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The Problem of the "Virtual": Virtual Reality, Digital Dualism, and Religious Experience

Jordan Brady Loewen
Syracuse University

ABSTRACT

This dissertation uses resources from religious studies to critique the problem of digital dualism haunting notions of the "virtual" in the discourse of contemporary virtual reality technologies (VR). Digital dualism is the idea that digital or "virtual" worlds are fundamentally distinct from the "real" or physical world. Digital dualism is a problem because it mischaracterizes how we experience the spatial and temporal connections to our body in digital-virtual worlds and contributes to a false sense of subjective singularity rather than multiplicity that destabilizes how we relate to ourselves and others. Using the study of religion, philosophy, and aesthetics, we can better understand the effects and consequences of contemporary VR, specifically as they relate to notions of human embodiment, experience, and subjectivity that assume essential differences between mind and body. My fundamental contention is that VR should be conceived—like experiences deemed "religious"—as technology that catalyzes connections to oneself and one's lived reality that *feel* (and can be acted upon as) true and ethically crucial. The result is a project that takes seriously the embodied experiences of VR and lays a foundation for seeing and critiquing the implicit ways religious modalities inform VR as a field of subject formation; especially in how one perceives one's connection to one's own body and world temporally as much as spatially.

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by

Jordan Loewen-Colón

B.A. The Ohio State University, 2011
M.Div. Princeton Theological Seminary, 2015
M.Phil. Syracuse University, 2019

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Introduction

There were once places beyond reach
Sights unseen
They called to us
And let us hear
A world within ours
Wild
And without end
Welcome to a new reality

- 2015 Commercial for the HTC Vive

I. HTC Vive's "Welcome to a New Reality"

In 2015, the video gaming company Valve and Taiwanese technology company HTC released a trailer for their brand-new VR headset, the HTC Vive. The trailer opens with boiling red clouds before transitioning into a wide shot of a woman, back turned to the camera, staring into a beautiful golden sunset. A deep and raspy voiceover soothes in with the words "there were once places beyond reach," as if this golden sunset was offering previously unattainable horizons. The trailer then offers a series of images including glimpses of a bustling city at night, a mountaineer on snowy peaks, a human silhouette watching fireworks, and then another silhouette of a human figure looking out into the cosmos, before the narrator returns, calling these scenes "sights unseen." The rest of the trailer continues to transition from shots of past, present, and imagined futures to powerful images of nature and delicate silhouetted human figures, while the disembodied voice continues:

> They called to us and let us hear.
> A world within ours.
> Wild and without end.
> Welcome to a new reality.

According to the teaser's insinuation, the Vive can grant access to another world; and now that we can enter into this world, we are welcomed to a "new" reality. As the music fades and the teaser comes to its conclusion, a man slowly removes a headset from his face and looks directly into the camera, transferring his attention from the world inside the HTC Vive headset, to the viewer, as if to draw us into the same extraordinary experience. He lets out a breath that suggests a sense of awe and wonder at the affective power of VR afforded by the Vive headset.[1]

In what follows, I want to complicate this picture of VR's purported distinction between our world and a different, more awe-inspiring, and limitless digital-virtual reality. I want to acknowledge the powerful affective capacities of VR, while challenging notions that grants us access to realities other than our own. In other words, I want to highlight its religious capacities while critiquing its religious promises. To that end, in this dissertation I contend that religion is an embodied and valuative framing method for structuring what is "real," consisting of how we understand and experience time, space, and power. Following the philosopher Henri Bergson, I take religion to be a tendency of the body that involves structuring this "reality" through various affective forms, like memory-inducing or enhancing practices, "otherworldly" exploratory events in the present, or utopian and dystopian promises of the future. In other words, this dissertation sees religion as a bodily technology for mediating reality.[2]

Whether in quotidian moments of social cohesion or radical consciousness-altering events, we can see religion at play when "mythical" pasts and hoped for futures manifest in the present through affective, cognitive, and material virtualizations and actualizations of static and dynamic "sacred" or "special" otherness.[3] Within this framework, deities are variable, ranging

[1] "HTC Vive Trailer."
[2] Or as Henri Bergson and Gilles Deleuze might put it: the universe is a machine for the making of gods.
[3] Following Kim Knott and Ann Taves I use a range of cognate terms - "special," "mythical," "sacred" - as first-order terms.

from the anthropomorphic, to the pantheistic, to amorphous and ambiguous concepts of the "divine." This definition of religion is also intentionally expansive enough to include what might be considered more "formal" or "traditional" religious elements as well as elements of what some might call secular VR culture. For example, this definition allows for recognizing throughout the personal, social, and technological discourse and literature of VR that we can hear echoes of William James' transient, ineffable, experiences of unity, Freud's primordial "oceanic feeling," or Eliade's experiences of sacred space and time which manifest the world.[4] I also note, having been trained in Protestant theology, the tradition of "protestantism" at work (even where it does not claim to be) in VR discourse, with its valuation of rugged individualism and capitalistic entrepreneurship casting the new, wild world of immersive technology as frontier.[5]

This project was inspired by my years running a VR lab that allowed me to witness and record some of the earliest encounters between people and this new technology. Hearing users reflect almost immediately on their first experiences using VR, specifically the HTC Vive headset and controllers, it was clear to me that the language people most often relied upon to describe their experiences had religious overtones. Additionally, I observed that the HTC Vive's promises to users of access to both ancient and new realities was not unique, but reflective of the

[4] See James *Varieties of Religious Experience,* Freud's *Civilization and Its Discontents,* Eliade's *The Sacred and the Profane.* For more on mysticism, see Underhill's *Mysticism,* Kripal's *Mutants and Mystics*. As a critique, this chapter was also informed by Steven Katz' introductory essay for *Mysticism and Philosophical Analysis.*

[5] My training at Princeton Theological Seminary lends itself to seeing the Christian influences of this mystical language more so than from other traditions, which are assuredly also present. I use the lowercase "p," following Winnifred Sullivan, to capture the vague ubiquity of Protestantism in the US. Generally speaking, the various types of Silicon Valley ideologies seem less interested and influenced in Catholicism or Eastern Orthodoxy. The culture is primarily invested in two models. The first seems focused on re-engineering the "iron cage" described in Max Weber's foundational *Spirit of Capitalism*, which traps individuals in systems based on teleological efficiency, rational calculation, and control. The "iron cage" is now "networked," "wired," and "electronic." While the second seeks new modes of escape via "mystic" and non-traditional religious practices and ideas. For more on the ways the religious imagination of American Protestantism is embedded dominantly within American culture and its institutions, see Jakobsen and Pellegrini, *Love the Sin*. This take also tracks with Jenna Supp-Montgomerie's use of American Protestantism to which she tries to capture "the ways in which religion is public, compulsory, unintentional, material, and practiced in everyday life." *When the Medium Was the Mission,* 10.

broader discourse of the VR industry. The rhetoric of the industry commonly expresses concerns, questions, desires, and promises that are otherwise categorized generally as religion, mysticism, and spirituality. As this dissertation will show, the VR industry makes extensive use of terms and concepts like transcendence, transformation, ineffability, and noeticism, and often pairing them with digital-technological concerns like embodiment, machinic tactile responses, digitally immersive environments, and immersive subjective presence. This project wants to know why this is the case.

I start with the argument that the use of this language is indicative of the way that the VR industry has been intimately infused with (what I call in Chapter 1) a "religious imagination" throughout its history; from its earliest experiments in the 1980s, through its failed re-introductions in the '90s, and into its contemporary instantiations with the releases of the Vive, the Oculus Rift, and other contemporary "reality" affecting technologies. Many in the industry use the language and imagery of religion to sell notions of transcendence as parts of marketing schemes, however, many other designers and users use the language of religious imagination to sincerely express actual experiences. Because companies like HTC, and Meta (formerly Facebook) are trying to sell things like transcendence, I am stepping out from religious imagination to make a critique while leaving space to make sense of and take seriously the sincerity of many users and designers of VR experiences.[6] In other words, this project is interested in making sense of claims of VR that strike at the core of what it means to be human.

Setting aside the ontotheological aspects of these claims, VR can alter our conscious experience of time and space. As proof, there are various studies, including one by researchers Mullen and Davidenko which conclude that VR can induce "*time compression*: a longer real

[6] In sociological terms, I will be taking an "etic" (outsider) stance while being sensitive to "emic" (insider) perspectives.

duration is compressed into a shorter perceived experience."[7] VR also affects our sense of bodily presence, or immersion, in both digitally created worlds and the material world. The theatre scholar Liam Jarvis has shown that when using VR "a proprioceptive 'possession' occurs in which the sensations of my participating body are referred to the other's mediatized bodily appendages…to incorporate a body image of the 'other,' and to feel that it was part of my own body schema."[8] Won et al. have posited the term "homuncular flexibility" to describe how people "will unconsciously alter their behavior to conform to that of an avatar they inhabit."[9] Indeed, the BeAnotherLab asserts that there is "great potential of Embodiment Virtual Reality for a more positive sociality," pointing out how VR changes the ways we relate to ourselves and to others.[10] Furthermore, I will demonstrate that it does so in ways that are similar to descriptions of experiences typically deemed "religious" and why it matters for the development of VR technology and the types of programming and software being produced.[11]

A turn to "experience," specifically in its valence to "feeling" results in the tropes of commercials and trailers of other digital-virtual technological systems, like Xbox and PlayStation, to make claims about offering faster processing speeds, greater graphical fidelity, and more intense "realism" that can make you *feel* like you are in the game. In the Vive trailer, however, there is no indication of "playing" a game. The claim is that the technology allows users to access an entirely "new reality." While other gaming systems want to *immerse* you into the game, the Vive plays with the slippage between immersing into other realities while

[7] Mullen and Davidenko, "Time Compression in Virtual Reality."
[8] Jarvis, "The Ethics of Mislocalized Selfhood."
[9] Won et al., "Homuncular Flexibility in Virtual Reality."
[10] BeAnotherLab, "The Machine to Be Another."
[11] In future projects I will build this out to theorize the "VR Effect" as opposed to merely looking at "experiences." Here I track with the theorist Ernst van Alphen and his work *Caught by History Holocaust Effects in Contemporary Art, Literature, and Theory*.

transcending our own. In the book *Hamlet on the Holodeck*, Janet Murray describes immersion as "a metaphorical term derived from the physical experience of being submerged in water. We seek the same feeling from a psychologically immersive experience that we do from a plunge in the ocean or a swimming pool: the sensation of being surrounded by a completely other reality."[12] VR separates itself from these other immersion systems with its push to generate a mystique of technology. In doing so, it attempts to become *mystical*, in the sense Ann Taves uses "mystical," as a gesture to something "more" or "beyond" reality, or, more narrowly conceived, "as a highly positive experience in which the sense of self disappears or is absorbed into something larger."[13] Thus, what sets VR apart, at least according to enthusiasts of the technology, is that where other media have spoken metaphorically, VR systems like the Vive claim to immerse and transcend users literally.

To be fair, VR companies and enthusiasts are not alone in making promises about the world-altering, -augmenting, and -accessing effects of new technology.[14] We have seen promises like these with the *aura* surrounding new audio-visual technologies from the expansive immersion of IMAX screens to the fidelity of high-definition television.[15] Yet, as the cultural critic David French writes, VR, and digital technology more broadly, have come to represent a "new kind of phenomenality…a means of sustaining presence which we cannot access but which clearly has effects, a technical substrate of unconscious meaning and activity."[16] Hence, in the

[12] Murray, *Hamlet on the Holodeck*, 99.
[13] Mystical experience "has been variously characterized as an experience of 'undifferentiated unity,' 'the pure consciousness experience,' or 'absolute unitary being.'" Taves, "Mystical and Other Alterations in Sense of Self," 5.
[14] Which might be why HTC is not unique in making its claims about "other worlds without end." In fact, making claims of mystical import seems to be at the core of VR as a medium. Cultural theorist Sianne Ngai argues that when we call something "interesting" we mark "a tension between the unknown and the already known and is generally bound up with a desire to know and document reality." In this case, we know that this language is common in VR discourse, but it is not yet clear why. *Our Aesthetic Categories,* 5.
[15] See Jeffrey Sconce's *Haunted Media*.
[16] Thrift and French, *Knowing Capitalism*, 156. Along with other thinkers throughout this text, French is using "phenomenology" in a more popular, rather than philosophical, sense.

HTC Vive commercial, we get little information about the technology itself, and instead are presented with the possibilities for player experiences of new, old, and fantastical worlds. The marketing focuses on experience, and not technology.[17] Rather than present the actual workings of the hardware, HTC uses a disembodied, voice-from-the-heavens-narrated message against cinematic images of human figures among astral scenes to offer promises of otherworldly transcendence. The commercial means to deliver "the good news" about how VR can "save" us from unsatisfying, alienated digital play experiences. This soteriological impulse is being expressed when technology companies claim not just to deliver "an experience that brings reality to life," as an IMAX theater ad once said, but claim to *transcend reality itself*.[18]

This dissertation argues that we need to be suspicious of these claims about accessing "new realities" or transcending reality without being dismissive. To be clear, these companies have not somehow tapped into an ontologically alternative or transcendent reality. Rather, what this dissertation argues is that the technology is providing a different insight into our own reality. A powerful one, no doubt! The primary culprit behind these claims and representations of VR's affective capacity for "other worlds" is a result of what I will call "digital dualism," the imposition of hard distinctions between digital and non-digital realities.[19] This hard distinction is a problem because it is fundamentally at odds with the way the world actually is, and thus is a contributor to our sense of disorientation and destabilization in our hyper-networked digital culture.[20]

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[17] Similar to historical marketing transitions in the automotive industry.

[18] "IMAX Experience | Visitor."

[19] This is a dualism that can trace part of its conceptual history back to the writings of Descartes, and the classic "problem" of mind-body dualism. My project does not assume a Cartesian split between mind and body, which will become clear in the following chapters, specifically in the concept of the "mindbody" that will be developed in the work of Katherine Hayles and Henri Bergson.

[20] In other words, it mistakes an ontological dualism (how the world is) for a phenomenological dualism (how the world appears).

Essentially, this digital dualism comes in three flavors: those who prefer the “real” non-digital world, those who prefer digital-virtual worlds, and those who do not necessarily prefer one or the other but nonetheless contribute to hard conceptual distinctions between the “real” and the digital-virtual. I distinguish the former two types of dualists as “*substantive* digital dualists,” compared to the latter type of dualist as “*soft* digital dualists.” All three positions are problematic as they pose a “false problem” about the nature of the digital-virtual and our experiences of it.[21]

To be clear, not all dualisms, including digital dualism, are necessarily problematic. Dualisms become problematic when used oppositionally and in the service of hierarchies of power, domination, and idealization. In her "Cyborg Manifesto," the philosopher Donna Haraway argues that "hierarchical dualisms" – a result of arguments between materialists and idealists, and which include binaries between organisms (animal-human) and machines, mind, and body, etc. - have ordered "discourse in 'the West' since Aristotle."[22] These dualisms often determine what gets counted as "natural" and escalate "dominations of abstract individuation, an ultimate self untied at last from all dependency."[23] The order of their hierarchy has resulted in the "domination of women, people of color, nature, workers, animals - in short, domination of all constituted as others, whose task is to mirror the self."[24] According to Haraway and others, these dualisms result from various determinist ideologies and processes of naturalization and normativizing of identities found in science, technology, and religion.[25] Digital dualism is a

[21] The notion of the “false problem” will be explicated more in the Henri Bergson section of the introduction.
[22] Haraway, *Simians, Cyborgs, and Women*, 163.
[23] Haraway, 151. The “cyborg” stands in opposition to these dominations, a hybrid ontology that resists static and reifying notions of the liberal enlightenment subject used to prop up the domination of the white-male class for centuries.
[24] “Chief among these troubling dualisms are self/other, mind/body, culture/nature, male/female, civilized/primitive, reality/appearance, whole/part, agent/resource, maker/ made, active/passive, right/wrong, truth/illusion, total/partial, God/man.” Haraway, 177.
[25] And, as Mary Jane Rubenstein argues in Worlds Without End, theological and ontological assumptions are at the core of many of the different "scientific" non-scientific theories of "other worlds," including, as I will show, the other worlds of VR. Rubenstein, *Worlds Without End,* 13.

problematic dualism because it falsely separates digital and non-digital realities into a hierarchical binary that places either digital or non-digital reality as somehow *more real* than the other.

To make its argument about VRs affective capacity, this dissertation takes a post-Cartesian approach to thinking about issues of the "mind" and the "body" as it speaks to the dual common sense of contemporary VR experiences. The "being there" or immersion afforded by these technologies, while also the tacit knowledge that one is also in the "real" world.[26] I will argue that digital and non-digital realities are *distinct* but not *separable*, and nor should they be ranked above or below one another ontologically.[27] In making this argument, I am not staking a position for myself as a kind of digital monist. Rather, I posit that we think of the digital and the virtual *transversally*, not "against" anything, but in collective relations, across and between, open and changing.[28] I claim that attempting to make sense of the digital-virtual as ontologically dualistic is a false problem that leads to misunderstandings of its effects and consequences. Digital dualism is the block that prevents us from appreciating that VR companies and users are using religious language to talk about religious *experience*, and specifically, religious *affects* (I further articulate the significance of religious affects in chapter 3).[29] My contention is that by

[26] To be clear, here I contend that both "virtual" and the "real" are functioning as first-order terms, along with terms like "transcendence" and "mysticism" as reflections of the experiential ambiguity of digital technologies as well as gestures towards establishing its affective and authoritative power.

