nintendo Switch, a system which functions as both home console and handheld device. This platform, too, features a slew of corporealized tech from past iterations all bundled together - infrared motion cameras, accelerometers, gyroscopes, and the most comprehensive form of haptic feedback to date.

Virtual reality, on the other hand, seemed to require a breather before re-emerging to the public. After the failed 1995 attempt with the Virtual Boy, it would not be for another 21 years until not one, but three different companies would release a retail version of a virtual reality gaming system for consumers. 2016 saw the release of the Oculus Rift, the HTC Vive, and the PlayStation VR. Yet, as indicated, this was not a sudden and unexpected emergence. The tactile peripherals these virtual reality systems use had been play-tested and improved upon over the last two decades, from their motion
controls to their head mounted displays. 2016 merely served as the point in which disparate technologies would be brought together under one roof.

I wish to make clear that this combination of technologies is not inherently problematic. It is merely that these technologies are being used primarily to put forward a problematically limited ontology, an ontology expressed through phenomenology that represses abstractions that are already present in our lives. Popular corporealized media works disavow technology’s abstract potential and in the process create a narrowed (and less holistic) understanding of our connections to others. It is not that these gravitropic works need to be entirely abandoned, but attention must be re-attuned to the non-gravitropic elements that are being ignored, either formally or within the discourse.
Chapter 1: The Problematic Intersection of Blockbuster Aesthetics and Corporealized Media

Part I: Breath of the Wild

To get myself oriented, I look down at the tablet. The screen tells me that I should actually be to the room just north of me. I put it back down, walk over, and upon entering, find my reason for being here. I plug in the tablet on the pedestal in the center of the room and wait the short time while it receives an update. I am not technically describing my own actions or what I am doing with the tablet in my very hands – I am already thinking one step ahead, one layer deeper, as we tend to do with games. I am describing the actions of the silent protagonist as he uses his “Sheikah Slate” in The Legend of Zelda: Breath of the Wild. This device he holds acts as means by which Link interacts with the world, just as the tablet in our hands that plays the game, The Nintendo Switch, will be our means of interact with that same space. But perhaps his actions and my actions are more similar than I let on. As I raise the device up to look around using its camera, so does Link. As I press a button to switch over to use the map, so does Link. As I straighten up and steady my arms to loose an arrow, so does Link. Our actions are bound together so that to describe one is to describe the other. With gameplay like this, understanding how to play becomes quite easy – it’s the same method of control I already use to interact in a 3D space.
For my first analysis of corporealized media, I turn to look at what has undoubtedly been the most well received and one of the most popular video games of 2017, *The Legend of Zelda: Breath of the Wild*. This work exists as a prime example of the objects that dominate the media landscape today. Its technology and gameplay mechanics, while enjoyable, prescribe the same contracted, physically bound, immediate, sensuous, and tactile experience that I label as limiting. The ninth major installment in the long-running franchise, the game tells the story of player character and protagonist, Link, as he embarks on a journey to find Princess Zelda and defeat the evil being known as Ganon, saving the land of Hyrule. Playing on the “legend” part of the name, almost all *Zelda* titles feature this same plotline, with only small nuances and variations between them - legends change as they are retold over time. In *Breath of the Wild*, Hyrule exists in ruins, the remnants of a fallen kingdom from 100 years before.

As we learn over the course of the game, *Breath of the Wild*, despite its name, has much more of a technological and scientific focus than a fantasy one. The Hyrule kingdom fell when their highly advanced machines turned against them to follow Ganon instead. Link’s role in all of this is to find and restore order to these machines, called “Divine Beasts,” in order to lead an assault on and reclaim Hyrule Castle from the clutches of Ganon, thus freeing the land. To interact with these beasts and all machines in Hyrule, Link is given a piece of technology referred to as the Sheikah Slate. The device gets its name from the Sheikah tribe, a warrior race sworn to protecting the land of Hyrule and its royal family. *Breath of the Wild* shows us that they are not only skilled as warriors, but also wildly intelligent people. Their race has created all of technology that is now scattered throughout Hyrule, including the incredibly rare Sheikah Slate.
While any casual viewer would likely be able to note that the Sheikah Slate resembles any modern computing tablet, I find it more important here to recognize that the Slate, in fact, comes closer to resembling the Nintendo Switch itself when played as a handheld (Figure 1). Through this device, we get a sense of visual mirroring between the player and Link, enhancing the sense that our physical actions have direct consequence in the world of the game. As the player moves their Switch around in real space to take photographs of Hyrule, Link moves his Slate around in the same manner due to the game’s motion control technology (Figure 2). Through this, we are left with a sense of physical presence within the game space. By creating an illusion that we are embodied within the game space, we are given the understanding that a corporeal and immediate presence takes precedence and that it is supreme to all other kinds of more abstract connections.

Yet, the Slate does not just serve to create the impression of presence. It, too, reaffirms the notion of immediate and sensuous connectivity by how it interacts with other pieces of technology in the game. In spite of its highly advanced nature, reflecting the advanced state of our modern computing technology, The Sheikah Slate still relies on incredibly archaic means of communication. In order to share information with the Divine Beasts, with smaller machines, or with the many electronic watchtowers that overlook Hyrule, Link must manually take his Slate and place it upon each machine’s pedestal (Figure 3). This is highly illuminating, as it tells us that despite the highly abstract, advanced, and complicated piece of hardware used in order to process and play the game - capable of wireless control and distant connection through features such as Wi-Fi internet access - the developers forego this fundamental quality of the technology.
and suppress its capacity for connection. Disavowing technology’s quintessential nature, Nintendo seeks to champion immediate and proximate connections when a solution to such problems stares them directly in the face.

This is quite similar to how Ferguson notes the neoliberal system constructs the money form. Despite its inherent abstraction, neoliberals develop a system in which money’s capacity for distantly mediated relationships is suppressed into discrete, decentred relationships that require proximity and embodiment for successful communication. This issue is compounded when we recall the visual mirroring that *Breath of the Wild*, and while we’re at it, all corporealized media seek to impress upon the player. The game tells us, either subconsciously or otherwise, that the Sheikah Slate is equivalent to the Nintendo Switch and that the player is the equivalent to Link. As proprioceptive technology, it teaches us that if he and his technology require immediacy for connection, then so must we, as the media suggests we are one and the same. This process conditions players into having a limited understanding of how connections might be forged with this abstract technology in our real world. Beyond limiting the money form, this contraction presents an ontology in which all meaningful connections must be proximate and immediate. Thinking in this way greatly unnecessarily inhibits the kinds of social connections we can form, boxing us in to a contracted state.

If this immediate and embodied nature of the slate within the narrative was not enough, the game frequently presents the player with a strong visual reminder of how it wants us to understand connections between one thing and another. This is found in the “Eye of Sheikah” (Figure 4). Existing as a form of house crest, the symbol can be found on Sheikah clothing, Sheikah banners, and on the backside of the Sheikah Slate itself.
However, the Eye of the Sheikah’s most conspicuous appearance is found whenever Link wishes to put new information onto his Sheikah Slate. When Link puts the Slate on a pedestal to transfer data, it is always a one-way interaction. If he wishes to transfer data in the other direction and onto the Slate itself, a massive machine distills digital information into a liquid that is then dropped squarely on the tablet. When watching this animation play out, the machine and liquid, only for an instant, form the shape of the Eye of the Sheikah (Figure 5). This graphic functions in quite the same way as the narrative incorporation of the slate. The image corroborates the notion that these abstractions can be damned; connections are forged through proximate, tactile, physical, and intimate encounters.

When starting up the game, one feels an immediate anchoring through a familiar visual cue. Taken from the lineage of action games that precedes it, *Breath of the Wild* mostly utilizes the 3rd person camera angle. However, this is not the over-the-shoulder 3rd person camera angle from shooter games like *Resident Evil 4* (2005) or *Gears of War* (2006). Instead, our camera by default hangs a couple meters back and slightly above the hero, creating an image in which the player’s character almost always sits smack dab in the center of the screen. His fixed positioning gives us stability—we can trust that he will remain there for the duration of the game. Narrative cutscenes aside, Link will stay put center screen, regardless of whatever adjustments I attempt to make with the camera. It is true that, in that sense, we could say Link never moves, and instead the world moves in relation to him. Yet, most players would probably not be quick to make that statement or describe our phenomena as such. This is because our strongest point of identification in this game is the character of Link, and our strongest association with him isn’t narrative,
it’s phenomenal. What he experiences, we too, experience, through the parallels formed in corporealized media technologies. We feel the tension, vibration, and final release when we loose an arrow – and as we see Link doing these things and take him to be having the same experience. As we stand up and look around the room, using the switch as a kind of telescope, so does Link with his matching slate. Link cannot be static and stationary, for we as players have been active through our manifested actions. Thus, Link must be moving in game space. The significance and meaning of our relationship is predicated on the phenomenal, and this relationship is foundational for our constructing of game space and feeling present within it.