[27] I take this notion of distinction vs. separability from Deleuze's discussion in *The Fold*, where he shows how it is possible to affirm a univocity of being without denying difference and distinction.

[28] My notion of the transversal is influenced both by the philosophical theologian J. Wentzel van Huyssteen, for whom thinking beyond oppositional binaries is of ethical concern, and the philosopher Felix Guattari who saw transversality as "a dimension that seeks to overcome both the impasse of pure verticality and that of mere of horizontality: it tends to be achieved when there is maximum communication among different levels and, above all, in different meanings," *Molecular Revolution,* 18.

[29] In chapter 3, I exchange the term "experience" for the term "affects" when I analyze a group of people I dub "the tetrimystics." I do this because, whereas the original sense of "experience deemed religious" in the work of Ann Taves was to articulate how religions ("special paths") get developed, in chapter 3 when I analyze the tetrimystics, I am not trying to show that they are making a new religion, but how they are trying to make sense of their feelings using the language of religion.

foregoing digital dualism and taking into account the transversal nature of the digital-virtual we can start to see the actual way that VR is religious; to see, in other words, the religious effects it has on our bodies and its constructions of reality.

II. VR as an Object for Religious Studies

As the philosopher and theologian John Caputo writes "the communications revolution going on in our midst, with its accompanying sense of "virtual reality," which gives us the power to "visit" distant "sites" in cyberspace with the click of a mouse, is laced with religious implications."[30] I contextualize the religious implications of VR and its discourse of other worlds, new realities, and mystical experiences by using a broadly Christian heuristic. Specifically, I work with key conceptions of dualisms and experiences of "higher realities" from the long and varied tradition of Christian mysticisms, including Neoplatonic, esoteric, and other strains of thought.[31] I track especially the influence of particular lines of Christian theology and philosophy as they morph into a twentieth century philosophy of technology and media in the form of a "religious imagination."[32]

I take this approach because of my own training and cultural background, and because of the influence of Christian ideas on the development and discourses of technology and digital culture. In other words, I pay attention to historically sedimented modes of assumption and conceptualization that are drawn from hegemonic Christianity. This heuristic serves to capture

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[30] Caputo, *On Religion*, 68.

[31] In doing so, it follows closely to the work of Bernard McGinn whose compendiums on mysticism traces a historical continuity of a "western mysticism." Though, as many others have pointed out, including the cultural theorist and computer scientist D. Fox Harrell "the notion of a singular, unified Western culture is itself a generalization and phantasm." Harrell, 360.

[32] As we will see in Chapter 2, religious imagination might also be considered as a capacity, a function, or a tendency of human bodies to have experiences like those generated by VR; experiences of immersion, copresence, and computer generated entities. This interaction with "imagined entities" is part of the process Bergson calls "fabulation," meaning the tendency in humans that leads them to imagine deities, rituals, and social rules that bind societies together.

the influence of models of religion and technology that made their way through America broadly and into Silicon Valley and the formation of VR more specifically. I frame this as just one example of the influence on VR discourse as it inherits a binaristic metaphysics, a form of substance dualism, that shapes how the virtual of VR gets conceptualized in the dominant discourse. The Christian notion that humans and materiality stand in contrast to pure and transcendent "other worlds"[33] animates Silicon Valley's disdain for the limitations of governance and regulation, its urge to move fast and break things, including laws, and its soteriological impulses. This binary thinking about the physical world and the "virtual" world situates VR in the long history of religion and technology that, as communication scholar Jeremy Stolow points out, positions it "alongside a series of analogous binaries, including *faith and reason, fantasy and reality, enchantment and disenchantment, magic and science, and fabrication and fact*."[34]

i. Religion and New Media

I situate the study of religion and VR within broader conversations regarding religion, new media, and technology. This is because our 21st century world is technologically connected on a scale that was a mere fantasy only a short time ago. Satellites, fiber-optic cables, and wireless signals constitute a blooming network of billions of computing devices around the world mediating the transmission of information and communication at speeds that render the space and time between material bodies insignificant. "At the same time" argues scholar of religion and media, Stewart Hoover, "media…constitute a realm where important projects of 'the self' take place—projects that include spiritual, transcendent, and deeply meaningful 'work.'"[35]

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[33] Following Deleuze and Guattari, who "invoke one dualism only in order to challenge another. We employ a dualism of models only in order to arrive at a process that challenges all models." *A Thousand Plateaus*, 45.
[34] Stolow, *Deus in Machina*, 2. Emphasis original.
[35] Hoover and Clark, *Practicing Religion in the Age of the Media*, 2. According to Stolow, "Every medium necessarily participates in the realm of the transcendent, if nothing else than by its inability to be fully subject to the instrumental intentions of its users." "Religion And/As Media," 125.

John Durham Peters argues that we should think of media "not only as the channels and institutions that propagate messages and symbols, but also as elemental techniques that organize time, space, and power."[36] Following these thinkers, we can start to see how the consumption of, and participation with, digital media plays a role in how individuals form their religious identity and practice. Moreover, the affective possibility of digital media is not just on the level of the individual. Scholars of religion and media Mia Lövheim and Stig Hjarvard argue that as digital technology has deeply infused itself into culture, institutions have "become increasingly dependent on" digital media and accommodate its logic "in order to be able to communicate with other institutions and society as a whole."[37] So although our bodies may be materially isolated, digital media allow new forms of affective connection through networked nodes of interrelationality. To study digital media, then, is to study arguably the most prominent form of human relating in the world today.

Though connections between religion and media technologies have been discussed and theorized by a host of scholars, media as a focused subfield of religion was only informally established in the mid '90s.[38] The subfield hit its stride with 2003's *Religion and Media* by Hent de Vries and Samuel Weber.[39] Their collection of selected essays from leading figures in the study of religion pulls from multiple disciplines to examine the relationship between religion and media to argue that, as religion and media scholar Salman Al-Azami points out, "no experience of religion is unmediated, uncoded, or unformed by cultural systems."[40] In the mid to late 2000s the subfield of religion and new media sedimented while turning to examples of religion IN new

[36] Peters, "Mormonism and Media," 1.
[37] Hjarvard, "Mediatization and the Changing Authority of Religion."
[38] Engelke, "Religion and the Turn."
[39] Weber, *Religion and Media*.
[40] Al-Azami, *Religion in the Media*, 13.

media, or its inverse, making space for new questions of representation in digital media environments, uses and practices by religious groups, and the challenges they introduce to communities and institutions.[41] This new focus meant looking for elements and aspects of what might be considered "traditional" or "formal" religion within digital or new media elements, or the ways traditional religions take-up new media technologies for their own purposes.

ii. Religion and Virtual Reality

Concerning VR as an object of study specifically, much of the contemporary scholarship is technologically focused, limited to scholars in the fields of design and computer science.[42] The most important texts from critical and theoretical circles are still from the early digital-age scholars which commented on the previous wave of VR hype.[43] The closest we get to scholarly work from the perspective of religion is in examinations of video gaming and digital-virtual worlds. This includes field shaping texts like Heidi Campbell's *Digital Religion*, as well as the full suite of early writings on religion and video gaming including, Geraci's *Virtually Sacred*, Leibovitz's *God in the Machine*, Campbell's *When Religion Meets New Media*, Grieve's *Cyber Zen*, Jeremy Stolow's *Deus in Machina* and Hojsgaard and Warburg's *Religion and Cyberspace*, which focuses more on how religion functions in online environments and communities. These early exploratory texts laid the foundations for the two field defining texts of religion and the virtual: Craig Detweiler's *Halos and Avatars*, the first collection of essays and critiques studying religion in digital gaming, and Rachel Wagner's *Godwired* which performed an expansive analysis of video gaming and religion while highlighting deep avenues for further theoretical and philosophical critique. My own work is heavily inspired by Wagner's focus on the way games

[41] Stolow, *Deus in Machina*.
[42] Heineman, "Porting Game Studies Research to Virtual Reality."
[43] See: Grau, 2003, Shields, 2002, Bolter and Grusin, 1999; Hillis, 1999; Murray, 1997

"evoke the 'otherworldly' and encourage an escape from the daily or mundane in the same way that religious ritual invites practitioners into a space of play and re-imagination."[44] After Wagner and Detweiler, the most compelling work involving notions of the digital-virtual as religious subfield is 2016's edited collection *Playing with Religion in Digital Games* which explores both how religion is both mediated and mediatized by gaming but again returns to more sociological and anthropological methodologies. These texts are also more closely associated with video games which are not necessarily equivalent to VR. While there is significant overlap between the history and development of both video games and VR as media technologies, this dissertation is more concerned with the acute differences and consequences afforded by VR in particular, specifically as it invokes notions of the "virtual."

III. What is "Virtual"?

Theorizations of the philosophical concept of the "virtual" can be traced back as far as the Greeks, stemming from the root "virtue," and referring to masculine potency, excellence, and efficacy.[45] In the European Reformation period, the term appeared in conversations about the properties and functions of the eucharist, where Martin Luther used it to describe Christ in his full potency in this ritual.[46] The virtual later reappeared in early twentieth century conversations around art and theatre. In 1933, Antonin Artaud theorized the virtual reality of theatre, where, for him, the "V" of virtual reality referred to the space "in which characters, objects, and images take on the phantasmagoric force of alchemy's visionary internal dramas."[47] Later, in the mid-1960s, IBM scientists introduced the idea of virtual memory (RAM).[48] Virtual memory refers to the

[44] "Studying Religion in Digital Gaming," 57.
[45] For an extended history of the concept of the "virtual" see Steinicke, *Being Really Virtual*, 2016.
[46] Shields, *The Virtual*, 5.
[47] Artaud, *The Theater and Its Double*.
[48] "New IBM OS Announcement – Shrope."

capacity of a computer to hold a pocket of processing that is always ready to be actualized for whatever the user wants to do with the computer, such as to launch a program or visualize a document. The philosopher David Porush tracing the etymology of the word via Derrida argues that while virtual in the 18th century "meant ***the fixed, essential reality of something deriving from a transcendent authority*****," by the late twentieth, it** "comes to mean its opposite." It becomes the "word we use for the collapse of the deepest realism into illusion. Now when we say something is *essentially* or *virtually* true, we mean to subtly suggest its opposite."[49]

The pairing of the "virtual" with "reality" directly is a newer configuration, coupled together and coined by Jaron Lanier in 1987.[50] Since then, the concept has taken on a philosophical gradience in three different registers. The first register conceives VR as a discrete collection of technology involving computer simulation, perceptual mechanisms, and operational systems to produce a sense of immersion in computer-generated worlds. The second register is a result of an abstraction of the first, as the line between the "virtual" and the "real" is blurred in new media communication technologies. The third register involves philosophical/ethical and shifts as our thoughts about the virtual, technology, and what it means to be human are taken up in a broader machinic phylum.[51] In this dissertation, I will move between all three registers of the virtual but sediment primarily in the first register by framing the history of "virtual reality" from the perspective of contemporary iterations of digital head-mounted display (HMD) technology and body tracking. I index this blended concept of the material, abstract, and the philosophical by using "VR" as a shorthand for the early 21st century techno-digital assemblage that results in

[49] Porush, "Almost Really Real." Emphasis in the original.
[50] Berkman, "History of Virtual Reality."
[51] I base these registers off of the collective work in Gaffney's edited volume, *The Force of the Virtual*.

simulation programs capable of visioning and embodied sensorial interactions with digitally created images.

However, the question of how the term "virtual" came to be associated with and subsume the "digital" in the twenty-first century is complex. On the one hand, their connection is a result of the accidents of history, while on the other hand, their relationality has deep and meaningful consequences for theorizations of what it means to be human. I will approach this question of the "digital" and the "virtual" by framing media studies and the "virtual" in two discursive terrains (the technological/material, and the cultural/philosophical) in order to examine how some new media scholars navigate these terrains in their conceptualizations and theorizations of the virtual.

i. The Virtual as Technology

Although Lanier is credited with coining the term in 1987, the material technological reality of VR developed in three historical waves.[52] The first wave was a result of technologists and programmers who applied the term "virtual" to concurrent developments of digital computing in the 1960s. We can see this specifically with American computer scientist and engineer Ivan Sutherlands' "Sword of Damocles" project and his proposed "Ultimate Display." At the time, Sutherland was director of the Information Processing Techniques Office, a subsidiary of DARPA, who funded the early technology in order to find new ways to train pilots. Sutherland describes VR as "A looking glass into a mathematical wonderland… There is no reason why the objects displayed by a computer have to follow the rules of ordinary physical reality…The ultimate display would, of course, be a room within which the computer can control the existence of matter."[53] These early experiments with digital displays tapped into the imagination and potential of digital computing for visualizing information and contributing to

[52] See Lanier, *Dawn of the New Everything* for an insider's perspective on the history of VR development.
[53] Sterling, "Augmented Reality."

new forms of communication. However the term "virtual" was not applied to digital technology until 1959 when IBM technicians John Cocke and Harwood Kolsky used it in a paper to describe their "virtual memory" as a way of speeding up computational speeds.[54] They were working on a "base to develop an even more powerful operating system…designated 'Virtual Reality'…to enable the user to migrate to totally unreal universes."[55]

The second wave of VR broke in 1989, when Jaron Lanier coined the term "virtual reality" as it applies to digital HMDs.[56] With the theoretical limits of the technology now in the past, the new limits of VR were left to the imaginations of scores of young technological experimenters like Lanier, Brenda Laurel and others. [57] This second wave was devoted to rapid technological development, feverish speculation, and crashing disappointment. After the bankruptcy of Lanier's industry leading company, VPL, the proprietary technology underlying various VR projects continued developing under various companies, resulting mostly in technological and commercial failures. The most significant advancements and excitement occurred as the technology was implemented into video game development, resulting in the two fields sharing a connection that would carry through with the development of the Oculus Rift.

The third and current wave of VR development started in 2014, when a precocious 18-year-old Palmer Luckey, with the help of computer-game industry legend John Carmack, released the Oculus Rift HMD after a successful Kickstarter campaign.[58] The low-cost high-fidelity headset would completely revitalize the long dead VR market, as the craze and

[54] Cocke and Kolsky, "The Virtual Memory in the STRETCH Computer."
[55] "New IBM OS Announcement."
[56] Despite publishing a book with over 50 different definitions of "virtual reality" he is not explicit as to why he chose that particular pairing. Lanier, *Dawn of the New Everything*. Regardless, the "virtual" in Lanier's usage seems to draw from the etymological roots of virtual as "as if" or in excess, rather than its roots in the latin virtus or its roots in the theatre and work of Antonin Artaud.
[57] For the commercial history of VR, see: Crecente, "VR's Quintessential Innovators."
[58] Kumparak, "A Brief History Of Oculus."

excitement over Luckey's tech resulted in a host of companies taking the technology more seriously.[59] Soon after the hype and buzz of the initial campaign, companies like HTC and Google would begin their own projects.[60] Following the release of the Oculus Rift in 2016, the VR market has seen roughly sixty-five different headsets from over ten different companies and a growing swell of software development, with even more on the horizon.[61] It is this wave that has the most denotative weight in the conception of VR in this dissertation.

Given the locus of VR for this project, it is too early in its development to write anything but a cursory history. Nevertheless, it is not too early to theorize and conceptualize this technology and its effects in *media res*. That a particular technology would come to be labeled as "virtual reality" technology, as opposed to the virtual already being an aspect of all technology to begin with, is a problematic that many contemporary new media theorists should contend with but do not. The majority of the theorists mentioned here utilize the "virtual" and inherent to each instantiation are certain slippages between the "virtual" and the "digital" or "electronic," that may result in conceptual confusion over their objects of study.[62] My goal is to show how Lanier's terminological dominance leads to problems involving dualistic distinctions between humans and technology, media as object (content) vs media as process (mediation), and images as illusion vs reality. These problems are then repeated in conversations concerning "new media" in which the "virtual" is taken up.

ii. The Problem of the "Virtual"

[59] Digital, "Could Virtual Reality Revitalize the Economy?"
[60] Lomas, "HTC And Valve Partner To Make A VR Gaming Headset Called Vive."
[61] "Complete List of VR Headsets 2019."
[62] Though each has made significant contributions to theorizations of technology, the digital, and culture, I contend that more work can still be done threading Deleuze's particular metaphysics into conversations about virtual reality technology both as a form of "new media" and a particular unique instantiation of the virtual itself.

Why is it important to make a distinction between the digital and the virtual? On the one hand, collapsing the digital and the virtual implies falseness, illusion, or trickery on the part of VR experiences, but as I will show in Chapter 4, this judgment is too quick and dismissive. Experiences in VR are *real* experiences. On the other hand, collapsing the digital and the virtual can imply that electronic computer technologies generate a type of transcendence that allows us to access ontologically new realities, and this is likewise untrue. The realities that VR afford access to are just dimensions of the same ontology we already inhabit, and the experiences we have there are generated by bodily capacities that are responsible for experiences in other contexts. More often than not, media and religion scholars who then study conceptions of the digital as virtual primarily focus on the ways they have been misconceived, or their discursive consequences for larger sociocultural views on technology.[63]

Moreover, as we have seen with the HTC Vive, calling the digital "virtual" obscures the actualizing material functions of the digital. As a result, computer scientists, engineers, and programmers, too often treat the virtual as a "transcendent" other-world that exists in excess of the material limits of digital technology in our own world. Indeed, this fantasy sometimes leads them to look to the virtual with transhuman longing and horror. For creators of digital content, the virtual offers messianic promises, as consciousness itself might be nothing more than data capable of being uploaded to a purely virtualized utopia that escapes physical death. This is why

[63] As we will see in chapter one, this conflation of the "virtual" with a particular digital-media technology gets picked up prominently by communication theorists like Frank Biocca in the early 90s. As someone who comes at the conversation primarily from the side of technology and communication, his articulations of the "virtual" result in two consequences typical to non-philosopher scholars: 1) either imbuing the digital with a kind of "transcendent" magic or 2) suggesting it is mere illusion. The technology theorist Lev Manovich barely avoids the same fate. Though he articulates new media collectively as a type of digital technology with unique affordances, he tends to be too ocular focused, and fails to recognize the ways the virtual exists beyond the merely digital.

groups in Silicon Valley have been called "cultic" in their worship of their coming A.I. overlords and transcendence of the limitations of biological life.[64]

Thus, we can see that the result of this collapsed distinction between the virtual and the digital is that, outside of the scholarly work on religion in academia, the theme of "religion" as a form of collective practice is most often indexed in relation to the transhumanism of Silicon Valley zealots. But as Michael Heim has put it, "the time has come to grasp the phenomenon [of VR] in its depth and scope." He elaborates:

> Some observers, in their first efforts to explain the phenomenon to their contemporaries, pointed to drugs or sex or entertainment. But the profundity of the VR experience calls for something of a grander stature, something philosophical and religious. … After all, we are talking about virtual "reality," not fleeting hallucinations or cheap thrills. We are talking about a profound shift in the layers of human life and thought. We are talking about something metaphysical.[65]

Recognizing this metaphysical import, I propose a philosophical turn to the virtual through the radical empiricism of Henri Bergson and Gilles Deleuze which grants that we should trust our perceptions of the digital-virtual, while also recognizing their limitations. Both thinkers, use rely on the definition of the virtual created by Marcel Proust for whom the virtual is "real but not actual, ideal but not abstract."[66] A key resource for this turn will be Bergson's *Two Sources of Morality and Religion*, in which he makes a direct index between the virtual and religion through his concept of fabulation (which will be elaborated in Chapter Two), that is, a human tendency that contributes both to our capacity for religious experience and VR experiences.

iii. False Problems and The Virtual of Henri Bergson

The French philosopher Henri Bergson is an essential figure for thinking through the virtual as both a philosophical and technological concept. His writing encompasses a vast array

[64] Lanier "The First Church of Robotics."
[65] Heim, *The Metaphysics of Virtual Reality*, xvii.
[66] Proust, *Remembrance of Things Past*, 905.

of relevant topoi: subjectivity, affect, flux, time, and the body.[67] He also serves the needs of the non-binary approach to the digital-virtual that I develop in the project because he pushes "beyond the traditional binary distinctions that characterize so much of Western thought" specifically Christian and European thought.[68] Of most interest to this project, however, is how his thinking reimagines the "real" and our relationship to it, changing how we think about perception, consciousness, and activity in this world and digital-virtual worlds.

It is with Bergson that the philosophical concept of the virtual gained its most significant weight as he put the concept to work developing a metaphysics that accounted for recent discoveries of modern physics and biology. In particular, he attempted to break down the problems associated with mind-body dualisms, while resisting the reductionist tendencies of scientific positivism and physicalism. Rather than position the virtual in opposition to the "real," Bergson framed his concept of the virtual as a dual aspect of reality itself, along with the "actual," each with implications for time, space, and our place in it. His central theoretical innovation was to correct inherited imprecisions around space and time, which collapsed the distinction between them. Kant's spatialization of time (resulting in the various Kantian antinomies) left metaphysical puzzles like Zeno's paradoxes unresolved, the most famous of which being Achilles and the Tortoise and the Arrow. Bergson contends that to resolve these paradoxes, philosophy needs to resist the collapsing of space and time and foster an understanding of both as types of difference: time as a difference of kind, while space is difference in degree.

[67] In ways that pose questions outside the poststructuralist and structuralist divide. The feminist theorist Elizabeth Grosz also maintains that Bergson is "probably the last of the great metaphysicians." Grosz, *The Nick of Time*, 156.
[68] Grosz, *Becoming Undone*, 62.

Bergson used his theory to critique the philosophers of his day, arguing that their problem was a lack of "precision" in the way their philosophies (Idealism/Intellectualism and Empiricism/Realism) applied to reality.[69] That is, Bergson believed these philosophers failed to articulate how their concepts do not accurately apply to the *living reality* of nature. The complex theorizations and monumental systems of thought seemed to leave the reality of living (duration) behind. As a vitalist, Bergson posited "life" as a type of "visible current" or force,[70] in the world, like gravity, that pulsates sporadically into creative, generative, and spatial-temporal extensions.[71] His metaphysics drew inspiration from life itself rather than trying to get to an "outside" or transcendent perspective, as inherited from Kant and other enlightenment thinkers.[72] Instead, Bergson worked towards getting us to trust our perceptions of the world while recognizing the limitations of those same perceptions. This is critical to understanding that the virtual of VR is not about illusions that "trick" our perceptions, but about mirroring our exposure to flowing sensations and actualizing our embodied capacities.[73]

This dissertation follow's Bergson's method of looking for types of conceptual imprecision that can lead to unnecessary philosophical problems. My intention is to avoid the false problems that beset the metaphysics of idealism and realism informing contemporary thinking about the relationship between VR, the virtual, and the digital.[74] For VR in particular, this problematic thinking is engendered in "digital dualism" that is a result of the collapsed distinction between the "digital" and the "virtual" in both philosophical and popular discourse.

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[69] Bergson, *The Creative Mind*, 1.
[70] Bergson, *Creative Evolution*, 17.
[71] Bergson was highly influenced by the evolutionary biology of Charles Darwin, without being reduced to a biological vitalism. Headley, "Bergson, Senghor, and the Philosophical Foundations of Négritude," *Beyond Bergson,* 92-93.
[72] Bergson, 87.
[73] For more on "false problems" see "The Possible and the Real" section in Bergson's *The Creative Mind*, 106-125.
[74] Having to do with Deleuze's rethinking of Bergsonian intuition.

Writing back in 2002, Brian Massumi argued that “digital technologies in fact have a remarkably weak connection to the virtual, by virtue of the enormous power of their systematization of the possible.”[75] However, while Massumi states that "nothing is more destructive for the thinking and imaging of the virtual than equating it with the digital"[76] his claim is too strong. A one-to-one connection between the digital and the virtual is definitely not of value, but the better move is to discuss the "digital-virtual." With this distinction in hand, I look to some extreme examples of VRs subjectivity-altering power and compare it to discussions and insights from the academic study of “religious experience.”

IV. Why Religious Experience and VR?

I look to “religious experience” as a concept because it highlights key issues in the study of religion otherwise ignored by other disciplinary methods that are sociological and political in orientation: the importance of sensation, emotion, and subjectivity in religious practice and understanding. My approach, within the theory of religion, is influenced by William James. Methodologically, I turn to scholar of religion and anthropology Ann Taves who developed the ascription model approach in her book *Religious Experience Reconsidered* in order to critically theorize religious experiences as a viable interdisciplinary concept of study. Rather than viewing religious experiences as a *sui generis* element of theological authenticity, an ascription model looks towards the psycho-physiological and social dimensions of experiences *deemed* religious by those who have them. These token experiences and expressions can then be, and often are, threaded together with other elements deemed religious, or marked as special through a process of singularization, forming what we might recognize as a “religion.” This model is a useful

[75] Massumi, *Parables for the Virtual*, 137.
[76] Massumi, 137.

starting point for theorizing the broad social, biological, and psychological implications of religious experiences and their embodied manifestations outside of named "religions."

What is perhaps most useful about Taves ascription model is its distinction between first order and second order terms. First order terms are those terms and concepts that carry too much baggage and ambiguity to wield in any critical manner yet nonetheless are commonly used by adherents: terms like sacred, holy, divine, and mystical. These first order terms are more like signposts for the scholar who can then apply more clarifying second order terms which are necessary for making a critical argument. These second order terms like consciousness or experience undoubtedly have their own baggage, and yet, they are more capable of navigating questions of meaning, value, and action. This move is particularly helpful for thinking through some VR users' emic (from the position of an insider or adherent) claims of religious or "mystical" experiences. This move also offers flexibility in using terms like "mystical," "spiritual," and "religious" interchangeably. Not because these terms don't have their own particular histories and values but because of the ways these terms are used in the VR industry. Most often to convey a broad affective vagueness that is caught up with religion for authoritative and authenticating purposes rather than formally connecting them to mysticism or spiritualism as historical and critical categories.

For this project, the language of religious experience (RE) and its associative first order words, act as signal flares highlighting areas, contexts, and people that situate and are in need of critical work. As the technology and literature scholar Marie-Laure Ryan writes "virtual reality technology burst into public view…less through a revolutionary computer system than through a grand flourish of rhetoric."[77] Yet, while the project begins with the language and rhetoric of VR

[77] Ryan, *Narrative as Virtual Reality 2*, 48.

as its focus, it keeps materiality and affectivity as its focus. I use RE both as a method for approaching the study of religion, as well as a conceptual apparatus for rethinking affect as the *affecognitive* proposed by Gail Hamner. Using the *affecognitive* to rethink both RE and the experiences of VR shows how both VR and religion are sites of subject-formation. While this track draws from aesthetics, and psychology, it remains firmly in the vein of new materialist questions and concerns about matter, agency, and what it means to be human in a world of technologically distributed subjectivity.

i. Affect Theory and New Materialism

To make sense of the connections between religion, experience, and technology I turn to *affect theory*, which like "theories of religion…is a capacious and multivalent term that canopies an unwieldy set of intellectual genealogies, including approaches that are ontological, sociological, phenomenological, neurological, literary, and political economic."[78] To manage the unwieldiness of affect theory, I follow Hamner's conceptualization of affect in her essays "Affect Theory as a Tool for Examining Religion Documentaries" and "Theorizing Religion and the Public Sphere." Hamner differentiates affect from emotion by arguing that while "emotions have cognitive tags and psychological profiles and are possessed by conscious subjects, affects are paralinguistic, pheromonal, and mammalian sensorial impulses that have intensity and duration but no clear name."[79] At its most abstract "affect is the capacity to influence and be influenced, to stir and be stirred, to move or be moved."[80] For the tetrimystics of Chapter Two, this means allowing the rhythm and auditory pulsations and shimmering tetrominoes of the *Tetris Effect* to move them in ways that feel "right," and experiencing immersion into a “mystical” depth.

[78] Hamner, “Affect Theory as a Tool for Examining Religion Documentaries,” 96.
[79] Hamner, 101. Not unlike Taves above.
[80] Hamner, 100. This framing of affect has its roots in Spinoza's affectus, or the variation of what bodies can do in the world as they interact with other bodies.

I also take a new materialist approach which, at first glance, might seem at odds with a project devoted to studying the concept of "religious experience" or the virtual, especially if they align with strains of thought that focus primarily on the interiority of individual humans. For example, in the introduction to *Religious Experience and New Materialism* Tamsin Jones describes new materialism as a "rejection of the interiority, ideality, and emphasis on transcendence that long held sway in considerations of religion." Instead, a new materialist approach favors "exteriority, materiality, and immanence" while rejecting the "anthropocentrism central to much modern religious and theological thought."[81]

For this project, the virtual *is* material, and follows the work of philosophers like Gilles Deleuze, Bergson, Donna Haraway and others.[82] Using affect and new materialism allows me to focus on breaking down hard distinctions between the human, technology, and environments by exposing the complex interplay of relationality immanently and dynamically at work in digital mediation. Taking a new materialist approach to religious experience involves looking to the "porosity and dynamism of organisms" in ways that exposes the lie of simplicity which sees the human as a "a discrete entity with clearly defined borders."[83] In turning to new materialism to inform my work on religious experience, I maintain the pragmatic emphasis on difference, consequence, and subject formation through thoughts, actions, and feelings, while resisting reductive essentialisms by expanding the cartography to include matter, form, and non-human agency.

V. Chapter Summary

[81] Jones, "Introduction," 2.
[82] According to Haraway, anyone who thinks the virtual is immaterial "is nuts." Gane, "Interview with Donna Haraway."
[83] Jones, 4.

What I ultimately hope to show in this dissertation is that the concept of the virtual can do important theoretical and conceptual work beyond merely highlighting new forms of digital technology. In particular, I build a case for reimagining the virtual of VR to emphasize relationality over individuality, becoming over being, and activity over essence. Re-thinking the virtual in this way paves the way for non-linear, non-hierarchical thinking, meaning or representation, and instead brings forth a consistently growing and sprawling relationality between images. Furthermore, the virtual is not simply an issue of the "mind" but of the world itself. A respiratory metaphysics of in and out, memory and matter, mind and body, the natural vs the artificial. The four chapters in this dissertation work towards this goal and consist of two dyads. Chapters one and two are responding to the philosophical problem of digital dualism and attempt to reimagine the "virtual" of VR with the theories and concepts of Katherine Hayles, Henri Bergson and Gilles Deleuze in order to rescue the notion from its "digitally dualistic" influence and reorient it towards a more precise ontology. Chapters three and four apply and expand on the concepts from the previous two chapters with the example of the VRX *Tetris Effect* and aesthetic affective claims about it inducing religious and sublime experiences.[84]

Chapter 1

This chapter lays the groundwork for thinking through the problematic dualisms at play in contemporary VR by framing the problem as a consequence of a "religious imagination." More specifically, a religious imagination of Silicon Valley which imports ontology and ideology into its conceptualization of VR under what has been called "digital dualism." This dualism arises from the initial binary of the digital itself and often overflows into oppositional and hierarchical dualisms whose political consequences we are starting to see in contemporary

[84] I distinguish the general "experience" of VR from a particular designed experience or VR game by calling them "VRX."

instantiations of the digital virtual, including its political, racial, and gendered biases. I turn to the philosophy of Katherine Hayles and her concepts of virtualization, intermediation, and the mindbody to free VRs religious imagination from the clutches of this problematic digital dualism.

Chapter 2

This chapter takes a philosophy of religion approach to argue for a transversal understanding of the "virtual" by way of the "virtual empiricism" of Henri Bergson and Gilles Deleuze.[85] Their philosophical inquiry opens opportunities for rethinking not only new media, but the very nature of mediation itself. Under this model, the human body is a machine for mediation with particular tools and tendencies. A key aspect of the body is that of fabulation, the capacity to attribute reality functions to images (both material and imagined). Fabulation itself is a "virtual instinct" that is a primitive function found within the human mind. It relates us to the world through an anthropomorphizing process that sees personalities/spirits/minds throughout nature. Fabulation is the source from which imagination, play, religious experience, and other faculties arise. A result of Bergson's concept of fabulation is the dissolving of dualistic notions of mind and body that both collapse and invigorate concepts like transcendence and embodiment without performing a reductionism that empties them of their value. Using these Deleuzo-Bergsonian arguments of religion and the virtual opens up new ways for understanding and critiquing the ways VR is being utilized today. In doing so, I hope to show that VR and religious experience are both taking advantage of material and habitual tendencies of the human body.

Chapter 3

[85] Moulard-Leonard, *Bergson-Deleuze Encounters*, 2.

This chapter draws from the psychology of religion and affect theory to apply the critiques of the previous two chapters to the video game *Tetris Effect* and the claims that it induced "religious experiences" (RE) among players and journalists. Looking to the scholarly subfield of RE in the work of William James, the critic Wayne Proudfoot, and then its revival in the work of Anne Taves, this chapter then takes a turn from Taves into an affect theory of both RE and VR to make an affecognitive critique of the technology and experiences it produces. Concluding that a better way of thinking about the profound affective capacities of VR is about how they indicate desires and values for connection between our conceptions of ourselves and our own bodies, other bodies, and the world.

Chapter 4

This chapter takes a philosophy of aesthetics approach to attend to the critique that perhaps VR may best be understood under the aesthetic of "gimmick" as theorized by Sianne Ngai, rather than as a sublime or religious experience. It pits Immanuel Kant's theory of the sublime against contemporary formations of the sublime like the technological, the consumer, and the digital sublime. Situated between the fields of religion, media theory, and the philosophy of aesthetics, this chapter concludes by suggesting we rethink VRXs not using the popular vernacular of sublime, but, rather with the ontology of Deleuze and Bergson which resituates notions of embodiment within time in space. When encountering VR as an aesthetic object it is not enough to have the experience of observing; to experience the affecognitive capacity of VR, one must engage the sense of one's whole being, for a time, with the sensorial effects of the machine.