We can compare this to another Nintendo game, *Pokémon Red and Blue* (1996), and mark several differences. They are both open-world handheld role-playing games with a relatively abstract visual design (early Pokémon games use sprites and pixel art while *Zelda* employs an art style inspired by impressionist painting), but at the level of experience are staggeringly separate. Visual abstraction does not seem to be an inhibitor when constructing presence, so long as the means by which we interact with the visually abstract are in bodily, Newtonian terms. Pokémon does not attempt to construct a corporeal experience or sense of presence. The Game Boy does not feature the same suite of technologies as the Nintendo Switch that informs us of our physical role in the game world. As a result, when *Red and Blue* released, players were indeed inclined to comment that it seems as if the world moves around the player’s character, while the player’s character remains stationary in the center screen. It was noted that the experience felt like a large “treadmill,” in which the overworld was a large moving machine on which we remained stationary (Figure 6). Visually, the experiences are not so dissimilar – they
utilize the same illusion. The phenomenology dictates the ontology for the games. How we experience them will determine how we classify them and the elements we note about them. In Pokémon, audiences identified a stationary protagonist due to the abstract nature of both the visual design and means of interaction. In Zelda, audiences identify a large expansive world to explore that we feel present in.

Here may be as good a point as any to make a point on the subject of immersion and presence in corporealized gaming. While both terms have been defined in a variety of ways, and are sometimes even used interchangeably in the discourse, I derive a distinction from Gordon Calleja’s In-Game. He writes, “It is crucial for a precise inquiry into the phenomenon of presence to make a distinction between simply imagining one is present in a scene and the considerably different phenomenon of having one’s specific location and presence within a virtual world acknowledged by the system itself” (22). This distinction sees immersion merely as a world’s ability to be involving, deep, and engaging, or bearing a fully realized diegesis. Meanwhile, presence notes the phenomenon of actually feeling inside that virtual world, and that world containing systems that can acknowledge a user’s inhabittance within it. While this language was originally used to create a distinction between gaming itself and previous media forms, I find it much more useful today in creating the distinction between corporealized gaming and the traditional gaming experience, which further intensifies the initial division Calleja describes. Corporealized gaming utilizes its technologies with the purpose of creating a vivid sense of presence in game that other forms lack. While one can imagine walking around Liberty City in Grand Theft Auto IV (2008), phenomenologically, one is never given the pretense that walking around moves them within the game space. In this game,
all input is still limited to a highly abstracted control scheme, whether it be a keyboard and mouse or a gamepad. An avatar (such as Grand Theft Auto’s Niko Bellic) that serves as proxy exists as a distinct entity with different means of interaction that that of the player. However, this is markedly different from what corporealized gaming seeks to do, where methods of control are very much meant to match how we interact with a proximate reality. In corporealized media, our controls are traditionally given as close to 1:1 bodily mapping as possible, allowing systems that subconsciously inform the player we should treat digital space and physical space essentially the same. What I find significant about this new construction of presence is how it connects and plays into Richmond’s notion of proprioceptive technology. If we recognize corporealized media as a proprioceptive technology of presence, then the more we as players occupy these virtual spaces, the more they are able to influence our understanding of not just game space, but ourselves and thus the real world too.

Before closing my discussion of Breath of the Wild, I must also gesture to the fact that the most commonly used gameplay elements further ingrain these same notions and beliefs. The Sheikah Slate gives Link a series of powers: Stasis, which allows him to freeze objects in their place, temporarily halting their movement; Magnesis, which allows Link to manipulate any metal object as if he possessed an enormous magnet; and Cryonis, which allows him to change the state of a body of water on a whim. The vast majority of gameplay is dedicated to allowing Link to wield these powers. The player is presented with hundreds of physics-based puzzles that can be solved by utilizing this hyper-Newtonian science and physics defiance in order to succeed (Figure 7). Just as in hyper-Newtonian blockbuster film, all of the powers Link is granted ultimately affirm
that these physics are the answers to the problems we face – though they themselves are also the source of the issue from the beginning. Gravitropic solutions seem to only ever provide answers to gravitropic problems. When hyper-Newtonian works position gravitropism as the whole picture, the many existing abstractions are pushed under the surface and broadened understandings are handicapped and become confined.

**Part II: The Best Laid Plans of Mice and Men**

The plans of these developers certainly seem to go awry despite clear aims. For as strong as their intentions might be to foreground immediacy, tactility, and the like, there is a certain inescapable nature about their digital medium that rears its beautiful head whether they wish to acknowledge it or not. As mentioned in the introduction, utilization of these tactile peripherals and corporealized media technologies means that something else will be neglected. Digital space is not infinite, though we may often discuss it in such a way. Using this technology still requires real resources to be put to work. Storage space, random access memory, and the computer’s performance are all strained with each task demanded of it. If too many requests are made, the system can crash, and if overclocked, hardware can receive permanent damage. In the case of the Nintendo Switch and virtual reality devices, developers seem to have decided the sacrifice must come from the visual fidelity of the production.

Both the Nintendo Switch and virtual reality systems use significantly lower resolution displays than what would be considered the technological standard of the day. The Nintendo Switch’s screen features a 720p display and *Breath of The Wild* runs natively at 720p, while 1080p has been a standard for home display and gaming for several years, with 4K resolution displays becoming increasingly more affordable by the
year. Each VR head mounted display has slight variations in their pixel count, though
they all roughly equate to a 1080p display for the eye. However, this is not quite as
pleasant sounding as one might think. Though this is the “standard” for home viewing I
mentioned just before, the image quality ends up appearing far more pixelated than it
would look on a 1080p television. As the screens rest incredibly close to each eye, the
pixel density (or lack thereof) becomes quite noticeable, even to an untrained eye. Just as
if one were to get very close to a TV screen, in virtual reality, players are able to see each
individual pixel and the lines that separate them, leading to what has now been dubbed
the “screen door effect.” This, just as it sounds, notes the phenomenon in which using
virtual reality headsets very much feels like seeing the entire world through a screen door
or mesh mask. It is for this reason that those who have championed VR technology have
also suggested that it should be held to higher visual standard than other forms of gaming,
requesting higher resolution displays and high frame rates in order to stave off visual
noise or motion sickness. So far, this has not been the case. Instead, players are
swimming in a realm of low-resolution and non-photorealistic aesthetics.

In an attempt to seemingly mask lower resolutions and go easy on the hardware
all at once, the game developers at Nintendo for Breath of the Wild utilizes cel shading
and a visual design inspired by impressionist and watercolor paintings (Figure 8). Though
it features striking visuals even with low fidelity, its aesthetic is always secondary in the
discourse. For Breath of the Wild, complex physics engines or enhanced realism are
always the topic of discussion. Though this abstraction comes as a package deal with
their medium, these developers seek to sweep this under the rug and instead focus whole
hog on gravitropism. These game designers are fully dedicated to the neoliberal notion
that “There is no alternative” even when one falls gracefully into their lap. Again, as I noted at the close of the Introduction, gravitropism is not something we must fully excise from our attention. I merely wish for us to also recognize the ways in which our media is highly abstract, just as aspects of our lives are already abstract. I believe doing so yields a more rounded understanding of society. As we turn to Chapter 2, we take a look at games that instead embrace this abstract potential in technology through both visuals and gameplay.
Chapter 2: On The Inherent Abstractions of Virtual Reality and the Digital