VI. Conclusion

My project takes the position that when thinking about VR, we have to think tranversally. We can do this by situating the conversations of VR in the reciprocal relationship between both the discursive and the material. The power and capacity of this technology, as with all technologies, is ambiguous and fraught. They will not solve all problems, but they might help us think through some things, they require thought and circumspection. The trouble with this work is that when scholars consider claims of and promises about experiences of religion and other special things, "experience as such is not a part of the historical record. The only thing directly available to the historian …is the evidence, largely in the form of written records."[86] To this, we can add audio and video recordings, and the documents deposited in the Internet at large.[87] Using these data, I set out to understand why the contemporary descriptive and ascriptive language of VR and the experiences it generates tends to hew so closely to the language of religion, specifically a "protestant" Christianity which deems experiences as "mystical," "spiritual," "sublime" and "religious." The project then attempts to understand this process by looking to the philosophy of religion and how the fabulative capacity of our human bodies and the virtual capacity of VR technology interact in experiences deemed this way. This project is not out to validate or verify these claims and promises, but rather, to take seriously material impacts the technology is having on our bodies

The approach is important, because as Lakoff and Johnson argued, how we describe things, the metaphors and imagery we use, can affect our attitudes towards them and determine how we act with and through them.[88] How we talk about the tech also frames discussions in ways that shape decisions about its governance (as Congress begins grilling Facebook and its recent

[86] Bernard McGinn, *The Foundations of Mysticism*.
[87] McGinn, *The Foundations of Mysticism*, xiv.
[88] Lakoff and Johnson, *Metaphors We Live By*.

transition to a metaverse company) and daily use. The ultimate goal of this project, then, is to use the study of religion to locate ways of thinking about the digital plasticity, or malleability, of bodies, images, subjectivity, and the complex transactional relationality between bodies and VR technology that are reshaping conceptions of subjectivity in the 21st century.

Chapter One

VRs Religious Imagination and Digital Dualism

"Virtual reality is about imagining the world as it could be"

- Mark Zuckerberg, on Facebook's push to create the Metaverse[1]

This chapter builds a concept of "religious imagination" to make sense of the problematic "digital dualism" that dominates the popular and technical discourse of VR. I argue that we can see a religious imagination at play in the broad visual and linguistic discourse of contemporary VR technology as it makes metaphysical hints to and promises of "other worlds," "new realities," and "mystical" or "religious" experiences. The religious imagination of VR is often utilized by those trying to sell VR to provoke audiences to imagine new relationships with the true and the false, the "real" world and other worlds, bodies and minds. These dualistic binaries are conceptually mixed in popular VR discourse with the digital, the binary "zeros and ones" of code being associated with the false, the otherworldly, and the powers of the mind. I refer to this conceptualization as "digital dualism." But it doesn't have to be this way. VR can have its religious imagination without making the digital out to be ontologically different in kind from the non-digital. To make this case, I use the work of Katherine Hayles, Donna Haraway, David Tracy, and Zachary Braiterman to deconstruct digital dualism. I then explore what a religious imaginary of VR free of digital dualism can look like by turning to specific examples from some

[1] Shinal, "Mark Zuckerberg Takes on Critics Who Say Virtual Reality Is Anti-Social."

vital early sources of VR discourse, namely, Jaron Lanier and Brenda Laurel. I show how the religious imaginary practices of VR can either complicate or help us better understand the relationships between bodies, subjectivity, and experience with respect to the virtual.

I. Virtuality and "Digital Dualism"

VR has a dualism problem. In both popular and technical discourse, the "virtual" of VR is often wielded in uncritical ways that make hard distinctions between what is "real" and what is merely "virtual" in the same vein of claims distinguishing what is "true" from what is "false." While "virtual" experiences might be fun, or even affectively powerful, many users seem to take the approach that what happens in the "virtual" stays in the "virtual." In *How We Became Posthuman* the cultural theorist and philosopher Katherine Hayles calls this dualistic notion of separateness between our bodies and the digital: *virtuality*.[2] For Hayles, virtuality is a twenty-first-century condition that perceives "information and materiality" as "conceptually distinct, and [assumes] that information is in some sense more essential, more important and more fundamental than materiality."[3]

However, Hayles' virtuality is more general than the "virtual" of VR. That is, Hayles' category isn't just about the digital; "virtuality" speaks to information broadly, whereas the "virtual" VR often refers only to the *digital* virtual, and to particular and complex experiences and constructions of reality. While some broader cultural discourses of the 21st century may view information as *more* essential than materiality, the discourse of VR is not necessarily interested in staking a claim. Nevertheless, the cultural perception that information is more essential than

[2] She offers the "strategic definition" that "virtuality is the cultural perception that material objects are interpenetrated by information patterns." Hayles, *How We Became Posthuman*, 13.
[3] Hayles deems this type of thinking that obsesses digital dualists as evidence for a "regime of computation." Hayles, *How We Became Posthuman*. It can also function inversely for those who seem to fear the digital. Materiality stands atop the hierarchy (as argued below by Turkle, Carr, et al).

materiality is a key part of the context in which users encounter VR. Hayles argues that the cultural perception and assumption that information and materiality are distinct is so dominant that it enables "the development of virtual technologies" that promise not a whole other world *of information,* but rather, a *whole other world* in its entirety.[4] In other words, what we see in the discourse of VR is actually a particular dualism that makes an ontological distinction between the experiences, objects, and actions taken within digital-virtual worlds and the experiences, objects, and actions taken within the techno-physical world of bodies and politics; this is the meaning of digital dualism in the discourse of VR.[5] These digital dualists come in three flavors: those who prefer the real, those who prefer the virtual, and those who do not necessarily prefer one or the other but make a hard distinction between the real and the virtual.

Ultimately, this question of whether digital worlds are separate, interpenetrating, or overlapping our so-called 'real' world might seem merely rhetorical, but, as Hayles notes, how we perceive and deploy binarisms has socio-cultural consequences.[6] Supposing, with Haraway from the introduction in mind, that oppositional binary dualisms like digital dualism are a result of cultural virtuality and have socio-cultural implications, then reconsidering how these binaries are produced and sustained might help us better understand current digital-virtual social problems. Especially those involving hegemonic corporate control of companies like Facebook, the spread of fake news and conspiracy theories, and the draw towards ethnonationalism and fascism by the social world of the Internet broadly and the gaming community (and, subsequently, the VR community) more particularly.

i. Digital Dualism

[4] Hayles, *How We Became Posthuman*, 14.
[5] Similar attempts have theorized it as a "new digital Cartesianism." See Boler, "Hypes, Hopes and Actualities."
[6] Hayles, *How We Became Posthuman*, 14.

Digital dualism as a concept first appeared in 1984 in R. Eglash's "The Cybernetics of Cetacea," and then again in the dissertation of Mark Menga on "Digital Dualism" in art and aesthetics in 2005. However, it was not until 2011 that digital dualism emerged as a fully formed concept in an article by Nathan Jurgenson titled "Digital Dualism versus Augmented Reality" for the online journal *Cyborgology*.[7] Jurgenson's article sparked a fiery conversation on Twitter and in the blogosphere among sociologists, philosophers, and technologists about the nature of reality and human-computer interactions.[8] Jurgenson was at the forefront of criticizing the consequences of treating the digital as ontologically different than the physical. He argued that although digital dualists often "believe that the digital world is 'virtual' and the physical world 'real,'"[9] for them, the digital world does not infringe "on the real," but instead maintains an illusory and separate existence. Jurgenson took issue with projects such as Nicholas Carr's *The Shallows* (2011), which takes a pop-sociology approach to argue that people need to spend less time in "virtual worlds."[10] Carr was influenced by Sherry Turkle, who claimed in *Life on the Screen* (1997) and *The Second Self* (2005) that humans were fundamentally different when engaging in digital-virtual worlds; a kind of "second" and lesser version of themselves. Turkle saw this subjective dualism as having profound consequences for our capacity to form relationships, namely, that we wind up, as she puts it in the title of her best-known book, *Alone Together* (2011).

Turkle and Carr's (among others) "explicit preference of physical over digital" was likewise challenged by other authors in *Cyborgology*, like the sociologist Jenny Davis, who in 2013 critiqued this preference as an "IRL Fetish."[11] Davis argued that, ironically, digital dualists

[7] Jurgenson, "Digital Dualism versus Augmented Reality."
[8] Carr, "Digital Dualism Denialism."
[9] Jurgenson "Digital Dualism versus Augmented Reality."
[10] Carr, *The Shallows*. Cal Newport's *Deep Work* is a similar category.
[11] Davis, "Diagnosing the IRL Fetish."

like Turkle et al. were a part of mythologizing and reifying the very thing of which they were afraid. Moreover, they were using this "myth of the virtual to simultaneously deploy 'the real'" that they wanted access to."[12] In other words, in this type of critique of the digital, it is the virtual that makes the real *real.* The virtual acts as the shadow reality that helps put the important aspects of our "real" reality into focus.

Another critique of digital dualism made in this discussion was Jurgenson's claim that few "virtual-phobes" actually held to a "hard" ontological split, at least explicitly.[13] This point was elaborated in a 2013 issue of *Cyborgology* when the sociologist of technology Robin James noted how digital dualism names "a phenomenon or a view that isn't necessarily dualist, and… isn't necessarily ontological."[14] For most people using digital technology, the distinction between "real" and "not real" is not conceived of as an ontological problem but, rather, is a matter of idealization.[15] James' argument draws from the work of the political philosopher Charles Mills, who contends that dualisms are often the result of misrecognizing "how things are for the most privileged members of society for reality itself."[16] This is what Mills calls *idealization*: when a "nonrepresentative phenomenological life-world [is] (mis)taken for the world."[17] In this case, the digital critics are responding to an ideal version of the virtual that is highly contextual to the elite circumstances of Silicon Valley, where the virtual *is* often suggested to be ontologically different than the actual physical world. In other words, critics like

[12] Jurgenson, "Digital Dualism versus Augmented Reality."
[13] There are parallels here to the way that certain conservative Christianities take seriously the playful aesthetics and queering of Satanist groups as argued in Sharday Mosurinjohn's forthcoming "Dark Mirroring: The Satanic Temple's Queer Material Religion."
[14] James, "Is 'Digital Dualism' Really 'Digital Ideal Theory'?"
[15] James. However, just because users do not perceive a problem doesn't mean that there aren't problems (re: attention, dependence, isolation, digital security, mass hysteria and fake news, etc.)
[16] James.
[17] Mills, "'Ideal Theory' as Ideology," 170.

Carr and Turkle are guilty of taking Silicon Valley metaphysics for granted as reality,[18] universalizing an under-supported but over-valuated philosophical position. What Jurgenson and others miss in their critique of "digital dualism" and the critics of the digital, however, is its religious import. Below, I will explore this position in light of a "religious imagination" of an elite set of technologists and programmers.

II. Religious Imagination and Virtual Reality

I am proposing the concept of "religious imagination" as a heuristic that gets at the ways religion pops up in the visual and linguistic discourse of VR. As mentioned in the introduction, religious images and religious language are actively shaping the discourse and ideologies of VR culture. While the concept of the "imagination," the human ability to visualize (though the senses), create, or recreate images and ideas, has a long and storied intellectual history, going back as far as Plato for whom the images produced by the imagination are "impoverished," this project is concerned with the narrower way that the language and imagery of religion are appropriated in VR culture to lend the technology a type of authoritative and legitimizing power for producing types of experiences.[19] For the concept that I am positing, the 'imagination' is less about a distinction between what is "real" or what is not and more about one's *perception* of the world as mediated through language and images; the way people use symbols to represent the world to themselves.[20] As such, looking for the "religious imagination" at play will help us track how religious language and images in the discourse of VR corporations, programmers, and users

[18] Or, as WJT Mitchell writes about iconophillia and iconophobia, these positions "only make sense to people who think that other people think that images are alive." *What Do Pictures Want*, 93.

[19] Noll provides a history of the development of the contemporary psychological study of the "imagination" and its role in shaping culture. Noll et al., "Mental Imagery Cultivation as a Cultural Phenomenon." See also Micheal Paul Gallagher's "Identifying a Religious Imagination."

[20] Perception will play a large role in Chapter 2, as it is tied to action and affectivity within a Bergsonian metaphysics.

- who are otherwise not explicitly concerned with religion - imports problematic dualistic thinking into their conceptualizations of how the world works or is. In other words, how religious language and imagery changes how they perceive, or experience, reality with and without VR.

My concept of religious imagination is informed by two thinkers, the theologian David Tracy, and the philosopher and religion scholar Zachary Braiterman. In terms of function, religious imagination is similar to Tracy's "analogical imagination," which understands the examination of imagination as the "contemporary strategy that allows, indeed demands, pluralism without forfeiting the need for common criteria of meaning and truth."[21] For Tracy, imagination is better understood in its relation to language rather than being linked to an impoverished sense of "perception" by way of the "image," which often happens when imagination gets conceived in psychological and aesthetic denotations. As a conceptual apparatus, my concern with religious imagination is less interested in content (images with "religious history" are a mere starting point) and more so in the processes of meaning-making that arise when images and language are presented to make claims about what VR is and can do. In my conception of religious imagination, "imagination" is a "correlative intensification of power which produces" meaning in language.[22] Imagination gives meaning, determines value, and does not merely give us perceptual images.

As imagination relates to religion in particular, it has been championed as a force of creativity and prophecy, vilified as heresy, and resulted in ambivalent dismissal.[23] To clarify and

[21] Tracy, *The Analogical Imagination*, xii. Tracy's understanding of imagination is also informed by Ricoeur for whom imagination is "a rule-governed form of invention."
[22] Tracy, 146.
[23] Freedberg, *The Power of Images*. Freedberg also usefully collapses distinctions between an "image" and the imagination by arguing that "the power of images is ultimately nothing else but the power of the imagination", 23.

specify my particular heuristic of "religious imagination," I rest on Zachary Braiterman's framing of religion in the preface to *The Shape of Revelation.* Braiterman presents religion as intimately and necessarily braided with imagination as a "composition of "natural" and "supranatural" elements," that "constitutes the physically mundane place," between gods and people "around mediating images, texts, and acts." He writes that:

> As a composition, religion is neither static nor dynamic. The graphic and verbal images at play across the surface of its system grow more or less stable at any one geographical place and historical moment. Continually disfigured and reconfigured by collective and individual actors in response to local conditions, they form an overlap between intersecting planes, between visible and invisible bodies.[24]

Braiterman's imagistic compositional definition of religion coupled with Tracy's analogical imagination allows me to conceive of religious imagination both in terms of collective groups or individualistically and can refer to deities, magical thinking, world-building, art, text, and practices.

Yet, while this framing of "religious imagination" shares similarities with other scholars, there are crucial differences. The historian Francesca Bugliani Knox argues that "religious imagination" denotes both an "artistic expression that is consciously religious" and "an openness to 'wonder.'"[25] She further contends that "religious imagination and the dynamics of inspiration generate what is often thought of as a mystical quality."[26] Both my framing and Knox's definition evoke the HTC Vive commercial from the introduction with its claims of accessing a "new reality" that is "wild and without end," as displaying a religious imagination; both in its artistic expression (its images) and its display of openness to "wonder."[27] However, what Knox

[24] Braiterman, *The Shape of Revelation*, xxi.
[25] Knox and Lonsdale, *Poetry and the Religious Imagination*, 3.
[26] Knox and Lonsdale, 3.
[27] This focus on images is especially prevalent in "kataphatic" strains of Christian mystic thought which looks for a type of mental stimulation in order to encounter the divine. While strains of the apophatic can be found within VR, this particular project is focused on the production, distribution, and affectivity of images.

and other religious imagination scholars have missed, and my framing allows, is the critical dimensions of how religious imagination can import valuative ontologies - ideas about how the world is and should be. More pointedly, with my version of religious imagination as a conceptual tool, we can begin to trace out the problematic digital dualism central to notions of the "virtual" in VR.

When the imagination takes on religious overtones, like in the case of VRs religious imagination, it can sometimes reinforce ontologies that produce problematic oppositional binaries, hierarchies of domination, and mischaracterization of our relationships to our bodies. These oppositional distinctions manifest in how religion and technology are imaged and imagined and shape conceptions of human relationality to each other and the world around them.[28] In other words, there are political consequences for how we imagine the world to be, and if our digital technologies affect our imagination, then they affect our ontologies and politics.[29]

What should concern users of VR is that hidden within these imaginations are levels of political ideation, expectations of how the world is or should be, which dictate the types of programming and design choices that go into creating these new technologies. Thinking about how imagination relates to digital technologies like VR, media scholar Ed Finn writes that "all symbolic systems, all languages, contain a particular logic of possibility, a horizon of

[28] To be clear, the religious language within conversations concerning VR is not unique to it as a medium. New techniques in the art world and technology more broadly have a long history with the language and concepts of religion. Film made claims about the medium freeing people politically because the common person could use it and grasp new things (though it did not quite make similar metaphysical promises that VR does). The discourse around the early hypertexts of the computer age talked of its revolutionary potential against capitalism and established hierarchy—escapist without being pacifying. It is important to note, however, that at least film, radio, and television were populist media. VR culture is still elitist and individualistic despite its use of words like "world" and "reality" which would suggest a sense of shared-ness. It is also worth noting that anxiety about immersing too deeply in other worlds has existed at least since Cervantes' *Don Quixote*, and even as far back as Plato. The fear that humans would spend so much time in virtual worlds and forget what it is like to be in the physical world. To confuse fantasy or fiction for reality.

[29] Leading to Barack Obama declaring that social media is now "the single biggest threat to our democracy." Howard and Parks, "Social Media and Political Change."

imagination that depends on the nature of representation and semantic relationships."[30] As the epigraph notes, Silicon Valley types like Zuckerberg see the value of VR as "imagining the world as it could be." But "could be" for whom?

III. The Religious Imagination of VR Developers

Often exhibited in discussions of the "virtual" among computer scientists, programmers, science fiction authors, and Silicon Valley-types is the dualistic assumption that there exists a separate "virtual" world of pure information that we can access via digital technologies.[31] In other words, often hidden within VR's religious imagination is the ontological assumption that there is more than one "reality." This dualism manifests in VR beyond just the ones and zeros of the digital but in a mixture of binaries of mind and body, flesh and soul, space and time, interiority and exteriority, the sacred and the profane. For example, the American historian Daniel Czitrom argues that the American technocultural dream of transcendence depends on continually posited oppositions between technology and phenomenology, materiality and spirituality, technology and religion. He writes that though dreams "of transcendence through machines" are ancient, "the urge to annihilate space and time found particularly intense expression through new communications media"[32] appearing in the twentieth century. In this digital-virtual Silicon Valley religious imagination, the "virtual" of "virtual reality" is often framed as a "transcendent" otherworld that exists in excess of the material limits of our own.

In popular culture, the religious imagination of VR assumes a dualism between the digital and the "real world," or what the science fiction writer William Gibson called "unplugging and

[30] Finn, *What Algorithms Want*.
[31] The ontology has gone by different names. For an extensive look at its philosophical history, see Bruce Long's "ISR is Still a Digital Ontology." For an extensive discussion on a variety of examples of this ontological dualism at play, see Aupers and Houtman, *Religions of Modernity*.
[32] Czitrom, *Media and the American Mind*, 187.

jacking in." In his famed sci-fi text *Neuromancer*, Gibson presents this as the struggle between "meatspace" and "cyberspace," where the virtual is presumed to offer an escape from the fleshly mortal bodies into the transcendent and perfect metaverse.[33] This refrain is repeated in other famous science fiction works that claim to depict the "virtual" like the *Matrix* series, *Lawnmower Man*, and more contemporary films like *Ready Player One.* At its most intense, this religious imagination makes claims about our physical bodies fading away while the pure data of our consciousness might live forever in a cyberspace that transcends "meatspace." Or that our consciousness, as mere information, can be uploaded to a purely (digital) virtual utopia that escapes physical death.[34] Technologist and coiner of the term "virtual reality," Jaron Lanier, observes that this religious imagination anticipates "immortality through mechanization. A common claim in utopian technology culture is that people…will be uploaded into cloud computing servers later in this century, perhaps in a decade or two to become immortal in Virtual Reality."[35] In other words, VR's contemporary religious imagination rests on an ontological "substance" dualism that makes these rigid distinctions between a material reality and an immaterial (digital) reality.

This digital dualism, infused with a religious imagination, appeared early in VRs history. For example, thinkers like Timothy Leary and Kevin Kelly fed off dualistic beliefs (often intersecting with a smattering of hyper-progressive, new utopian, and transhumanist ideas) that still permeate the development and study of technology.[36] The thinking was not limited to technologists and programmers alone, however, and permeated new media studies from its

[33] "Origin of the Term Meatspace?"
[34] Zandbergen, "Fulfilling the Sacred Potential of Technology."
[35] Lanier, *Who Owns the Future?*, 12.
[36] Leary, goes so far as to claim that "spiritual realities for centuries imagined" might "finally be realized" in our age of digital technology.

earliest stages in the late 1990s and early 2000s. Scholars and theorists were confronted with subjects and objects of study that assumed a Platonic difference between what was happening in "virtual" spaces and what was happening in "physical" reality.[37] Examples abound, such as the bold proclamation of videogame designer Jenova Chen, that "the interface represents the 'body' of the videogame, tasked with communicating its 'soul' (the game content, the 'specific experience the game is designed to convey')."[38] The language of this dualistic distinction took many forms across social media, video gaming, and broader internet culture with terms like offline/online, real/virtual, online/IRL, etc.

i. Frank Biocca

One of the early proselytizers of the religious imagination embedded in notions of the "virtual" of VR was communication theorist Frank Biocca. In his book *Communication in the Age of Virtual Reality*, he argued that religious language in VR discourse is natural because of technologists' various promises about VR's capacities, specifically its ability to achieve the "ultimate display" mentioned in the introduction.[39] He writes that "VR is part of the grand evolution of media technology toward the reproduction of the essential copy,"[40] and that while some people might quibble over the value of the term, "the phrase united the many voices of its rivals virtual environments, virtual worlds, virtual space, and artificial reality into a single chant seeming to emanate from a distant future."[41] Biocca even goes so far as to suggest that it is "fitting that VR appears at the end of the millennium. One suspects that the ultimate display wears a messianic crown of thorns…an expression of our desire to assume a Godlike control of

[37] Højsgaard and Warburg, *Religion and Cyberspace*.
[38] Shinkle, "Videogames and the Digital Sublime," 95.
[39] Biocca and Levy, *Communication in the Age of Virtual Reality*, 7. These "promises" of VR will be put under a more critical light in chapter four.
[40] Biocca and Levy, 2.
[41] Biocca and Levy, 4.

reality."[42] Yet he is also careful to note that because this perfect mediation might never arrive, we will "always crave more convincing and exhilarating 'essential copies,' more overwhelming sensations, more physical transcendence."[43] Here, Biocca represents the views of many early VR technologists and theorists as already infused with a sense that what VR might do is transcend our physical reality.

Like other writings of the time, Biocca's is rich with religious imagination and rife with the constant ambiguity about whether what is unique about VR is a matter of the technology or, instead, a result of the tendencies of psychological consciousness. Biocca explicitly references this ambiguity by admitting that VR might actually be "a kind of transcendence of the limits of physical reality" - or perhaps just a "mirage." he argues that when it comes to media technologies, including VR, we experience them already as "partially disembodied" because they are not advanced enough to achieve full embodiment or its negation. As someone who comes at the conversation primarily from the field of technology and communication, his articulations of the "virtual" result in two consequences typical to non-philosopher scholars: 1) either imbuing the digital with a kind of "transcendent" magic or 2) suggesting it is mere illusion. Biocca's thinking mirrors much of the debates in the psychology of religion going back to Freud, Jung, and James, about believers and skeptics of reality and religious claims and restated in Chapter 4 about whether VR is merely gimmicky.[44] Here, the equivocation indicates an underlying fear of charlatanism that can sometimes haunt many historical and contemporary claims about radical

[42] Biocca and Levy, 13.
[43] Biocca and Levy, 13.
[44] Biocca and Levy, 120. Though, to be fair to Biocca, he does begin to correct this line of thinking in his 2006 essay on progressive embodiment "The Cyborg's Dilemma: Progressive Embodiment in Virtual Environments" (2006). However, in this text, Biocca ends up rearticulating problematic notions of natural and unnatural, so while shedding aspects of his earlier digital dualism, he still retains troubling ontological assumptions.

religious experience; that these claims refer to a "false" reality that is somehow less "real" than the one we inhabit in our day to day existence.[45]

ii. Jonathan Steuer

Far less equivocating about VR as a new medium is communication theorist Jonathan Steuer, who became disenchanted by the theoretical ambiguity and the technological messianism of Silicon Valley in the early 90s. His disenchantment led him to critique the rampant obsession of engineers and computer scientists with the "machine" of VR in his essay "Defining Virtual Reality." In the article, he argues that we should refer to "an experience, rather than a machine when we speak of virtual reality." Thinking of VR in this way "shifts the locus of virtual reality from a particular hardware package to the perceptions of an individual."[46] Steuer's essay is considered one of the early first critical responses to a type of transhumanist logic of the Silicon Valley metaphysics mentioned above that sought escape from the "fleshly coil" into the pure abstract realm of the digital via technological advancement. He is critical of the technocentrism that ignored human experience and argued that:

> from the standpoint of communication researchers, policymakers, software developers, and media consumers, a device-driven definition of virtual reality is unacceptable: It fails to provide any insight into the processes or effects of using these systems, fails to provide a conceptual framework from which to make regulatory decisions, fails to provide an aesthetic from which to create media products, and fails to provide a method for consumers to rely on their previous experiences with other media in understanding the nature of virtual reality.[47]

Rather than emphasizing the technical aspects of VR as machine, which would obscure what this new medium is capable of, Steuer turns to an analysis involving the phenomena of "telepresence," by which he means *mediated* presence. This mediation happens through

[45] For example, see de Witte, "The Electric Touch Machine."
[46] Steuer, "Defining Virtual Reality," 79.
[47] Steuer, 73.

technologically induced sensations received by a person in a digital-virtual world, thus generating a sense of "being there" in this "other world" encountering "other beings" from different places.[48] In other words, Steuer is already hinting at the ways VR is a medium of intermediation in that it breaks down the importance of rigid distinctions between the tech and the user. The problem, however, is that Steuer still retains aspects of digital dualism.

For instance, Steuer's concept of telepresence embeds the idea that the uniqueness of VR as a medium is, in fact, its digital dualism. In using VR, "one is forced to perceive two separate environments simultaneously: the physical environment in which one is present and the environment presented via the medium."[49] Steuer was both hopeful and fearful about the consequences of VR's dualistic capacity: that it could mediate the physical world and this new "digital" world of the technology. He found VR "exciting because of the possibilities afforded by such systems to experience distant and nonexistent worlds, and terrifying because of the blurring of the distinction between representation and reality."[50] Here he expresses aspects of the anxiety of immersion that believes that things like VR would lead to misconceptions of what is "true" or real, and what is "false" or virtual.[51] Echoing the religious apocalyptic of other technologists, he predicted that in VR, we have the potential to create something that passes a *perceptual* "Turing test," *seeming* so real as to, perhaps, be real. The emphasis here on the "seeming" which indicates the "as if" and "almost real" that is typical of digitally dualistic thinking.[52]

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[48] Rachel Wagner makes the case that presence is, at its roots, "a theological concept, explaining how people distant from heaven can nonetheless engage with material objects that evoke that desired otherworldly space." Wagner, "A Sense of Presence," 1.
[49] Steuer, 75.
[50] Steuer, 84.
[51] Janet Murray relates this sense of immersion to narratives, specifically with Don Quixote and is related to the concept of the Trompe L'Oeil. Murray, *Hamlet on the Holodeck*.
[52] This "seeming" and "as if" will be complicated in the following chapter under the Deleuzo-Bergsonian model that distinguishes the virtual as the "real but not actual." A VR that passes the "perceptual Turing-test" would definitely be "real" under this model, and perhaps even have opportunities for actuality.

Using the frame of religious imagination, we can better understand the problems embedded within digital dualism. For Biocca and Steuer, highlighting the religious imagination that informs their digital dualism reveals concerns about truth and falseness, while for others it concerns issues like immortality through technologization, transcendence from the body, and sacralization of the digital.[53] As Haraway and Mills argued above, the problem is that these dualisms end up reinscribing hierarchies, normative binaries, privileged concepts of self and individuality, and precarious social realities. But if we can destabilize the hierarchical and reductive binaries of digital dualism, we can challenge this elitism. To that end, I turn again to the critical theorist Katherine Hayles for her binary collapsing work on subjectivity, human embodiment, and digital technology. Her exploration of the history of dualisms - between virtuality and materiality, mind and body, information and technology – can help us unravel the digital dualism imported in VR's religious imaginary.

IV. Collapsing Binaries with Katherine Hayles

Hayles considers VR "fascinating" because it makes "visually immediate the perception that a world of information exists parallel to the 'real' world, the former intersecting the latter at many points and in many ways."[54] And though this definition seems to reinscribe a hard ontological digital dualism, Hayles argues that VR can actually help us shake "the belief that our

[53] And not just immortality, but "salvation" as well. As a self-proclaimed "technomystic," the contemporary technologist Ido Hartogsohn imagines that because "technology is sacred," by which he understands it as "the means of God to manifest itself in the world," it becomes possible to evolve into "more complex forms and attain higher, more diverse and complex forms of self-knowledge of the possibilities within…the infinitude of Godly power." Like the medieval focus on coming to the gnosis of God from various literary and meditative techniques, technomystics like Hartogsohn search out in technology the means for salvation and knowledge. As sociologist of religion Aupers and Houtman write, there are even some technomystics that take things a step further and argue that digital technology and the techne of religion "do not merely prove incompatible, but the former even becomes a locus of religious salvation itself." In other words, for some people modern digital technology supplants established forms of religion as the center of a religious imagination.

[54] Hayles, 14.

bodies and the world exist independent of relation."[55] Hayles counters hard dualisms, like digital dualism, that result from virtuality by arguing that "material objects are interpenetrated by information patterns." Her work aims to collapse the digital dualist binary to show how in actuality, our world involves what seems to be a "seamless mixing of virtual and real spaces."[56] Hayles argues that VR might be one of the technologies that helps us challenge "these dualisms in intriguing ways."[57] Her work also helps show that VR can give us new insights into how we relate to our embodiment as we interact with digital-virtual objects in digital-virtual environments, and it can do so without making rigid ontological distinctions about the digital-virtual.

i. Intermediation

So how did virtuality become a condition of the 21st century? Hayles argues that virtuality, the assumed ontological binaristic dualism of information and materiality (code and bodies), is a consequence of notions of embodiment born of the Enlightenment liberal humanist tradition of the 1700s and 1800s.[58] She argues that this particular historical understanding of the individual subject, which emphasizes freedom, independence, consciousness, and rationality over, and sometimes against bodies, relationality, and emotion, is still at play today and is rife with oppositional binaries like those listed by Haraway above.[59] To challenge binaries like the physical-digital or bodies-information, she introduces her take on the concept of *intermediation*:

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[55] Hayles, "Flesh and Metal," 313.
[56] Hayles, "'Foreword,'" xiii. To be clear, the word "seamless" carries a lot of conceptual work. Gilles Deleuze was very invested in thinking about folds and that his thinking is saturated by polarities (smooth/striated, etc. etc.).
[57] Haraway, *Simians, Cyborgs, and Women*.
[58] The enlightenment liberal subject is a strawman, "phantom," or caricature. Hayles is probably using it for hyperbolic/heuristic purposes. The whole 18/19th century was awash in sentiment/community.
[59] Hayles, *My Mother Was a Computer*, 39. While she is sympathetic to the values of discursive and linguistic approaches to conceiving embodiment, she is careful not to privilege them over materiality and challenges literary and cultural scholars to rethink the importance of materiality by showing the similarity between writers and computer programmers.

the entanglement of bodies and digital subjects.[60] Intermediation refers to the processes and interactions (mediating interfaces) between information systems (language and code) and the technologies that represent them (the analog and digital), which highlight the collaborative and reflexive influence humans have with various media.[61] Hayles uses intermediation to show how VR is not solely about what happens when a person interacts with a particular VRX, as we will see in Chapters 3 and 4, but also in the ways our approach to VR on the social scale is complexly rational. Hayles reminds us that without human bodies to make them, there would be no digital media and that, at the same time, under "certain contexts the body itself becomes a medium…is in-formed by other media, a complex dynamic."[62] Intermediation helps us think VR and the digital transversally, moving us past the illusions of a rigid digital dualist separation of human player and VR technology while recognizing the ways they are distinct.

ii. Mindbody

Where the concept of intermediation functions on the ontological level of bodies, information, and technology, Hayles adds the concept of *mindbody* to discuss how these mediating technologies are experienced by the people who use them.[63] In her essay "Flesh and Metal," Hayles argues that the concept of mindbody acknowledges the grounding importance of

[60] Hayles, *My Mother Was a Computer*, 7. She modified the concept originally proposed by computer scientist Nicholas Gessler, "whereby a first-level emergent pattern is captured in another medium and re-represented with the primitives of the new medium, which leads to an emergent result captured in turn by yet another medium, and so forth. The result is what researchers in artificial life call a dynamic hierarchy, a multitiered system in which feedback and feedforward loops tie the system together through continuing interactions circulating through the hierarchy. Because these interactions go up as well as down, down as well as up, such a system might more appropriately be called a dynamic heterarchy." Ibid, 100.

[61] Ibid. Hayles, 33.

[62] Hayles, *My Mother Was a Computer,* 36.