Part 1: A Need for Extension

In Chapter 1, we looked at corporealized media games that revel in the dominant, hyper-Newtonian, blockbuster mode that has endured for so long. Though, as it has become apparent, these games are not as purely gravitropic as they would hope to be. Due to the technology corporealized media employs, many works find themselves faced with the reluctant incorporation of abstract visual design. AAA developers mask their lowered resolutions with visual filtering such as cel-shading or by downplaying their visual presentation in the discourse by focusing instead on the parts of their work that still embrace the proliferating aesthetic. As suggested in my discussion of *Breath of the Wild*, these works suggest an inherent abstraction always present and already available in digital media, yet the most popular works seek to subjugate this implicit possibility, providing immediacy instead as their only answer. At the phenomenological level, such games express desire or even need for an immediate sensual grounding in order to make logical sense of the abstract. In Chapter 2, I now turn to look at works that instead provide something of the opposite – works that embrace the inherently abstract construction in both their phenomenology and aesthetic, instead of prescribing themselves the limited composition of the hyper-Newtonian. In doing so, I look at works that have not received extensive acceptance by the gaming community, primarily through *Star Trek: Bridge Crew*, a virtual reality title. This game recognizes the abstractions available to us and its form and content seek to articulate the mediated potential afforded
to society by abstraction, technological or otherwise. I too, read *Bridge Crew* as a game that implicitly and explicitly affirms the tenants of Modern Monetary Theory (MMT) and MMT’s abstract ontology of finance. MMT proposes a construction in which currency exchanges are not private, individuated, and finite, but instead run through a boundless center on which all monetary relationships are predicated. I utilize this topology not to make arguments about monetary policy, but instead with hopes to illuminate how our relationships to others are formed through abstract connections, including our technological relations.

Instead of the typical embrace of tactility and sensuous immediacy, games such as *Bridge Crew* emphasize community and connections that need not be immediate or contracted. These games divest themselves of interest in physical contact and gravitropic play and still retain the low-resolution and visually abstract nature that new corporealized media platforms like virtual reality employ. Focusing on social interaction, these games serve as digital spaces in which we can connect to others at a distance in unprecedented fashions. I argue that such aims are a better utilization of the technology available than an acceptance of gravitropic tendencies because they newly attune us to the various ways we remain connected at a distance. These opposing works serve to modulate our perception to allow for an expansion of our sensorium instead of an inhibition of it. This expanded sensorium and broadened understanding of connectivity allows for new possibilities for social configuration and new avenues of interaction tactile immediacy could never permit. *Bridge Crew* and the few works like it provide the broader social message that the world allows for pluralistic, extended means of experience and that a contracted experience is just that: contracted and therefore limited. They provide a path that allows
communing with different people than a physically contracted experience would permit, and diverse means by which to commune with those people. They show us such new possibilities through not only their aesthetic and mechanics, but also their online infrastructure. This form of virtual reality, in contrast to the popular form observed in Chapter 1, illuminates the centralized, expansive, mediated, social possibilities that emerge in ontologies beyond that of the gravitropic. The intent in analyzing such works is to reveal how their abstract construct provides an opportunity for virtual reality platforms to be saved from their own developers. In illuminating these more abstract formations, we can provide the possibility for a more heterogeneous and holistic aesthetic landscape.

Just as in Chapter 1, I still primarily utilize the texts of Scott Ferguson and Scott Richmond for this analysis. Ferguson details the delights and potential for abstraction as well as the boundless potential for care that such abstractions can bring to society. These abstractions show us a means of being not just in our visual culture, but in society through the boon that is MMT. Meanwhile, Richmond’s work allows for a construction that sees media as proprioceptive technology that is able to influence our pre-cognitive understanding of the world and our relationship to it. This combination allows for an abstract proprioception that allows an opening in digital technology to relinquish its foreclosing obsession with gravitropism and instead embrace new means for connections to society. As proprioceptive technology, experiencing this opening abstraction through media can inform us of things we may not recognize about ourselves and the world.

I further utilize Richmond’s text here as he structures his proprioceptive phenomenology in non-intentional terms. Much like games such as Bridge Crew (and myself), Richmond seeks to create understanding beyond object intentionality.
Longstanding views from those such as Edmund Husserl claim that phenomena only exist with intention. His school of phenomenology maintains that our engagements are always directed, and these engagements are singularizing. For Husserl, intentionality is what creates phenomenology and thus is quintessential. While this is to a large extent true, singular object intentionality is not the only possible organization of intentional phenomenology. An alternative construction presents a phenomenology that’s intentionality is a social plurality – a distributed intentionality. These games provide a more abstract, loose phenomenology that subverts common gaming tropes in order to go around this singularizing intentionality.

**Part II: Star Trek, A History**

To begin, I look at *Star Trek: Bridge Crew*. A franchise with perhaps a more storied history than many, the aesthetic of *Star Trek* has been quite varied, to say the least. Coming a decade before the boom of the new Hollywood blockbuster, *Star Trek: The Original Series* (1966-1969) didn’t lavish in the high-octane, touch and contact obsessed thrills of the 1970’s and onward. Even in a post-*Star Wars* landscape, ensuing *Star Trek* projects still held closer to *The Original Series*. *Star Trek: The Motion Picture* (1979) was a much slower, meditative piece than *Star Wars*. Many critics have suggested that it shared much more similarities with the then decade old Stanley Kubrick film *2001: A Space Odyssey* than with its contemporary science fiction features. Sequels to the first film began employing the effects house Industrial Light & Magic, and from this point the aesthetic of the series would become a bit more homogenized. However, when Star Trek was revitalized on television with *The Next Generation* (1987), it served as a doubling down on the vision of original series creator Gene Roddenberry. Roddenberry’s *Star Trek*
is a vision of community in spite of difference, of overcoming external challenges cooperatively, and of boldly encountering new frontiers. This series stood quite apart from the film franchise that was simultaneously releasing work. At the end of The Next Generation’s seven series run, a true change of course began to take place.

Much to the displeasure of Star Trek fans, the series of The Next Generation feature films that followed (Generations, First Contact, Insurrection, and Nemesis) grounded the series as action-based films, converting Jean-Luc Picard into John McClane. These works attempted to emulate to gravitropic visual design that had become so prominent in Hollywood, yet this tonal shift (and perhaps a franchise fatigue or oversaturation) ultimately spelled the doom of the franchise. After a seven-year hiatus, the series was rebooted with J.J. Abrams’ Star Trek (2009). As film critics and journalists have pointed out, Abrams’ Star Trek bears all the markings of big-budget Hollywood filmmaking, including the gravitropic predisposition that Ferguson demarcates. This move cemented a modernized Star Trek as traditional Hollywood fare – winning over critics and audiences alike. This transition into the popular mode revitalized the franchise, giving birth to sequels, a new CBS series, along with product tie-ins including video games. This is the space in which Star Trek: Bridge Crew is born.

Part III: So, Why Can’t I Touch My Hands Together?

Though created in the hyper-Newtonian era of Star Trek, and set within the reboot’s new Kelvin timeline, the game’s dissonance from this history is immediately tangible. Entirely non action-oriented, the player will never so much as hold a communicator, much less a phaser. In fact, the player will never pick up an object. There are no objects to be held in Star Trek: Bridge Crew. Here, users’ player models are
unable to collide or touch with each other or indeed anything. In fact, player models entirely lack collision models - 3D models that are used underneath the visible skin to communicate to the physics engine when a physical interaction between registered objects occurs. In their absence, hands move through each other (or any part of the body) freely. They also move freely through computer screens one might see aboard the ship. There is no tactile sensation when one puts their hands on a table or a control station. Intriguingly, players have no chance for physical connection at all. Though other players are given low-resolution visual representation, all “contact” between players is mediated and at a distance, foregrounding their abstract connection instead of positing a false suggestion of physical, tangible immediacy.

This is not to say there is no interaction in the game; interaction is plentiful and polymorphous. Instead of focusing on interaction with objects or by moving through game space, the interaction is concerned with interaction of other people through this media. *Bridge Crew*, like other works I will discuss in this chapter, is a social game. Works such as *Bridge Crew* emphasize that our games serve as a medium through which to connect to each other, a means to an end rather than the end itself. The prime directive of the game is one of cooperation and community. Through this prescribed center, the game helps players acknowledge their co-dependence as crewmembers (and by extension as people) that already existed, but is now made visible. As a crew member aboard the bridge of the USS *Aegis*, you and your team take part in a variety of missions loosely related to an overarching goal of finding a new home world for the Vulcan species after planet Vulcan was destroyed by Nero in the 2009 film. In reality, this is more of a narrative backdrop than a true objective that is explored through gameplay. No element
of gameplay connections to this purported goal. In the gameplay, there is no singular narrative intentionality. No new Vulcan home is found; no solution to this story’s problem is attempted.