[63] This is a concept that will be discussed in greater detail in chapter two in the work of Henri Bergson. Hayles draws the term "mindbody" from a presentation by media scholar Mark B. N. Hansen (who is also influenced by Bergson), which he later developed in his work *Emergence and Embodiment*. She gives it new life by applying elements from the philosophical work of thinkers like Maturana Varela's *The Embodied Mind* and science fiction authors like Don Idhe and his work *Technology and the Lifeworld*.

the body and embodiment for intelligence, imagination, and cognition while refusing hard dualistic conceptions of mind and brain (body).[64] The term mindbody points to an "emergent relationality in mind and body" that is "embedded in our relations with the techno-world."[65] It also highlights how twenty-first-century technology makes us aware of our body and embodiment by generating new modes and relations between the self, body, and technology, such as those in VR. These modes and relations remind us we are always "participants in the complex dynamics that connect" 'what we make' and 'what (we think) we are.'"[66] In VR, specifically, this new awareness results from the sensory representation of what is happening to our bodies in our daily lives; VR makes us sensorially aware of the intermediation happening with our mindbodies.[67]

Consequently, with Hayles' concepts of virtuality, intermediation, and the mindbody in hand, we can see how digital technologies like VR are simultaneously determined by humans while also determining what human experiences are possible. [68] This emergent semiotic potential of the digital-virtual leads Hayles to conclude that we cannot leave the coding and programming of these spaces solely to megacorporations like Facebook and their increasingly desperate pushes to intermediate into every aspect of our day-to-day existence with their push to create the

[64] Hayles, "Flesh and Metal," 297. This is work with a long history going back to Artistotle's *de Anima.*
[65] Hayles, 312.
[66] Hayles, *My Mother Was a Computer*, 4.
[67] This is what VR is capable of at its most banal. At its most abstract, we get new experiences not otherwise available to us in our normative daily living.
[68] She offers the example of the VRX nØtime, which is about the common perception of not having enough time in our lives to do everything we need and want to do. It plays with the idea of what it would be like if we could subcontract that living to other people. To do so, nØtime uses "distributed architecture, collaborative procedures, and [a] sculpturally striking on-site installation [to enact] the human body as an emergent phenomenon coming into existence through multiple agencies, including the owner's desires, the cultural formations within which identities can be enacted and performed, and the social interactions that circulate through the global networks of the World Wide Web." nØtime creates "a space of intense interaction and feedback in which the subject experiences herself as emerging from relational dynamics." In nØtime, we can see how, to the extent that VR undermines a user's sense of being a "pregiven and static self," VR highlights the dynamic processes by which mindbody and world intermediate and emerge together. Hayles, "Flesh and Metal," 315.

metaverse. This is a coding of the digital-virtual that reinscribes liberal humanist binaries and reproduces personal and social ills. When racial, gender, and other biases get coded into digital-virtual experiences, the results are simulations that change how we relate to our bodies and others because the digital-virtual affects bodies. The consequences of these actions are made clear in Safiya Umoja Noble's *Algorithms of Oppression* and its damning critique that shows how racism gets embedded in algorithms which end up reinforcing "oppressive social relationships," such as "new modes of racial profiling."[69]

Yet, as Hayles argues optimistically, if we know what the digital-virtual can do, we might be able to develop strategies "that can be used to resist and subvert hegemonic control by megacorporations" and other destructive social actors.[70] According to Hayles, VR, in particular, can be part of the resistance to hegemonic control of our digital technologies by these large corporations seeking to shape and capture our attention and experiences "wreaking havoc on our morality."[71] She argues that VR "enables us to see that embodied experience comes not only from the complex interplay between brain and viscera…but also from the constant engagement of our embodied interactions with the environment," including digital environments.[72]

V. Rethinking VR's Religious Imaginary

With religious imagination as a critical lens for seeing how a problematic digital dualism gets imported into VR discourse and the critical concepts of Hayles in hand, I now apply this framework to two key figures in the development of VR technology and the discourse of VR as a

[69] But the social and personal effects of simulations can also be neutral - e.g. simulations can be as trivial as a VR user being able to experience their body with wings or a tail - and they can also be positive - e.g. VR simulations that augment our empathic connections with each other and our compassion toward ourselves.
[70] Hayles, *My Mother Was a Computer,* 61. This is akin to the white hat and black hat hacking communities which seek to undermine megacorporations either for the public good or for their own personal gain.
[71] In the Vox article "It's Hard to Be a Moral Person. Technology Is Making It Harder" Sigal Samuel writes that
[72] Hayles, "Flesh and Metal," 298.

medium. The following sections break down the thinking and influence of VR technologists Jaron Lanier and Brenda Laurel. Each thinker reflects how the discourse about VR's world-altering capacities is infused with religious language and imagination but in ways that do not reinscribe problematic dualisms. My framework helps to show the ways a religious imagination might function transversally, opening new ways for understanding and articulating the capacities of VR as a digital-virtual medium.

i. Jaron Lanier

As a foundational figure in VR, Jaron Lanier coined the term "Virtual Reality" as it applies to the technical assemblage of head-mounted displays and is actively shaping contemporary VR's public conception. Yet, despite his insistence that technologists "serve people best when we keep our religious ideas out of our work," he is perhaps the most influential evoker of a discourse involving VR and religious imagination.[73] In 1993, WIRED magazine published an article proclaiming Jaron Lanier as "the visionary high priest of VR."[74] While Lanier never openly accepted or denied the title, he allowed it to stick in various instantiations throughout his public speaking career. For example, two years later, Biocca presented Lanier as one of the "latest prophets in a long chain of VR prophecy."[75] And it is through these types of claims we begin to see how the cultural power of hegemonic Christianity gets appropriated and piggybacked on to effect his own technological sanctification.

Lanier's professional career follows the Silicon Valley archetype. He dropped out of college and began working for a tech company doing off-the-wall projects. Then he started his

[73] Lanier, "Jaron Lanier's Bio" and "Opinion | The First Church of Robotics."
[74] Snider, "Jaron."
[75] Biocca and Levy, *Communication in the Age of Virtual Reality*, 12. On the surface, singular claims of "prophethood" etc. seem to have a relatively thin religious veneer, however, as we will see, they begin to take on more weight as a collective that seems to be saying something crucial about VR, those who design experiences for it, and the nature of human experience and reality.

own company, which made a lot of money before it eventually went bankrupt and was sold for pieces, though not before his financial success had turned him into a pop-culture phenom. Lanier's celebrity status throughout the '80s and '90s was due to his involvement in the guest lecture scene in California and throughout the US. In those talks, Lanier admits he was driven to share the "good news" of virtual reality because he "believed it was necessary for the survival of our species." As he saw it, so many human problems were to be blamed on failures in language and communication. The "deep" mission of VR "was to find a new type of language or a new dimension of communication that would transcend language as we know it."[76] For Lanier, then, the promise of VR was not a transcendent escape from history or our bodies, but a radical a post-symbolic form of communication that was more direct, precise, and could bring about a utopic world of better transversal relations: between technology and society, between fellow humans, and even with our bodies. In a 1998 interview, only two short years before his company would go bankrupt, Lanier declared that in this utopic new medium, VR could achieve "the ultimate lack of class or race distinctions or any other form of pretense" because all perceived material limitations can be dissolved.[77] VR "allows us to not wish we could behave like gods but actually to behave like gods," a power we only come close to in our physical reality through things like atomic bombs.[78]

Lanier would spend years of prolific blogging cultivating this techno-spiritual message and eventually wrote his first book, *You Are Not A Gadget*, in 2010.[79] According to the

[76] Lanier, *Dawn of the New Everything*, 87.
[77] Lanier's own elitism and optimism brush too quickly over the fact that actual, not merely perceived, material limitations might still very much be in place.
[78] Lanier, Virtual Reality: An Interview with Jaron Lanier, originally published in Whole Earth Review. He does clarify that this happens through "simulation" but that "really doesn't matter because the simulation recreates exactly the same role that the physical world has to us (it's an external shared reality)."
[79] Along with the religious message, Lanier cultivated a religious image. In the 1993 edited volume *Future Visions: New Technologies of the Screen*, Phill Hayward writes that "The religious aspects of Lanier's image go beyond his

biography on his website, the book "is held dear by readers as an expression of spiritual sensibility in high tech times."[80] Lanier's own "definition of spirituality" involves finding joy in "one's emotional relationship with unanswerable questions"[81] of the kind science cannot answer, and which it would be intellectually dishonest to ignore. He argues that we can notice "permanent mysteries" that evoke wonder or even hope in these big questions, especially those who fear death.[82] He would explore these questions further in writing three more pop-philosophy texts: *Who Owns the Future?*, *Dawn of the New Everything*, and *Ten Arguments for Deleting Your Social Media Accounts Right Now*, all of which criticized contemporary tech culture whose rules, experiences, and values were all dictated by the companies with the biggest machines or fastest production times, rather than artists or humanists wanting to make the world a better place. His writings were his attempt to make a case for the positive role the digital-virtual can have on shaping the future of humanity, specifically as they make us "more ourselves," if only big greedy tech companies would stop trying to make us less human.[83]

His hybrid biography/pop-philosophy book, *Dawn of the New Everything*, reveals a shockingly non-conformist childhood full of tragedy and geodesic domes. Regarding more traditional religious influence, his mother Lilly who died when Lanier was nine, was Jewish and

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conviction and fervour. His public persona draws on one of the most powerful strands of American imagery, Christian religion. With a biography stressing how he emerged 'out of the desert', and with his unkempt Marleyesque dreadlocks, he evokes an image of the ascetic prophet - a latter-day John the Baptist striding out of the deserts of New Mexico, mumbling cryptic truths and possessed by apocalyptic visions. This image has been significant in his promotion. The Wall Street Journal's major feature on Lanier [46] was accompanied, not by 'state of the art' computer graphics but by a black and white portrait done in medieval woodcut-style, suggesting Lanier as an old-style charismatic prophet or heretic. The 'cool' world of science and cybernetics is presented as infused with a quasi-religious fervour without the revised theism which has also infused the world of 'New Physics'. Virtual reality itself is the 'transcendent beyond' in Lanier's vision." Hayward, *Future Visions*.

[80] Lanier, "Jaron Lanier's Bio."

[81] Lanier, "Jaron's World."

[82] One of his favorites of these mysteries is consciousness: "If you think of the brain as a computer, all of a sudden computation takes on a mysterious quality." Lanier, "Jaron's World."

[83] Times, "Jaron Lanier on Fighting Big Tech's 'Manipulation Engine.'"

barely avoided a concentration camp during WWII.[84] Her father was a rabbi and associate of Martin Buber.[85] Lanier's father, Ellery, was Eastern European, and most of the extended family was wiped out by the pogroms in Ukraine. According to Lanier, Ellery "had a mystical bent" and had lived with Aldous Huxley in California while studying Hinduism and Buddhism with various teachers.[86] Having been a sensitive and imaginative child, Lanier came to believe that "virtual reality tugs at the soul because it answers the cries of childhood," or cries to access the places of our earliest imaginings.[87]

During his time as the lead developer of VPL Research, Lanier began to hypothesize about the metaphysical potentials of VR as a new medium. At first, he suggested using the term "virtual reality" as merely a metaphor. In an interview with Kevin Kelly, Lanier said that the term:

> 'Virtual' indicated a substitution that has no impact within a certain frame of reference. In computer science, a "virtual machine" is a perfect substitute for a machine within the context of abstract computation. There are also "virtual particles" in physics. For something to be "virtual," it has to be indistinguishable in some practical context, while it remains distinguishable in another. If it were always indistinguishable, there would be identity, rather than virtuality. A virtual world doesn't fit this definition exactly, since we can't ever perfectly simulate physical reality.[88]

Yet, according to Lanier, despite the lack of a perfect simulation of physical reality, the virtual "seems to be out there, independent of you, waiting to be explored."[89] While this could indicate a type of digital dualism, Lanier is not interested in a hard ontological split. Here, Lanier is careful to remind his critics that "the goal of virtual reality is not to thoroughly describe and reproduce

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[84] Lanier, *Dawn of the New Everything*, 9.
[85] She died in a car crash when Lanier was nine years old. The trauma of losing his mother so early "consumed" his childhood memories with what he calls "an overpowering" sense of his own "subjectivity." Lanier, 12.
[86] Lanier, 25.
[87] Lanier, 90.
[88] Lanier, "Virtual Reality," 16.
[89] Lanier, 16.

physical reality," which might end up being an impossible task. Instead, the purpose of VR is "to understand human cognition well enough to engage the human nervous system in an evolving game of illusion." To trick the mind into taking experiences seriously, blurring fact and fiction. In other words, "virtual reality is essentially the scientific study of state magic, not the reduction of physical reality."[90] Magical thinking that transmutes our subjective experiences, instead of our materiality. As we will see in the next chapter, Lanier is channeling philosophical notions of the virtual as developed by Henri Bergson and Gilles Deleuze.[91]

In a 1989 interview for *Whole Earth Review*, Lanier explained that the VR technology he was trying to create had, along with physical consequences, also social and *mystical* ones. For him, VR was meant to function

> as the interstices or connection between people; a role that had been previously taken only by the physical world. The term "reality" seemed appropriate. A "world" results when a mind has faith in the persistence of what it perceives. A "reality" results when a mind has faith that other minds share enough of the same world to establish communication and empathy. Then add the somatic angle: A mind can occupy a world, but a body lives in a reality— and with our somatic interfaces like gloves and body suits, we're designing for the body as well as the mind.[92]

Comments like these hint at a refrain that would repeat throughout Lanier's writings: that a unique core aspect of VR is the way it highlights how personal experience, or subjective consciousness, is an inherently "mystical" process.[93] Without describing what exactly this process is, he argues that VR takes advantage of this immersive mystical process by co-creating a collaborative waking-state dream with other people. This state is achieved using technology

[90] Lanier, "The Complexity Ceiling," 217.
[91] Whether he is doing this consciously or not has yet to be determined, as there does not seem to be any evidence of him stating any direct influence by either philosopher.
[92] Lanier, "Virtual Reality," 17.
[93] Lanier, The Rise and Fall and Rise of Virtual Reality.

and play to access digital-virtual spaces where people can inhabit new bodies and experience new modes of subjectivity.[94]

Despite lacking a 1-to-1 physicality with images and objects in these digital-virtual spaces, Lanier suggests that while floating in VR worlds, something constant remains; there is a "you" that persists. It is "consciousness," "experience," a soul. [95] He supports his argument about this new digital medium of VR as the ultimate technology of reflexive personal experience, with anecdotes that "more than once" he heard users of his VR technology say "breathlessly, that they had encountered a "religious experience."[96] Language that seems to indicate a profound change in one's sense of self in relation to one's own body and the larger world that was brought about by an otherworldly (in this case digital-virtual) experience. Lanier is careful not to suggest a transcendent otherworldliness; he is not digitally dualistic. His is a machinic otherworldliness that emphasizes how our experiences in VR are immediate and co-immersed with physical reality (non-VR experience). In other words, for Lanier, the religious capacity of VR is related to its capacity for intermediation, how it reconfigures our sense of relationship with our mindbody.

From a position that considers the above, Lanier made and continues to make, stinging rebukes of Silicon Valley's perversion of technology for capital gain and social disruption, suggesting that social media and technology companies are destroying *what it means to be human*.[97] As Lanier sees it, so much of current digital virtual technology only contributes to greed and avarice. He argues that VR is and should be a spiritual technology capable of better

[94] Lanier, *Dawn of the New Everything*.
[95] Lanier, *Dawn of the New Everything*, 185.
[96] Lanier, 186.
[97] Lanier, *You Are Not a Gadget*.

connecting people to one another, but instead, it is being used to make us less human—here, he provides a religious iconoclasm of Silicon Valley.[98]

ii. Brenda Laurel

When it comes to VR, Brenda Laurel is less dramatic but equally colossal too Lanier and has been an active member of the new media industry since 1976. Earning both an MFA and PhD in theater from The Ohio State University, Laurel theorizes VR using drama theory and criticism, examining the medium for its social-interactive potential and argues that VR as a technology is "along the trajectory of the telescope and microscope" in that it allows new ways of seeing and interacting with the otherwise "unseen."[99] Her early work was with video game companies like CyberVision and Atari, where she was one of the few voices that resisted the popular notion that games were only for boys.[100] However, unlike Lanier's shift from technology to pop-philosophy, Laurel bridged conversations from within both the tech industry and academia throughout her career.

A consistent theme throughout Laurel's writing and experiments [on VR] involves the human capacity for imagination. She argues that "reality has always been too small for human imagination,"[101] and our ability to dream, play, and create is always in excess of our physical and actual realities. The smallness of reality fuels her desire to create and theorize entertainment experiences "that speak directly to the imagination."[102] She argues that it is this sense of smallness that contributes to the impulse of digital dualists above to create an "ultimate display" or "interactive fantasy machine" which "is only the most recent manifestation of the age-old

[98] Channel 4 News, *Jaron Lanier Interview on How Social Media Ruins Your Life*.
[99] Laurel, "AR and VR," 256.
[100] Since then, she has worked at the forefront of the industry in destabilizing gender biases and barriers.
[101] Laurel, "Toward the Design of a Computer-Based Interactive Fantasy System," 1.
[102] Strickland, *BE THERE HERE (1991)*.

desire to make our fantasies palpable— our insatiable need to exercise our imagination, judgment, and spirit in worlds, situations, and personae that are different from those of our everyday lives."[103] She wants to resist a metaphysics that would use VR as an escapist fantasy to heavenly otherworlds and instead encourage this creative impulse to better understand and relate to the world we have now.

Furthermore, Laurel sees this drive to create the imaginative worlds of VR as a *spiritual* impulse. She argues that the spiritual drive for imaginative worlds concerns a type of metaphysical relationality between the self and the material world. She writes that "in matters of justice, art, or philosophy, imagination is the laboratory of the spirit."[104] It is where we test those core issues of the spirit, like ideas, beliefs, and identities. Inspired by the ethnobotanist Terrance McKenna, Laurel describes VR's spiritual capacity as a manifestation of humanity's desire to "textualize the world and exteriorize the soul." And that,

> to exteriorize the soul means to enact the values that are at the core of us. In our inside-out new world, it is not getting information that is so hard, but rather judging its quality, applying it to the world, and figuring out what to do. You might call it, leading with the soul."[105]

In Laurel's model, VR is a medium that has the potential to allow the "soul" to lead us in making sense of the world. VR can shape our values and ethics. Technically speaking, it helps us visualize the otherwise invisible, interact with impossible things, and play in new environments while maintaining a persistent sense of "self" and body (mindbody). This talk of souls, desires, and other worlds is just one example of how Laurel does not shy away from allowing her religious imagination to inform her VR philosophy.

[103] Laurel, "Toward the Design of a Computer-Based Interactive Fantasy System," 1.
[104] Ibid.
[105] Ibid.

Another example involves her description of her drive to study and experiment with VR as arriving from a "conversion experience" she had in 1976:

> It began with a moment of awe in the computer-imaging laboratory at Battelle Memorial Institute in 1976. The first time I laid eyes on a computer, I saw a machine that could reconstruct images sent back from space. It could also draw pictures of fantastic worlds that existed nowhere but in some programmer's mind. I had what I believe may be called a "conversion experience." What I saw was a new presence in the world. Man had invented a playmate for himself in the lonely world of his imagination.[106]

Laurel's description would fit right in with many of the examples offered by William James in his text *The Varieties of Religious Experience,* one involving movement from a negative perspective to a positive one, concerning visions, awe, and the "presence" of something non-human. From that moment onward, Laurel would commit to making sense of this "new presence" both as a type of digital-spiritual agency as well as an evolving extension of our humanity.

Inspired by her conversion experience, Laurel conceptualized the medium of VR as a new mode of first-person presence, capable of transforming users into "new" selves. In the documentary *BE THERE HERE,* she describes this transformation as triggered by the recognition of VR as a type of art with two primary concerns: the first is "time travel," or losing a sense of time's passing, and the second is the experience of the "here and now" or "telepresence." She argues that this experience of recognizing one's movement through time and situatedness in space "can help us explore and learn in ways that seem natural to us. Through experiences that involve us physically and emotionally, as well as intellectually."[107] Here, Laurel highlights what I will argue in the following chapter, à la Bergson, that we cannot neatly separate space and time.

[106] Laurel, 2.
[107] Strickland, *BE THERE HERE (1991)*.

VR is as much spatial as it is temporal. The importance of the temporal is what VR technologists like Laurel make clear.

However, Laurel contends that it is not simply enough to have these transformative experiences in VR, but to push them to their fullest potential, which means reinventing "the kind of spaces where we collaborate with an environment, in order to transform ourselves."[108] This "transformation" of the self through aesthetic experiences mediated by virtual technologies is a core theme throughout Laurel's oeuvre. It is a transformation that occurs dynamically and dyadically in that designers "transform their interfaces" to the virtual, and these interfaces, in turn, "transform their users."[109] This transformation, for Laurel, hints at a divine process: "Because a true VR interface relies on the movements of human bodies, our interaction with such new representations of the world may be kinesthetic and tactile as well as visual. Sensory immersion in new dimensions of reality...suddenly that doesn't sound nerdy; it sounds divine."[110]

In her book *Computers as Theatre*, Laurel expands on this notion of "divine" transformation, where she theorizes real-time experience, or telepresence, as "the Dionysian dimension of art."[111] Laurel makes the case that a commitment to older practices and outdated rituals has inhibited true spiritual growth, and she "mourns the loss of magical places in our contemporary world."[112] She argues that what makes VR so compelling is that it can "bring back the powerful experiences of divine presence as traditionally evoked by ancient rituals and theatre." Language here echoed in the HTC Vive commercial. Applying this concept to VR and channeling Nietzsche, she writes:

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[108] Ibid.
[109] Laurel, *The Art of Human-Computer Interface Design*, 91.
[110] Laurel, "Tools for Knowing, Judging, and Taking Action in the 21st Century."
[111] Laurel, *Computers as Theatre*, 196.
[112] Aupers, *Religions of Modernity*, 179. Put differently, Laurel is wrestling with the disenchantment of modernity.

> Recall that in the Greek theatre, actors were the priests of Dionysus, the god of ecstasy and rebirth, and during the act of performance they felt themselves to be in possession of the god. Their audiences were transported and illuminated by the divine presence. Dionysian experience is the experience of being in the living presence of not only the artist but also huge spiritual forces. I think we can someday have Dionysian experiences in virtual reality, and that they will be experiences of the most intimate and powerful kind.[113]

It would not take long for that day to come. As an early experimenter with VR, she admits that her work influenced the "creation of more works that explored poetic and spiritual domains" and even led to individuals claiming to have "transcendent experiences."[114]

All these elements of Laurel's religious imagination manifested in her most well-known VR work, *Placeholder,* which involved humans taking animal forms and exploring a procedurally generated world. With *Placeholder,* Laurel admits wanting "to make a design statement that VR had uses beyond training, that it could be wild, wonderful, playful," and that it could "work on the question of embodiment."[115] Embodiment, for Laurel, is not opposed to technology, as she believes "technology is an extrusion of the human spirit." This view channels Marshall McLuhan and encapsulates her broader view of technology which she doesn't see "as other" but, rather, "as us."[116] She sees the potential of digital technology (and VR in particular) as being able to "reinvent the sacred where we collaborate with reality to transform it and ourselves."[117] A way to re-enchant what modernity has disenchanted; to sacralize the secular.

To achieve these transformations from a design perspective, Laurel allows her work in art and interactive theater to expand the boundaries of the medium of VR by a process she calls "designed animism." What she finds compelling about animism is "not so much its philosophical

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[113] Laurel, *Computers as Theatre*, 196.
[114] Laurel, WTD Keynote.
[115] Crecente, "VR's Quintessential Innovators."
[116] Ibid.
[117] Aupers, *Religions of Modernity*, 179.

or religious dimensions but the behaviors and artifacts that are created by people in response to animistic beliefs."[118] She contends that to get humans to respond to the designed animism of these environments, they need to feel immersed in those environments. She argues that the greater quality and quantity of actions a user can take in a digital virtual environment, the greater the immersion.[119] The greater the immersion, the greater the possibility for transformation. In the end, Laurel takes a humanistic approach, always concerned with how humans respond, preferably in creative and life-giving ways, to VR experiences, in the hope that digital-virtual environments will generate "poetics for a new world."[120]

VI. Conclusion

This chapter has made a case for considering the language of VR as evidence of a religious imagination as it seeks out and tries to instantiate worlds and experiences that transcend everyday life. This highlighting of the religious imagination and digital dualism is needed because programmers and designers of VRXs use their platforms to further, consciously and unconsciously, their ideologies which are shaped by their religious imaginations. Infused with a problematic digital dualism that has social, political, and subjectivity-altering consequences, the technology of VR is hotly debated as either capitulating too much to capitalist, white heteropatriarchy, or as holding the potential to change lives and even the very notion of human existence itself. The digital dualism exposed by the concept of the religious imagination reminds us that in a world increasingly intermediated by digital technology, far too many discursive spaces remain debilitatingly homogenous (primarily white and male). To counter the hegemonic spaces of digital discourses, scholars need to center the binaries that frame these discourses and

[118] Laurel, "Designed Animism," 252.
[119] Laurel, WTD Keynote.
[120] Ibid.

also the legacies of religious imagination that ballast them. As scholars of religion, we are uniquely situated to see and understand the function of this religious imagination of digital technologists and designers. Doing so is the first step in collapsing the operative binaries that sustain the otherness of non-whites and non-men.

However, as we saw with Laurel and Lanier, the religious imagination of VR can also be used to think more transversally. With these conceptual tools in hand, we can begin to see how VR critically reflects images, digital and otherwise, that sediment as a locus for religious meaning; especially given the role these images might play in shaping social, political, institutional, aesthetic, and auratic power within what we call reality. Recognizing the way this religious imagination functions to import ontologies and ideals is a necessary step because, as Haraway writes, only when we see them can we begin to devise a "way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves."[121]

[121] Haraway, *Simians, Cyborgs, and Women*, 181.

Chapter 2

VR and the “Virtual”

"I'm on a tree...eating a bagel."

- Lucas Rizzotto

I. A Virtual Time Machine

In the summer of 2020, during the height of the Covid 19 pandemic, computer programmer and social media personality Lucas Rizzotto built a time machine. Documenting his project in a video posted to YouTube, Rizzotto discusses the project's inception, construction process, and finally, a demonstration of its feasibility. By the end of the video, we watch through his eyes as he dons a VR headset and enters the digital-virtual space. A "time machine" interface appears before him, stylized after the DeLorean interface from the *Back to the Future* films: the colorful buttons representing options for selecting the month, day, and time for travel. A digitally rendered Pomeranian, Rizzotto refers to it as his "Good Boy Doggo," lounges on the right side of the machine, responding happily to his digital-virtual caress; its only purpose to "bring joy."

Before activating the device, Rizzotto takes a few moments to soak in the world he has created and then selects the moment of the past of which to travel. He pulls a tiny lever, and the machine comes to life. Three large generators swirl and crackle with electricity in the background, adding to the gravitas of the moment. With a pop and a flash, a large portal appears before him. A lucid vision of a past moment in time within its curved features. He is in a tree, eating a bagel. Though he cannot control the camera-perspective of the memory, his mind begins filling in the un-actualized space outside the portal, feathering out perception with memory. He is

"there."[1] Witnessing himself in the third person, like a ghost from the future, Rizzotto observes that he feels a compassion for this person he is watching greater than he is able to summon for himself in everyday life. He notices things about himself that he could not otherwise, as well as things he simply forgot. In the future, he says, forgetting such details about one's own experience "will be a thing of the past."[2]

Rizzotto's time machine is not the pop-culture version of a time machine; he makes it clear that he cannot "travel back in time to murder Hitler." His time machine consists of rewatching video recorded by a pair of Snapchat Spectacles he wore every day throughout the year of 2019.[3] Therefore, Rizzotto's time machine only functions as a time machine for the memories he himself has previously recorded. Its level of affectivity is unidirectional; Rizzotto cannot change the past. He cannot change the past because the digital-virtual time machine he created does not treat time spatially. It does not transport a person physically to a moment in the past but instead makes the past re-immediate to the present moment. Speaking technically, Rizzotto's time machine opens up a portal-image that displays in a first-person panoramic format a previously recorded moment of his own life in 2019.[4] It allows him to see himself again, through a digital-virtual version of his own eyes, in a moment that otherwise existed only within his subjective memory. And though the only explorable memories are his own, it is still "really hard describing the feeling you get when re-living your own past," he says, during the portion of the video where we see his body in a non-digital space wearing the VR headset and staring at a

[1] This doubling of a subject (mirroring) is a big thing in a lot of kataphatic RE. See Asprem, 2017, for more.
[2] Rizzotto, *I Built a REAL-LIFE Time Machine!* 🕐⚡. The general goofiness of how players look while using VR is not beside the point.
[3] A recording device that captures a first-person A/V perspective of the individual wearing them.
[4] We are watching a video of him watching a video in virtual reality, with cuts to his non-immersed body also in front of a screen watching the video of the VR environment. There is more to say on this intermediating quality at the end of the chapter.

screen projecting the digital world before him. This VRX[5] might seem like it could be any other home video project, but Rizzotto contends it is something different:

> It doesn't feel like watching a video. Not at all. In fact, the moment you see through your eyes again your brain lights up and you remember everything connected to that moment. You don't just see the memory portal. You see everything around it. Like the rush of memories you get when you smell food you used to eat as a child. It's crazy, overwhelming, emotional and way more immersive than I thought it would be. I was my own ghost. Watching myself wander through life with no idea what was going to happen next.[6]

As Rizzotto is surrounded by his first-person digital-virtual video memories, he is "overwhelmed" emotionally by the experience of himself from a 3rd-person perspective, or, as his "own ghost." Some scholars might assume that Rizzotto is speaking metaphorically, as in the metaphorical claims in HTC's Vive's commercial about accessing new worlds.[7] Other scholars might claim that this particular VRX is just like any other visual medium, where an encounter with memory objects produces affective qualities. They perhaps might try and explain his experience away as merely a result of the effort he put into the project or as a marketing strategy, as Rizzotto has developed other digital projects that have won awards. Or they might claim that Rizzotto's VRX is just one more "gimmick" in a long line of VR software applications and experiences. I disagree. In his voiceover for the video, Rizzotto muses and jokes about moments of his 2019 experience, but he ultimately affirms that reviewing his memories over that year was a life-changing experience; we should believe him.[8]

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[5] My shorthand for referencing a "virtual reality experience" as opposed to general VR technology. Similar to the difference between a "film" and "cinema."

[6] Rizzotto, *I Built a REAL-LIFE Time Machine!* 🕐⚡.

[7] Kratky, "Metaphor and Storytelling in Interface Design for Virtual Reality."

[8] There are echoes here of Ray Kurzweil's argument that when intelligent machines tell us that they are finally able to "feel," that we should believe them. Here, I am less inclined to follow Kurzweil's singularity model, but I do think taking VR more seriously is important for keeping a critical lens on how it is affecting us as it becomes more immersed in contemporary society.

In the vein of William James, this chapter argues that we can make sense of Rizzotto's experience by turning to the precise philosophical roots of the "virtual," in "virtual reality" in order to make sense of the fruits of VR. In other words, how VR pragmatically makes a difference in the world; in Rizzotto's case, a profound difference in his relationship to his own reflexive self-awareness, embodiment, and history. Why? Because, as pointed out in the introduction, the contemporary connotations of the "virtual" typically fall under the *as if,* or *almost*, "real" in the sense that there is still something false or illusory about what happens in digital-virtual environments. In this ontological hierarchy, materiality and physicality are given more prominent affective roles than digitality and virtuality. The result of this demotion of the digital-virtual is that VRXs like Rizzotto's are frequently treated as gimmicky (as we will see in Chapter 4), irrelevant, or derivative.

Crucial to the task of reclaiming the "virtual" of VR is the work of two 20th century thinkers of virtuality, Henri Bergson and Gilles Deleuze. In the contemporary scholarly literature on the virtual, practically all writers rely in some form or another on Bergson's concept of the virtual but often miss other key concepts with which it is imbricated. Those who use the virtual - often as a shorthand for what is actually meant by "digital" - without understanding its philosophical roots *reinscribe* the problematic dualisms that Bergson pushed past. Therefore, many of these digitally-dualistic writers fundamentally misunderstand Bergson's concept of the virtual. In this chapter I aim to remediate this shortcoming in VR studies by situating the "virtual" of "virtual reality" in relation to Bergson's philosophy of space and time (the virtual-actual dyad), his metaphysical imagology (an ontology that holds that holds that everything is images), and his philosophy of religion (fabulation and intuition).

The problem with relying solely on Bergson's concept of the virtual, however, is that Bergson was critical of imaging technology because he thought that it gives us a false sense of the virtual.[9] To rescue the virtual of VR, I turn to the cinephilosophy of Gilles Deleuze. Deleuze performs a vivisection on Bergson's ontology, fusing it with new conceptualizations of the medium of film (both in terms of material technology and human embodied experience). Yet Deleuze, in turn, was critical of the digital's ability to accurately and precisely inscribe the virtual.[10] My purpose in tracing the Deleuzo-Bergsonian concept of the virtual is to show how it *does* apply to the digital-virtual. Just as Deleuze applied Bergsonian concepts to film, I apply Deleuzo-Bergsonian concepts to contemporary VR technologies like Rizzotto's Time Machine. Concepts like fabulation, time crystals, and the powers of the false allow us to escape the problematic binaristic thinking of digital dualism presented in the last chapter and begin to see the importance of the temporal aspect of VR, rather than the continued fetishization of the spatial. What follows is a selective examination of Bergson's theoretical framework for a metaphysical imagology, and its key concepts of intuition and fabulation, which allow for an appreciation of the time component of VR, the way that "virtuality" is more than just digital representation, and the fact that to experience VR is to experience the religious (fabulative) tendencies of the body.

II. Henri Bergson's "Dualism"

[9] Bergson was aware, however, that he was witnessing the limitations of a newly forming technology: 'As a witness to its beginnings, I realised [cinema] could suggest new things to a philosopher. It might be able to assist in the synthesis of memory, or even of the thinking process.' Cited from Douglass, "Bergson and Cinema: Friends or Foes?"

[10] He writes about the disingenuous nature of the "electronic image". Deleuze, *Cinema II*, 265. Outside this singular quote, however, Deleuze did not comment explicitly all that much on digital or electronic technology.

In *Matter and Memory*, Bergson dissolves the argumentative paradoxes of the idealist (neo-Kantian) and representationalist (positivist) approaches to "reality,"[11] which, like the digital dualists, end up being too spatial. For him, the idealist and representationalist theories of dualism set up a "false problem" about mind and matter: whether reality exists apart from our mind's representation of it is a problem that cannot be answered as stated. To resolve the false problem of mind-body dualism, he proposes that we look to what he calls "intuition" and "common sense," or what the philosopher and Bergson scholar Elizabeth Grosz describes as the "form of knowledge that affirms the interconnectedness of being in its temporal embeddedness."[12] Most people, Bergson argued, would think it silly to question the real-ness ("actuality") of the chair on which they sit or the bagel they are eating. The problem is not whether objects around us exist mind-independently, that is "spatially," but, rather the process of how they coil and unwind in time. With mind-body dualism, philosophers have confused two of the universe's fundamental properties: space (quantity, matter) and time (quality, memory). In precisely articulating this new problem, Bergson forges his philosophy of the actual and the virtual as a dualism without oppositional binaries.[13] For the study of embodiment in digital-virtual worlds, this framework is vital: the virtual is not opposed to the actual; the physical is not opposed to the digital; the body is not opposed to the mind.

i. Metaphysical Imagology

[11] Bergson, *Matter and Memory*, 11.
[12] Grosz, *The Nick of Time*, 13. Intuition is a highly technical term in the Bergsonian oeuvre that I will expand upon later. In philosophy after Bergson, his concept of "intuition" has taken on multiple interpretations and meanings. See Deleuze's *Bergsonism* for intuition as method, or *Beyond Bergson* for intuition as sympathy. See A. W. Moore's *The Evolution of Modern Metaphysics* for a more disparaging take of intuition as a type of mystical vision and Pamela Sue Anderson's counter response in "Bergsonian Intuition: A Metaphysics of Mystical Life."
[13] Grosz, 163.