And just as there is no narrative intentionality, there is little phenomenal intentionality present in *Bridge Crew*. This loose intentionality is reflected in visual design cues. Unlike almost *any* modern first-person perspective game, there is no reticle or targeting aid (Figure 9). Instead, players are treated to an open and unoccluded view lacking of the traditional heads up display or aiming device (Figure 10). This is not mere visual trickery like in *Breath of the Wild*. In *Breath of the Wild*, our actions are always intentional, oriented towards an object. When that object is challenging, we are briefly presented with the reticle that the intender desperately craves. Yet *Bridge Crew* fully lacks this mainstay feature, and it never needs it either. Players are not reticent to see it gone; their bodies have stop focusing on object intentionality and instead become attuned to a new, plural, distributed intentionality that prioritizes the groups’ mediated extensions. Just as in Roddenberry’s vision, plurality and player difference is foregrounded as the team discusses their distinctive capabilities and how they can best be utilized for the betterment of the crew. Player’s bodies are not specially oriented as they progress from task to task. They need not face other player’s graphic representations when listening to their ideas. Indeed, attempting to do so will quickly prove to be ultimately useless – for that is not the body that is truly doing the speaking, and it will provide no additional context or information. You could benefit the team more looking elsewhere, like outside the ship or on your own personal display screen, to provide new information while the speak. All of this builds to intentionality that is distributed,
pluralistic, and spread out instead of physically contracted. Individualized intentionality is not on the players mind when inside the Aegis.

And speaking of being inside the Aegis, there is no experience quite like it. After starting up the game, we are not given a traditional menu that gives us the option to play. From the moment the game finishes its initial boot loading, it places the user on board a Federation space ship. Likely, the first thing you will do is look down and notice that your hands are either backwards or that your arms are inexplicably (and impossibly) crossed and bound together. For some reason, which controller will be assigned to your right hand and which will be assigned to your left is a craps shoot. Sitting poised normally with hands extended in front of you creates a shocking sensation that provides quick realization: the in game hands are definitely not your hands, for the visual in no way matches what you feel. As you pass the hands off to the appropriate side of the body, you will see them spectrally pass through each other to move to the appropriate side (this is due to the lack of collision models mentioned earlier). Inevitably, this results in the player wanting to toy with the mechanic. As the player moves to meld the hands and arms together on screen, they will then feel the sharp uncomfortable pain as they ignorantly smash their knuckles together in their living room. The pain exists quite contrary to the image on screen, where we don’t see two hands become static from collision, but instead a pair of hands in which right hand digits float through a left hand palm.

This is all before one takes the time to notice there is in fact a menu in front of them that the player can interact with in virtual reality. Using this menu, the user can join up with other players to begin the game proper. Throwing the player headfirst into the
virtual environment establishes an important precedent. Doing so tells the player: this is how the technology works, you must reconcile with this. Our technology will not be bound to a metaphysics that emphasizes or necessitates proximate, immediate tactility. Having these moments of re-orientation before the player does something as simple as press play to join a lobby informs them that connections to others are also abstractly mediated – there will be no sensuous contact, but instead broadened socialization. All of this upholds to the precedent established in Chapter 1, in which gameplay can be understood as a proprioceptive means of informing the body how both the digital world and reality can function in spite of the current economic structure or popular media. This is merely an inversion of the phenomenology of Breath of the Wild. While Breath of the Wild sought to condition us to understand the digital (and indeed all abstraction) in neoliberal, physical terms, Bridge Crew flips this paradigm and insists we should understand our physical corporeal world as we do the digital: it is already abstracted.

When reading Bridge Crew and indeed all virtual reality titles, I take to heart the work put forward by Holly Willis in her book, Fast Forward: The Future(s) of the Cinematic Arts. Throughout the text, she explores the changes cinema has seen after being influenced by (and influencing) tangential media such as computer technologies, gaming, and transmedia projects. What is central to my argument here is her chapter titled, “Virtual Reality and the Networked Self.” In it, she documents the history of virtual reality as well as explains the problem she finds in the popular discourse of virtual reality today. She cites one of the central problems in virtual reality is its focusing on an individual. From the stories of the creation of virtual reality itself to how we interact with virtual reality works, our interactions function as a cutting off from society. Willis
suggests instead that this technology could be repurposed into a means of networking ourselves. She refers to virtual reality as a posthuman technology that allows for expansion and connection that isn’t possible within grounded, corporeal materiality. She, too, desires to acknowledge the connectedness that can be experienced not just through the immediate. Her views suggest concern and trepidation for the same kind of contraction that gravitropic media revels in. As I’ve come to show, much of the dominant virtual reality work rests in this very body of media. I fully agree with the sentiment Willis expresses here, and present her now with works that show promise of the antidote to insular neoliberal thinking. It seems clear when we take a look at these cultural objects (virtual reality games), popular aesthetics suggest embodied individuation is still primary. Yet, we have at our disposal a means of connecting that serves as a technological extension of humankind’s limited sensorium.

On the subject of technological extension, I also turn to the writings of Marshall McLuhan. In his now famous work, *Understanding Media: The Extensions of Man*, McLuhan theorizes how media and technology can create a shrinking effect on our world in that it brings disparate people together, metaphorically speaking. He refers to possibility as a “global village” in which information travels to multiple far away locations at high speeds simultaneously. This notion might seem reminiscent of Ferguson’s construction in which action can be multiple and at a distance. Both ideas suggest great possibility that arises when technology, low fidelity or not, allows for an abstraction away from connection contingent upon proximal embodiment. McLuhan presents this possibility as a positive evolution, and I share this view. While incorporating as many disparate groups as possible is surely to also bring out differing
values and thus incite quarrels (a problem McLuhan recognized), this connection allows us to commune with others and obtain perspectives we would be remiss to ignore, a net positive for McLuhan. Though, it is important to note a central difference between Ferguson and McLuhan’s work here. McLuhan views this extension of ourselves as a decentralized network of communication. Meanwhile, Ferguson posits an ontology bearing a center on which we can all depend. I concur with this notion, and I will argue in this chapter that gaming, too, supports and requires this centralized view. I turn to McLuhan for his notion of extension through media, but his ideas of decentralization must be left behind.

*Star Trek: Bridge Crew*, as well as games like it, foregrounds this social forging McLuhan notes and that Willis seeks. They also exist as places for the abstraction that Ferguson seeks in the aesthetic. All goals are either met as a team or not at all. Prosperity cannot come from a mere individual. This fact immediately creates a distinction between *Bridge Crew* and aforementioned corporealized media titles. Very much unlike the trend Willis notes in virtual reality, the individual is not elevated in any capacity. Instead, sociality becomes central and emerges as the problem-solving tool for success.

There are, of course, other games that exist within the same domain beyond *Bridge Crew*, many of which I haven’t played myself and thus cannot provide a proper discussion on those works. However, I find it worthy to note that this genre found in gaming has continually shown to be low budget, low resource, and produced by independent game studios. Games that rejoice in the abstractions of the digital stand apart from AAA developed projects. They are to big budget gaming what the avant-garde is to
Hollywood filmmaking. Standing on the periphery, these works have traditionally not been financially embraced by major developers. Perhaps that is a telling sign, as the content of such works provides an alternative construction that allows for an understanding that exists beyond neoliberalism. Though they may not understand the lengths to which these games go, they seem to bear an intuitive understanding of the threat they might pose to their regime.