For Bergson, matter, the stuff of the world, consists entirely of images. He explains that these images have a "certain existence which is more than that which the idealist calls a representation, but less than that which the realist calls a thing—an existence placed half-way between the 'thing' and the 'representation.'"[14] The word "image" here is not to be confused with mere visuality, as in photographs or paintings. It should instead be thought of as discrete and temporary gestalt formations of proto or latent consciousness. This "consciousness" is not unique to humans. It exists as reality itself in various states ranging from the simplest to the most complex. It is consciousness latent to the natural world.[15] Grosz writes that for humans, in particular, this consciousness "is the projection onto materiality of the possibility of a choice, a decision whose outcome is not given in advance, which is to say, a mode of simplifying or skeletalizing matter so that it affords us materials on and with which to act."[16] These actions are specifically on other images that take shape in the form objects in the world. Bergson argues that "the object [we encounter] exists in itself, and, on the other hand, the object is, in itself, pictorial, as we perceive it: the image it is, but a self-existing image."[17] As an example: my body is an image that encounters other images (like the chair I am sitting on, the keyboard I am typing on, the sound of my child playing in another room, etc.). These image-objects have an existence apart from our sensations (realism), and those sensations are received accurately by our consciousness (idealism). The world is both as we perceive it, at least minimally, and also complex beyond our perceptive ability.

[14] Bergson, *Matter and Memory*, 9.
[15] Bergson, 248. In *Creative Evolution*, Bergson refers to a supra-conscounsess, xii, 192, 261-71.
[16] Grosz, *Becoming Undone*, 68–69.
[17] Bergson, *Matter and Memory*, 10.

To say that these images "exist," Bergson argues, means they have duration.[18] They endure in time, the swelling and bubbling of past and present, moving towards the future with opportunities to produce genuinely new things. And while all images are durational, not all images perceive this durationality. Bergson argues that the perception of the durationality of images is a tendency afforded to living things alone. Through a force of life (elan vital), nature develops a special kind of perception that allows living things to be capable of limiting the overwhelming kaleidoscopic immanence of all images.[19] Bergson's position treats perception and affection as attributes of matter, and not unique to humans. Perception and affection exist independently from subjectivity.[20] Throughout *Matter and Memory* Bergson establishes a dualism that denies human subjectivity a central position in the perceiving and affecting of the world. Whether living or not, all images perceive, and all life, human or not, engages in varying measures of perceiving duration.

ii. Perception/Affection

Drawing on evolutionary theories in the biological sciences, Bergson argues that living creatures, these self-existing images, driven by a generative and creative impulse, evolved the ability to perceive the world in new ways. However, rather than broadening what the creature could perceive, this particular perception was an occulting ability.[21] It was a perception that limited what the living-image could perceive from the vast wholeness of the universe of images.

[18] Bergson, 34.
[19] Bergson, 197.
[20] And as we will see in Deleuze, human subjectivity crystalizes these images most acutely.
[21] He writes that "there is in matter something more than, but not something different from, that which is actually given," 71. To perceive the wholeness, immediacy, or "more" of the given universe, or even a particular given object within the universe, would require a "pure perception" that only exists abstractly for humans. By "pure perception" he means "a perception which exists in theory rather than in fact and would be possessed by a being placed where I am, living as I live, but absorbed in the present and capable, by giving up every form of memory, of obtaining a vision of matter both immediate and instantaneous," 34.

It narrowed to only that which it could act upon or be affected by. This perception resulted from a sensorial feedback-loop driven by the organism's survival instincts and its impulse to continue living. As the organism encounters object-images through sensations, dependent upon the organism's context or interests, it reacts to the various sensations and stimulations generated through those encounters. For the simplest organisms, like bacteria, perception is embodied in the movement organs, which both propel and detect. In these organisms, the "complete process of perception and of reaction can then hardly be distinguished from a mechanical impulsion followed by a necessary movement."[22] Movement in and perception of the environment merge. The actions of the organism, how they move and live in the world, shape what they see and experience as their reality.

However, as organisms become more complex, their possible reactions to stimuli grow both externally, or spatially (they literally can detect and react at greater distances) and internally (in regards to potential actions in their present orientation). With all this new possible activity comes new levels of uncertainty and new gaps of inaction. This degree of uncertainty, arising from interactions between image-objects and the organism's potential actions within that context, is what Bergson calls the "zone of indetermination."[23] This zone of indetermination, or freedom, surrounds the organism and its activity in such a way that the line between what it senses and how it acts blurs. It is a blurring that makes it difficult to distinguish between how it affects and is affected by the other images it encounters.[24] He writes that this "affection is not the primary matter of which perception is made; it is the impurity which perception is alloyed."[25] In other

[22] Bergson, 32.
[23] Bergson, 32.
[24] Furthermore, the internalized subjective "I" no longer maintains a privileged position because this "I" is also a property of matter (images) itself. It exists in simple and complex forms, depending on the body doing the perceiving.
[25] Bergson, 58.

words, much like we will see with the affecognitive of M. Gail Hamner in chapter three, "all cognition embeds affect."[26]

iii. The Body

Of all the images, however, the image of the body is the most important for living things. The body is the living creature's primary point of mediating the affects of all other images. In technological terms, it is our interface to the world around us. The body sediments us in time. Unlike Enlightenment binaries of mind and body set apart from and above the rest of the world, Bergson writes that our body is not separate from but, rather, an "aggregate of the material world" and acts just like other images as it receives and returns movements and actions upon it. He suggests that the only difference between the body as image and other images is that the body "appears to choose, within certain limits, the manner in which it shall restore what it receives." The body is "an object destined to move other objects, is, then, a center of action" capable of changing itself and other images in its environment.[27]

Like the special perception of living creatures, the body is a special image because it can mediate the sensations of other images and delay its own reactions to those images.[28] Again, the body is a "center of action" surrounded by a "zone of indetermination" that brings about new futures not contained in its past. Grosz writes that this process involves mediating

> between the impact of external images and the transmission of movement back to those images; unlike inorganic objects, living bodies act as a kind of storehouse for energy, containing within themselves, in varying degrees, the possibility of choosing when and how to act and react.[29]

[26] Hamner, "What Is 'Affecognitive'?"
[27] Bergson, *Matter and Memory*, 19–20.
[28] Bergson, 17–27.
[29] Grosz, *The Nick of Time*, 165.

This process does not mean that the body receives all sensations or is impressed upon fully. Instead, unlike other non-living images, the body obscures the vast and overwhelming heterogeneity of reality from us. It dilates and contracts perception depending on its contexts and situations, changing the types of things the organism finds interesting, desirable, or repulsive. For humans, the body narrows our range of experience of images to only those it can affect and be affected by. Here it is worth quoting Bergson at length:

> To the degree that my horizon widens, the images which surround me seem to be painted upon a more uniform background and become to me more indifferent. The more I narrow this horizon, the more the objects which it circumscribes space themselves out distinctly according to the greater or lesser ease with which my body can touch and move them. They send back [*renvoient*, "return"], then, to my body, as would a mirror, its eventual influence; they take rank in an order corresponding to the growing or decreasing powers of my body. The objects which surround my body reflect its possible action upon them.[30]

The more a body narrows its perceptive horizon of images, the less it "sees." The less the body perceives, the greater the delay in action and reaction. This is because it can do more with less; the fewer images it sees, the more the body's potential for action and reaction increases. The body shifts its perceptive resources from seeing things broadly to perceiving the depth of particular things.

In humans, this narrowing of perception results from coupling the body-image with a second limiting image, the mind-image. Together they form the privileged mindbody-image of what appears to be an independent embodied self-consciousness.[31] However, the "body is distinguished from other objects not because it is the privileged location of my consciousness but because it performs major changes in other objects relative to itself because it is the central organizing site through which other images/objects are ordered."[32] The mind-image is the

[30] Bergson, *Matter and Memory*, 21.
[31] Correlating with Hayles' and Hansen's concept of the "mindbody" in Chapter 1.
[32] Grosz, *The Nick of Time*, 166.

relational image that connects or suggests repeatability (continuity) to qualitatively different images of the body as it organizes and changes from itself and other images from moment to moment. The mind is the most contracted and occluded image of the body's singular duration through time. In other words, its primary goal is to allow for conscious reflection of memory into the present while also allowing for the projection of the mindbody into the future. And herein lies Bergson's fundamental shift: what our mindbody (embodied consciousness) perceives as a unique individual self is not the body as spatial (physical or material changes), but the body as temporal - the body as it changes in time, moving our present images into the growing virtual historical past.[33] This temporal mode of consciousness is the result of the memory and the past congealing into a persistent and consistent sense of singular wholeness in the face of the dynamic heterogeneity of the world of images.[34]

iv. Memory and the Virtual

For Bergson, the primary catalyst for, and driver of, human experience is not perception but memory, which "prolongs [an image's] useful effects into the present moment" and that "there is no perception that is not full of memories."[35] This is a transversal process where memory and perception "always interpenetrate each other, are always exchanging something of

[33] Bergson often equates the temporal with the spiritual.

[34] According to the philosopher Suzanne Guerlac, "Bergson describes the superficial layer of consciousness as a kind of crust of language and symbols that covers over living feelings. At moments of strong passion, our energies break through the crust. 'The self rises up again to the surface. The outer crust bursts.' It is at these moments that we act freely. Our actions tumble from us in a way a ripe fruit drops from a tree. They cannot be rationally explained." Guerlac, *Thinking in Time*, 83.

[35] Bergson, *Matter and Memory*, 22-33. Memory, or the past, "survives under two distinct forms: first, in motor mechanisms; secondly, in independent recollections," 72. Contemporary memory studies make this distinction between declarative and non-declarative memory. What Bergson calls "pure memory" while theoretically independent, like pure perception, "pure memory, though independent in theory, manifests itself as a rule only in the colored and living image which reveals it," 133. He argues that "if it remained pure memory, [it] would be ineffectual. Virtual, this memory can only become actual by means of the perception which attracts it. Powerless, it borrows life and strength from the present sensation in which it is materialized," 127.

their substance as by a process of endosmosis."[36] Memory acts reflectively in the mindbody bearing past images to present images.[37] This movement of memory into the present can happen passively in what he calls habitual memory, an example of which might be walking down familiar streets on the way to work. The movement of memory can also happen actively, through recognition,[38] as in recognizing the face of a friend in the crowd.[39] The movement of memory, either habitual or recognizant, also limits and determines the potentiality of the organism's active capacity for action based on the entirety of its past.[40] Memory bears the past to the present in order to inform and shape what can become into the future. Bergson calls this activity of the past upon the present "the virtual."

Bergson's concept of the virtual describes how the past is ontologically relevant; it is the active force of the past as it relates to our actualized present (in memory). The reality of the virtual exists as an ever-expanding past that the mindbody utilizes (memory) to limit and shape the images (materiality) we are capable of perceiving and acting upon in the present. Bergson writes of memory's role in virtuality saying:

> Little by little it comes into view like a condensing cloud; from the virtual state it passes into the actual; and as its outlines become more distinct and its surface takes on color, it tends to imitate perception. But it remains attached to the past by its deepest roots, and if, when once realized, it did not retain something of its original virtuality, if, being a present state, it were not also something which stands out distinct from the present, we should never know it for a memory.[41]

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[36] Bergson, 67.

[37] More recent scholarship argues that memory is not merely "reflective" but holographic. See Robbins and Germine.

[38] Grosz writes that this Bergsonian active conscious recognition "involves the correlation of a current perception (or perceptual object) with a memory that resembles it." *Nick of Time,* 171.

[39] To be clear, like all human perception, this memory process is reductive, as the body only perceives in matter and memory what is useful to it for continuing into the future. Perception in the body, and memory in our mind, are always impoverished. Reality is always in excess of our perceptions and memories of it.

[40] For neuroscientific support see McNamara, "Bergson's 'Matter and Memory' and Modern Selectionist Theories of Memory."

[41] Bergson, 134.

The virtual (past) is a dynamic ontological force of time upon matter. The virtual contains within it all the potential actions of the body upon the images perceived, simply waiting to actualize in the present. According to Grosz:

> Memory thus donates to the object the potentiality or virtuality of the past, which helps restore to it or replaces for it what perception necessarily must strip away. In exchange, the memory-images that function to highlight or illuminate the object from unexpected angles abandon part of their virtuality in order to actualize themselves through their attraction to present perception and its accompanying movements.[42]

In other words, the potency of the virtual, its affectivity shaping function, involves sensorial-perceptual limitation that actualizes the present as we experience it. However, the causal power is not one way. The actualized present can also virtualize images, imbuing them with unactualized potential, thus adding to the virtualizing past's reciprocal potentiality. This actualizing of the virtual, as memory, into the present is made possible by the mind-image, which Bergson articulates synonymously as the spirit or soul, a virtual persistence in excess of the material body image.[43] The spirit, soul, or sense of self is our particular virtual past's collectivity as it bears on the present and persists into the future. Bergson uses these synonyms in loose, elliptical ways. In Bergson's original French "spirit," *ésprit* is the word for mind and thus connotes consciousness as much as it connotes a Christian sense of soul or spirit. However, the philosophical sedimentation of this connotative confusion (slippage, double entendre) is deep.[44]

So, what initially began as an attempt to resolve the problems that beset philosophical dualism and give the physics of his day a metaphysical throughline ultimately led Bergson's thinking and writing to an ontological affirmation of the "reality of spirit (*ésprit*) and the reality

[42] Grosz, *The Nick of Time*, 175.
[43] Bergson, *Matter and Memory*, 176.
[44] Hegel's *Geist* works the same way, with the *Phenomenology* sometimes translating it as *mind* and sometimes as *spirit*. It is worth noting that according to various biographies, Bergson was also influenced by, and some argue even converted to, Christianity, which may have had additional valences to his use of the term.

of matter" - and by extension, "the relation between soul (*l'ame*) and body (*corps*)," the virtual and the actual - and a complex theory of time.[45] Despite the rich potential, many of the VR designers of today seem to have little interest in the time element of the virtual. They have taken a conception of the virtual that is primarily about spatiality, creating spaces to inhabit, to falsify, to produce illusion, and the as-if, the analogical, or the metaphorical. Understanding Bergsonian (and, later, Deleuzian) concepts of falsity will help us bypass fruitless digital dualist debates and understand the relationship between space and time underpinning VR's capacity to both make the virtual sensible and to bring us in touch with our own durationality.

Bergson wrote most extensively on the relationship between the virtual and actual (soul and body, spirit and matter), in his text *The Two Sources of Morality and Religion*.[46] In this text, Bergson directly connects the concepts with religion and society. It is here that Bergson develops his concept of fabulation, the mindbody's capacity to attribute reality-affecting functions (spirits, souls, minds) to other images. Bergson claims that fabulation is the embodied tendency in humans that leads them to imagine deities, rituals, and social rules that bind societies together.

v. Fabulation and Religion

In *Two Sources*, Bergson extends his philosophical discussion of matter and memory, time and space, and virtual and actual, into the bio-psycho-social development of humans and society. He makes an evolutionary case that this development arises from tendencies, or repeated flows of activity, of life within nature. The three primary tendencies are instinct, intelligence, and intuition, from which other more complex tendencies evolve, like fabulation and religion. These tendencies exist broadly within all organisms and become most complex in the human to the

[45] Bergson, *Matter and Memory*, 9–11. The physics of his day was primarily Einsteinian, but contemporary physicists recognize today's quantum physics avant la lettre in Bergson's thinking.
[46] It is worth noting that A. E. Pilkington points out in *Bergson and His Influence* the ways Bergson's *Two Sources* is indebted to (and also critical of) Durkheim's *Elementary Forms.*

point that "religion was destined to emerge."[47] For Bergson, “religion” is both a tendency and a thing - religion is the tendency towards organizing around progressive or conservative moral values (a tendency towards openness or closure), and instantiations of religion (like Christianity) can develop from this process. For Bergson, the emergence of religion coincides with tendencies like instinct, intelligence, intuition, and fabulation, specifically as it contributes to humans seeing personalities, spirits, minds throughout nature, including within the nature of our own body (the soul).

Instinct

The first and most basic tendency of an organism is instinct. Instinct is the primary mode of living things’ relation to the natural world. It functions via perception and concerns the organism's actions and reactions, seeking to resolve arising problems as quickly as possible.[48] Bergson writes that instinct manifests as a "somnambulistic accord"[49] with the natural world. Among social creatures prominent examples of instinct are in societies of bees and ants where consciousness is within the hive and less so within the singular individual, a distinction these societies do not even comprehend. Instinct, and social instinct in particular, "is nothing more than the spirit of subordination and co-ordination animating the cells and tissues and organs of all living bodies."[50] Bergson argues that as humans form societies, the social instinct ends up being carefully curated by the religious process (either statically or dynamically) because of the consequences of a second tendency: the intellect.[51]

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[47] Bergson, *The Two Sources of Morality and Religion.*, 198.
[48] This perception acting in the vein of habit memory, but closely linked to the least cognitive elements of creaturely bodies. Think epigenetic factors and the “memory” of DNA.
[49] Bergson, 178.
[50] Bergson, 111.
[51] The stirrings of Durkheimian social obligation might start ringing here, as both Bergson and Durkheim went to school together. According to Lefebvre and White, though both Bergson and Durkheim argue for a type of *sui generis* religion, they differ sharply in terms of biological influence. Durkheim thinks that the division basic to

Intellect

While instinct and its offshoots function to settle organisms into a flowing accord with the natural world, the tendency of "intellect" acts to arouse and separate the creature from their instinctual sleep-walking