**Part IV: The Networked Game**

I suggest that the online network provides an ideal model to illustrate how we might explore our extended relations with others through media. I find it interesting that a “networked” self is what Holly Willis desires, when, metaphorically speaking, this too serves as a solution to the problems Ferguson identifies with the neoliberal system and its dominant gravitropic aesthetic. Ferguson and MMT suggest a model where money emanates from the boundless cascade of a center, a center that interacts with many simultaneously and at a distance. In contrast to dominant theorizations, this construction is very much how networks function. While depictions frequently show egalitarian “webs” or individual devices interacting on the periphery, suggesting decenteredness, this visual representation is not the most accurate means of expression. Internet communications necessitate a structure or hierarchy in some form. Devices connect to a modem that then seeks information from its Internet service provider (ISP). While there may be several ISPs, they are all unique with their own infrastructures, much like a sovereign state with its own currency. The same can be said of the electrical grids that power our networks – they are multiple but centralized. If we take a look at online gaming, we can look at its variations and see the possible executions of its structure, and
they are not so dissimilar.

There are two methods by which players can connect online. The most popular format is when a game features its own dedicated servers. This is when a client, typically the game developer or the game’s publisher, purchase the right to an entire server dedicated purely to hosting online services for the game. When players attempt to join an online lobby, every single player will be connected to the same server. When a match is formed, the game information is then stored on the server. In the case of something like an online shooter, the game clock, score, which players are on each team, are all kept in the dedicated server. This also goes down to the very minutia of a game – where each player is positioned on the map, their movements, how much health they have, what weapons they carry, etc. When players in the lobby share this information, it is not done in a flat, non-hierarchical manner. If we are playing together, my information is not shared directly to you and then vice versa. Instead, my information is sent up to the dedicated server at the very same time that your information is sent up to that same server. Then, the central server reassembles this information and casts it back down to both of us, again, simultaneously. Only then would I receive information that you have provided. It is not a mere decentered, private exchange. These exchanges always come through a center.

The other means by which networked play is allowed is through what are referred to as listen or peer-hosted servers. This is when a potential player in a game is selected as a host for the online lobby. Once a host is selected (typically by determining who bears the strongest internet connection), the network functions almost identically to how it would on a dedicated server. All game information is hosted by this person’s Internet
connection, making them a newly minted center. Just as in a dedicated server, all game information goes to and from that person – decentered relations do not exist in this model. While there may be multiple games running at once all with different hosts, these games do not directly interact with or necessitate the sharing of information with each other. These are both independent organizations with their own sovereignty, much like the discussion of ISPs earlier. This is comparable to the sovereignty of separate governments. Each mints their own currency and they are the sole administrator of this currency. The production of this currency is not dependent on anything outside of the sovereign nation. These systems show us how technological abstraction serves as a testament to MMT’s tenants. The boundless center already exists, yet our most popular media weave us a narrative that suppresses this idea by continuing the neoliberal fallacious notion that there is no alternative.

As a primarily online game, *Bridge Crew* is complicit in this centered cascade. All online games are, though through their aesthetics and content, many will vehemently reject this notion. *Bridge Crew* stands out as black sheep in that it doesn’t just accept this construction through its digital production and technological execution but also through its form and aesthetic. Our connectedness through a center is foregrounded, whether it be through the required online connection to play, the ability for someone to privately host a lobby, through visual design cues, or through the cooperative communal center that *Bridge Crew’s* gameplay fosters. These design choices present players a route through which they might come to understand these mediated connections in a capacity that goes beyond Newtonian relations.
Part V: A Million Gray Areas

Throughout Chapters 1 and 2, I have indicated a stark opposition between games that glorify the immediate, tactile, sensual pleasure (reaffirming the neoliberal mode) and games that embrace an abstraction allowing for digital extension and expansion (supporting the notion that there is already a place for a more networked community). I have done my utmost to suggest that while gravitropic media is certainly dominant and problematic, there is a space that sees the potential of our technology as it really is. While our first camp of media can certainly be pleasurable, it reifies an incredibly limiting structure that prevents development for connections beyond immediate means. Conversely, we have media that has embraced the abstractions and implicitly understand our new, mediated means of connection as a place for the social expansion I desire, yet they are not given the limelight or treatment of their counterparts. Yet, the world and indeed the arts are not always so black and white, nor should they be. To quote Ridley Scott, “[Life’s] a million gray areas, don’t you find?” While it would surely make our work easier if artworks were squarely hyper-Newtonian or squarely abstract, this would be nigh on impossible to argue. All things exist much less in staunch black and white than they do on a gradient scale. Certainly, Breath of the Wild and games like Star Trek exist far apart on this gradient. Still, there are, indeed, works that find themselves wrestling in this gray middle area, contradictorily, paradoxically, and sometimes evenly exploring these two notions in junction, often unconsciously. As a technology focused on immediate sensation and yet inherently abstract, corporealized media can often find itself in the middle of the spectrum. In Chapter 3, we turn to look at such works, focusing our discussion on the uncanny valley that is inhabited by works like Superhot VR, a game
puzzlingly obsessed with both modes in spite of itself. Here, narrative, gameplay, and visual design trip over each other to form an immiscible concoction that proves to be both fascinating and alarming.
Chapter 3 – Synthesizing the Abstract and the Hyper-Newtonian

Part I: Stuck Between a Rock and a Cozy Bed

Here, I turn to address games that fall outside the purview of the purely hyper-Newtonian model discussed in Chapter 1 or the intensely abstract, expansive, social model explored in Chapter 2. Now, we look at games that exist in some sort of gradient to see where common ground may lie and where tension between these two modes manifests itself the most. In Chapter 3 I analyze Superhot VR (2016), a game which in terms of mechanics revels in the delights of gravitropism but in terms of visual design veers far away from photorealism or even a verisimilitudinous design present in popular works like that of Pixar. This mode of media exists as evidence that even in clear active attempts to explore abstract technological extension, anxieties over abstractions, whether they are of the body or of three-dimensional space, result in conflicting, paradoxical mechanics or aesthetics. This conflict engenders the suppression of abstract modes of connection. While wholly hyper-Newtonian objects are fully represented in our media-scape, our popular works that do employ levels of abstraction also feature elements that serve to undermine such understandings.

These works, in some ways, serve as ultimate signifiers of the tendencies of game development houses. Even when alternate and unique formations for gameplay stare them in face, developers often find ways to incorporate the more standard elements of old, acting as a reveal of either their own concerns or as acknowledgement of the anxieties of their audience (their means of financial stability). However, this frequently detracts from
whatever assets made their work unique, exciting, and expansive. In incorporating the now “tried and true” hyper-Newtonian elements of major AAA games, the abstractions made possible by its virtual reality technology are often reduced to mere traces of the game’s DNA. If the over-crowded market of big budget hyper-Newtonian video games is a rock, the open and expansive experience of abstraction is a cozy bed to help heal us from the ails of its counter-part. Yet, developers are reticent to acknowledge that bed’s existence, perhaps because it doesn’t look photo-real enough for their satisfaction.

**Part II: Superhot VR – Caught in Limbo**

If one is at all familiar with The Wachowski’s [*The Matrix* (1999)], then *Superhot VR* will not require a whole lot of explanation to understand. Upon its initial unveiling, critical discussion and popular discourse surrounding the game immediately drew connections between the two projects (Alexandra). Just as in [*The Matrix*], *Superhot VR* tells the story of a ‘90s everyman computer hacker who has his world turned upside down when he realizes the computer world he has been chasing is actually a reality all its own. Using his computer rig to “jack in” to this world, the unnamed protagonist decides to forego the world he knew and, somewhat like the duplicitous villain Cypher in [*The Matrix*], accept the new frontier as his true reality (Figure 1). Inside the computer world, known, of course, as Superhot, the player realizes he has special powers not present in the world. Most notably, he is suddenly incredibly well trained in combat and can stop bullets mid-air utilizing a bullet-time-like mechanic. As Bob Rehak discusses in his article on bullet time technology, “The Migration of Forms: Bullet Time as Microgenre,” [*The Matrix*] is far from the first media object to employ bullet-time slow motion. Rather, it codified the usage of bullet time and established itself as the quintessential usage of the
technology by narratively thematizing the mechanic. *Superhot VR* makes a similar move to the Wachowski’s film, incorporating this time-stopping gameplay mechanic deep within the narrative and aesthetics of the game – there is no *Superhot VR* without the mechanic, because narratively, the mechanic is the world of Superhot (just as bullet time is a fundamental underpinning of being a conscious subject within *The Matrix*).

Puzzlingly, the narrative arc seems, at the surface, to make a move towards affirming the abstract world of Superhot. In the game’s final moments, the player is told the only way to advance is to kill themselves – their “real” self that sits in the chair as they are jacked in to the world of Superhot. We are told that in death we will be freed from our corporeal husks and let loose into the realm of Superhot. This is quite a different end then that of *The Matrix*. In the film, our heroes use *The Matrix* as a means to escape it. On the contrary, the game presents Superhot as the end in and of itself. Yet, the world of Superhot is not as purely abstract as its visual design might imply, and this acceptance of Superhot is really a further acceptance of Hyper-Newtonian mechanics, merely given the skin of abstraction.

*Superhot VR* wastes no time in giving many of its abstractions embodiment and physicality. Though *Superhot VR* itself is a digital download title with no physical release to be had on any platform, the content of the game itself seeks to “rectify” this notion. Within the game, each level, game environment, asset, challenge, etc. is stored on a physical 3.5 in floppy disk. Floppy disks must be located and amassed in your personal office in order to create changes within the world of Superhot (Figure 12). This is oddly reminiscent of how *Breath of the Wild’s* Sheikah Slate goes against the logic of the very technology it mirrors. In *Superhot VR*, we are given a similar treatment in which
information transfer must be a proximate and physical transaction. Despite the fact that in reality, all game information could be available at once and in any fashion we might desire, the design suggests that this capacity for play is unavailable without physical possession and corporeal interaction.

For a combat based title, the gameplay foregrounds physical immediacy in a surprising way. Unlike the vast majority of first person shooters or indeed any shooter, the player never actually moves through game space. Whenever the player inserts a floppy disk and goes inside Superhot, they are then stuck in that position until they load in another floppy. Instead of moving through space, the player is instead given the ability to move through time itself. When standing still, in-game time will never “progress.” Time passage forms a 1:1 relationship with player movement. The more you move, the more in-game time passes. This mechanic is reminiscent of bullet-time footage found in action films like The Matrix. What gameplay consists of, then, is the player remaining stationary while attempting to dodge attacks and defeat enemies, occasionally stopping their action to analyze the environment and prepare a new order of dodges and attacks. In some ways, this may sound like a repression of the three dimensional, volumetric, physics-based obsessions of major game developers and blockbuster films. However, the effect this change creates is a bit counter-intuitive. The result is that whatever you see in the distance is currently irrelevant, as only immediate environs offer threat and pertain to your success. A fist a few inches from your face is much more deadly than a gun aimed at you from twenty feet back – the bullet may never reach you so long as you do not move. Embodied touch, then, is foregrounded in the world of Superhot. It is the gift of life and
the kiss of death, creating the world by using floppy disks and then destroying its
inhabitants with brutal physical altercations.

This is all without mentioning the always abstract and relative concept of time has
now been physically grounded and bound to corporeal movement. Bodily movement is
just as present and relevant as it would be in any AAA work’s gameplay; we’ve just
made the switch from movement through space to movement through time. In some
ways, this could be considered an even more insidious move, as the removal of three-
dimensional mobility fosters Superhot VR’s articulation of hyper-immediacy. Meanwhile,
they’ve taken time, something originally abstract in both media and our world, and bound
it to bodily action. This very notion creates a simple association between the physical
contractions we experience in Superhot with time’s narrative of linear progression.

The corporeal’s usurpation of time results in a somewhat new ontology of space-
time. However, this is not the abstract, expanded, limitless infinitude one might seek
when reconstructing time. Here, time exists as the determining factor over space, yes, but
time is still determined by player movement. Player movement determines time, which
determines space, which will in turn inform player movement, and this system creates a
feedback loop in which all are subjects to the interplay between systems at work. We do
not get a true infinity in Superhot’s time mechanic. Instead, we are treated to a more
bounded infinity. Time dilates and contracts from a singular point in space-time, but is
not infinitely variable or even reversible, and as such always finds itself back in the same
place it would be had it used the conventional space-time ontology. The same bounds
will emerge that would have been present in more traditional hyper-Newtonian media.
It is impossible to talk about a virtual reality game without discussing the technology it uses itself. As discussed previously, corporealized media (and particularly corporealized gaming) seeks to take formerly abstract connections and ground them within our embodied physicality. The virtual reality headset is a repurposing of what used to be controlled by a right joystick on a traditional gamepad. Now, we are given attempts at 1:1 mapping of immediately experienced head movement to head movement inside the game. PlayStation Move, Oculus Touch, and Vive Knuckles are used as hands in the in-game environment replacing the previously abstracted left joystick. On this topic, it is certainly worth noting the nomenclature of all of these controllers, which hints at their tactile, bodily obsession as well as parallel thinking between game companies. 3D, omnidirectional surround audio is used to mimic the auditory perception of a local body experience; we hear footsteps come from behind, hear fists and knives whoosh by as they just miss us, and hear each shard of glass as the remnants of a broken window hit the floor.

All of these used together create a sense of presence within the world of Superhot. The majority of our senses are dominated by peripherals (taste and smell have yet to be incorporated into the realm of gaming) and we are forcibly plunged into its world. This suite of technologies works in tandem to foster the illusion that the mechanics of this game are the mechanics of our world, and vice versa. When considered through Richmond’s lens of proprioceptive technology, we are made to understand that the world we feel present in (the game’s) is also one that our body inhabits – though of course, it is not. Superhot VR’s mechanics inform us that the world we reside in is one in which all connections must exist in an embodied, finite, and proximate fashion, as those proximate
connections are of the utmost importance. All distant means of connection are invalid, according to the developers. This game, just as Breath of the Wild and all hyper-Newtonian media, leaves us stuck in a loop. This is a loop in which there is no solution other than the embrace of gravitropism as an answer and thus the neoliberal institution that it engenders and that engenders it.

Yet, as a proverbial counter-weight to the mechanics of their game, The SUPERHOT Team gave their work an intriguingly minimalist and abstract art style. Though I mentioned in Chapter 1 that these corporealized media technologies often necessitate a lowering of visual fidelity in order to allow processing power to be committed to tactile peripherals, the aesthetic of Superhot VR goes well beyond what gaming audiences might call “low-res.” When compared to other virtual reality games, Superhot VR demonstrably shows that its aesthetic isn’t just used to make the game run smoothly. There is clear, artistic intent in the decidedly non-photorealistic look of Superhot VR. The SUPERHOT Team has adopted a visual design that embraces digital technologies inherent abstraction. The title uses incredibly low polygon count models. And by incredibly low, I mean you can count the polygons on the 3D objects when you look at them. Despite being a contemporary game released at the tail end of 2016, the visual complexity exists just past the two-dimensional sprite technologies used in the 1990 Super Nintendo era but stops short of the capabilities of something like 1996’s Nintendo 64. In Super Mario 64, Mario’s character model rests at 752 polygons (either triangles or quadrilaterals) and has shades of red, blue, yellow, brown, black, and white all present on his person (Low Poly). Character models in Superhot VR first appear to possess a polygon count in the dozens. However, there are small, oft-unnoticed features
such as the fingers and arm musculature that put the polygon count in the low hundreds. More complex, but still far below the potential of technology decades old, and digits behind the complexity shown in modern AAA games such as *Horizon: Zero Dawn* (2017) that boast character models with 550,000 polygons (polycount.com). This extremely low number is overkill if the developer’s intent is to merely let the game run smoothly. The polygons themselves aren’t industry standard shapes either. Various polygons, from non-equilateral pentagons to bizarre parallelograms are employed to make the models look more jagged, rudimentary, and mismatched than a standard triangle configuration might (Figure 13). While still representational in that a model’s polygons are still assembled to directly stand in for people, guns, or desks, the appearance of these representations are wholly separate from the verisimilitudinous trajectory game design and animation has taken over the last several decades.

Meanwhile, there’s also an oversimplification of the available color palette. The game relies on shades of only 3 colors in its palette – red, white, and black (Figure 14). Shades of red are used to color enemies, shades of black are used to color objects capable of interaction (and your in-game hands that do the interacting), and shades of white are used to construct the environment. Again, it’s true that less colors means easier rendering. However, it’s clear from looking at other VR games that a PlayStation VR or a gaming computer has hardware robust enough to handle a much wider color gamut than *Superhot VR* utilizes without sacrificing performance. What we see, then, is not quite a binary visual design, but a ternary one, using only the most basic of 3D shapes and three colors to represent the millions of colors the human eye can distinguish. These ternary aesthetics
recalls thoughts of video game’s digital and computational, and thus abstract, upbringing and history.

Ternary might be the single best available term to describe the phenomenological experience of Superhot VR. It reminds us of the binary, abstract nature of our devices that process the game, but does not fully employ that history. It reminds us of how time might be abstracted and differently understood, but then bounds time back to space. In the realm of abstraction, it’s so close, but also not quite. While rudimentary, the 3D shapes are just that, still 3D shapes, and they are 3D shapes that are mobilized to simulate a three-dimensional game space for the user despite the two-dimensional nature of the two OLED screens inside the VR headset. This illusion, as always, is exploited in order to foster parallels between our perception of our world and our perception of the game world.

Donning the headset to experience the world of Superhot is uncanny. The visual design is bought to such a low resolution that it is initially hard to truly understand what I see around myself as a contingent space. The all-white environments are at first blinding, and then slowly lend the impression that I might be dead, or otherwise caught in some kind of existential limbo that exists beyond physical space. To borrow the phrase from Videodrome (1983), I feel as if I am being born in a new flesh. As gameplay begins and opponents and objects appear, the surrealism in the blend of low-res visuals and corporealized activity becomes harder to ignore. I can now understand where I am to be a room, though this isn’t because it looks like rooms I have seen before. It feels like a room, like a confined space limited by somewhat artificial or arbitrary designations. This interior feeling may stem from means outside the game itself. Perhaps it is that donning
the headset itself feels like going into a different room. Perhaps the feeling stems from the tacit knowledge that I myself am located in a living room as I play the virtual reality game. Perhaps the feeling emerges as a combination of these elements, but the confinement to interiority is certainly present. Looking around the inside this virtual room causes the action to commence and enemies begin to move in on my position, and I notice what must be a gun. It isn’t a gun, but it also couldn’t be anything else based on shape. It looks what I imagine the thought or suggestion of a gun looks like. It bears a gun’s basic form, but all detail and texture is left to the imagination. Firing continues the progression of time further still, and as I fire, bullets begin flying back in my direction.

Dodging, blocking bullets with objects, and avoiding throwing knives by any means is an exhilarating experience, but it often leads to a position similar to that of playing the Milton Bradley board game Twister - with more severe repercussions. Contorting the body in bizarre angles, one reaches the point where they realize a bullet is headed for them any they cannot possibly contort any further to move to an appropriate location. Accepting death in Superhot comes much harder than it does in other games. The first death experience is unlike any that can be found elsewhere in the gaming landscape. Despite all of these visual abstractions, the threat of violence now feels inexplicably real, and the vicious revenge of Newtonian violence emerges. The sound cue shifts as the bullet rushing toward you becomes unavoidable and inescapable. While it was at first an indicator of the bullet’s directional orientation, this new sound effect is the rare outlier that does not utilize volumetric space and 3D audio. Instead, it plays through all audio channels to permeate the entire virtual space – cementing this inevitability. You will almost certainly close your eyes; I do every time. In a futile last ditch effort to shut
out certain doom, eyelids tightly shut as the whole body tenses. A moment’s wait is followed by the bullet’s embrace. A sharp, quick sound effect of the bullet shattering your skull (or is it the sound of the bullet breaking the glass in the virtual reality helmet?) paired with heavy vibration from both controllers in hand is succeeded by a final flash of white that is visible whether the eyes are closed or not, and then the darkness sets in. Knowing that this is a contrived, curated experience does nothing to unseat the flood of fear that comes in that moment. In death, all peripherals are seized by the game, and for a brief moment, the player is quite as powerless over their environment as they are in the larger, cosmic sense. The player is left at the mercy of Superhot, and being on the receiving end isn’t nearly as fun as it was to dish it out. It is in this moment that all abstract elements are subjugated and the Hyper-Newtonian mechanics and gameplay design assert themselves to the fore. All this before the game reloads and you begin the loop all over again.

This juxtaposition between hyper-Newtonian phenomenology and abstract-leaning visual design leaves the user caught between worlds and in a complex, hypocritical, paradoxical sea of messaging. On the screen, we are given images that appear to affirm the abstract, expansive power of digital media. Superhot VR presents us with a design that is, if not reflective, at least suggestive, of the more abstract nature of computing technology and its intangible connections, a feat we have already discussed major works like the Breath of the Wild incapable of doing. Once those images are put into motion and we begin to experience the phenomena present in Superhot VR, however, we are rudely awoken to feel concrete materiality slamming into us by way of the game’s
gravitropic bullet-time mechanics that foreground immediacy as much as, if not more so than, it’s big-budget contemporaries.

What message is to be taken to heart, then, is dependent on the user. Gamers who focus more on gameplay elements provide commentary on its innovations and evolutions in the long line of shooter games (Stapleton) while those interested in visual aesthetic are bound to discuss this work as an abstract, unique indie title that lands safely away from AAA developed works (Jagneaux). *Superhot VR* is a no man’s land that neither the abstract nor the concrete can fully claim as their own. The game is unable to fully exculpate itself from either mode, entangling the two together into an experience that both affirms and denies the pleasures in abstraction and the hyper-Newtonian, constantly suppressing its own inclinations exhibited in some aspects to embrace others. Existing as a contradiction, *Superhot VR* is unable to wholly affirm the values of abstraction and mediation or satisfy the void in popular media for works that provide such affirmations.

This is the true issue with hyper-Newtonian media. Their mere existence isn’t problematic, but they constantly repress the space that the abstract can occupy in the visual sphere. Gravitropism engenders further gravitropism, and anxieties over abstraction in one facet of life manifest in anxieties over abstraction in another. Social expansion by recognizing our abstract means of connection can give rise to new possibilities, but these possibilities will be foreclosed so long as we continue to understand everything as corporeally bound.
Epilogue: And Now, Sports - The Cautionary Tale of Sports Bar VR

Before closing, I’d like to ground my concern for the trajectory of popular media through a case study of one work’s changes over time: Sports Bar VR (2016). This game serves as a historical example of all major claims up to this point: an abstract phenomenology exists as an opening up for new mediation, hyper-Newtonian works internally repress these abstract possibilities, and the hyper-Newtonian dominance in popular media results in a toxic foreclosing of the abstract’s potential at a broader social level. This game has been iterated upon over its short life span via required online updates, and these changes provide a very illuminating narrative about players’ desires and anxieties.

Sports Bar VR requires much less fanfare or explanation for its introduction than other works. An independent product with no pre-existing franchise, it needed not to conform to an aesthetic or narrative. True to this statement, it did not seem to conform to any established aesthetic or narrative. As such, the game had largely gone ignored by the VR community. Sports Bar VR has no narrative on which to speak. It has no objectives or prescribed goals for the player. Marketed as a “major social experience,” the game consisted of only one thing to do: hang out in a virtual sports bar. In this sports bar, you are connected with other players in which you can…still hang out in a virtual sports bar. The thrill of the game is not derived from heavily curated gameplay, it comes from the social interactions you have with the other players online. It is worth noting here that the
game is only playable online (this is almost true of Bridge Crew as well, but to be truthful they do have one mode in which you can play with AI instead, though this feature has gone wholly unused by the game’s community). Once with other players, you can enjoy the virtual environment however you see fit.

Like Bridge Crew, we can note how the user display is similarly non-intentional in design. Just as with Bridge Crew, we have no heads up display or reticle to assist with aiming or navigating space. The lack of a traditional “objective” a game would bear corroborates this lack of intentionality towards an object. Instead, a social environment is constructed that allows for a plurality of connections to flourish. You can socialize with a diverse group of players from all over the world – making simultaneous, distantly mediated action as the ostensible highlight upon the game’s release. Sociality and human connection is privileged over subject-object relations in this loose intentionality.

At the level of visual representation, the abstractions present in other games are foregrounded here. Still utilizing the low-resolution display mandated by virtual reality headsets, the models presented in game are considerably more abstract than the technology necessitates, not entirely unlike Superhot VR. Players exist within the bar as a floating headset, ethereally poised and unbounded within the game space. Though VR players use their Move, Touch, or Knuckle controllers, the player’s hands are not represented by 3D modeled facsimiles intended to create presence. Instead, floating lights are used that resemble the controllers themselves (Figure 15). I find it significant that the game does not create a bodily presence within its own space. Instead, visual elements reinforce the media itself, calling out the fact that these are very much mediated connections. Inside virtual reality, this can be quite the odd experience. Yet, I think this
abstraction is important in proprioceptively informing the player that immediate embodiment need not be necessary for significant connection. Movement, too, is not bound to anything bodily. Getting around the virtual bar is achieved via teleportation – getting from one end of the bar to the other is just as quick as moving over a few feet – because the game acknowledges it’s imagined 3D space as simulation instead of foregrounding it’s similarities in appearance to a conventional understanding of material 3D space. In the place of reaffirming contracted, sensuous physicality, *Sports Bar VR* exists as a home for the technological extension McLuhan theorizes in his writings. We can, through abstract technology, expand and form connections with others, and the aesthetics of the game foreground this connection in order to inform the player of a better, more constructive metaphysical understanding.

Yet, that interesting design of *Sports Bar VR* was not meant to last, it seems. Lackluster sales and a lukewarm reception from critics and the wider gaming audience indicated that the game in its initial state would not be enough. Popular PSVR news source PSVR Frank noted how “The physics can be a little off sometimes…” and that players will have to use their minds to fill what’s missing (in reference to the floating headset and controller representation). Some noted that the unorthodox movement through 3D space will be a bit of a learning curve (The Buttonsmashers), while others labeled it as a novelty that “lacks any real objective,” which we might read as a lack of intentionality (Three Eye Gaming). This sentiment pushed the developers to make changes to their game, culminating in the release of *Sports Bar VR 2.0* on December 1, 2017. This update introduced several new features, most notably new mini-games for players to play within the sports bar, as well as a new and “improved” physics engine in
order to enhance the experience when playing these games. The list of playable games includes pool, darts, whack a mole, air hockey, Skee-ball, and shuffleboard. To the uninitiated, this may seem like a positive change, but through the lens of this discussion, should immediately resemble a red flag that reflects the limiting and problematic qualities of corporealized media that I discussed in Chapter 1. These, if it is not apparent, are all gravity-centric arcade games that play in the delights of Newtonian physics and Euclidean geometry. Moreover, instead of modifying these games or altering them to fit the heterodox construction of the pre-existing game world, they modified the pre-existing physics to be more conducive and conforming to gravitropic entertainment standards. They’ve traded in the technologically focused user-experience of 1.0 for a detailed, comprehensive physics engine to accurately simulate the forces necessary for real world billiards and other tabletop games of the 2.0 update.

While I describe this here as a negative change, the community at large has not perceived it in this way. On the contrary, it has been received almost universally as a positive improvement to *Sports Bar VR*, a “quality of life” update for the game that adds entertaining new content for the players to explore (Vilkordsutch). This is, to some extent, true. It cannot be ignored that they are adding content to the game, thus giving more value for their purchase in the eyes of the consumer. However, while these added bar games may be fun, they also fundamentally undermine the phenomenology that games like *Sports Bar VR* have the potential to advocate for and spread. The 2.0 update serves as a historical moment where we can observe a choice for the gaming community at large: when given the pick between distant technological abstraction and a tactile contracted physicality, the overwhelming majority will take the latter. And it’s important to
remember that in online only games, creating an update means that the old version is now
dead and unplayable. There is no way to play the original *Sports Bar VR* content any
longer. Regardless of how much one may enjoy an older build or how much one might
have worked to pay for it, online gameplay necessitates everyone being on the same
version of software to ensure compatibility.

In the age of always-online video games where works are given regular updates,
downloadable content, and support systems that allow for unprecedented lifespans, this
fundamental changing of a game’s makeup seems all the more concerning. Even when a
game gets bold enough to stand apart from the AAA crowd, low sales figures in the first
few months could mean the game is changed fundamentally to serve a larger market.
This, of course, creates a vicious circle in which gravitropic games get the most attention,
spawning more gravitropic games that parrot, which increases the chances of gravitropic
games getting the most attention. In other media such as film or music, a work is rarely
altered to the point where its identity is lost after the initial completion and release.
Remasters or restorations bring back lost quality, but that usually doesn’t affect the
work’s meaning. Director’s or extended cuts generally only add a few minutes that would
have made the difference between a PG-13 and an R rating. With *Sports Bar VR*, we are
currently witnessing a battle of aesthetics in which history is very much written by the
victor, for the victor can turn its opponents into allies that will assume its message, letting
the word of hyper-Newtonian works ring out all the clearer.

*Sports Bar VR* serves as a cautionary tale within the gaming scene. In the
foreseeable development landscape, we are witnessing a moment where homogenizing
products with the intent of reaching a larger market is more feasible than ever. If you find
that your work misses the mark after release, you can just fix it in the post-release period with content updates. While this sounds like a haven for consumers and producers, allowing unmatched second chances, we should be mindful of the effect this era has on the aesthetic and on phenomenology. Through the “evolution” of works like *Sports Bar VR*, it is becoming impossible to deny that while our technology possesses the ability to expand our sensorium and experience new means of mediation, this impulse is constantly being undermined by a toxic, dominant aesthetic that represses abstraction not just in their own works, but in the works of others that AAA games have the uncanny ability to influence. Players (and developers) must acknowledge and wrestle with this trajectory.

The dominant aesthetic need not die; it merely needs to be re-understood. Games such as *Breath of the Wild* and *Superhot VR* posses wildly abstract technologies and visual designs, but these abstractions are always subjugated and attention is given to their gravitropic tendencies. Yet, these gravitropic works can’t fully explore the 1:1 relationship with our physicality that the developers so desperately crave. We cannot smell, taste, or fully touch in virtual reality. Even if those features are added on future platforms, they will be, at least partially, abstract simulations, just as the current virtual reality technologies are. We do not simply need games to remove gravitropic features and add more abstract elements. As players of these games, we must attune ourselves to the abstractions already present in our media and recognize how they present us with new means of interaction and mediation. We must embrace the abstract and it’s expansive potentialities so as to not get lost in a homogeneous, contracted state of being.
Figures

Figure 1 - This shows a player holding the Nintendo Switch in portable mode.

Figure 2 – Link holds out his Sheikah Slate. This highlights a very similar situation in game that occurs as the player plays. The game abuses this physical mirroring between player and character to create presence within the world.
Figure 3 – This shows Link inserting the Sheikah Slate into the pedestal.

Figure 4 – A depiction of the Eye of the Sheikah. This is a frequently recurring image throughout *Breath of the Wild*. 
Figure 5 – This shows the Eye’s appearance in game. Notice the eye at the bottom of the obelisk and the liquid information it’s distilling, resembling the tear from the emblem.

Figure 6 – Pokémon *Red and Blue* employ the same basic illusion as *Breath of the Wild*. They also feature fixed camera positioning in relation to the player. However, without a
phenomenal grounding or sense of presence, players become quick to note supposed “shortcomings.”

![Link using his Magnesis ability to solve a puzzle.](image)

**Figure 7** - Link uses his Magnesis ability in order to solve a puzzle.

![Plastic and toon shader examples.](image)
Figure 8 – This shows the difference between normal shading (left) and is cel-shading (right). Cel shading does not require real-time lighting and is generally less demanding on hardware.

Figure 9 - A targeting reticle can be seen in the center of this screenshot from *Halo 3* (2007).
Figure 10 - *ST:BC*’s lack of HUD shows the lack of targeting and intentionality.

Figure 11 – The unnamed protagonist of *Superhot VR* as he first dons his virtual reality helmet. Notice how the body movement in game matches that of the player (top left of the image), increasing mirroring and thus creating presence in the game.
Figure 12 – Here we see a number of amassed floppy disks. These must be manually collected in the world of Superhot before any level can be played.

Figure 13 – Here we see a traditional 3D model generated through polygons. Notice it is almost entirely comprised of triangles to create smoothness, with a few quadrilaterals used in the headlights.
Figure 14 – The world of Superhot inside Superhot VR. The world features basic polygonal shapes and a simplified color scheme to create unobtrusive (and less taxing) visuals.

Figure 15 - Sports Bar VR. This picture illustrates the technological representations of both headsets and motion controllers in game.
References

Primary Works:


*Superhot VR.* Superhot Team. IMGN.PRO, 2016.

Secondary Works:


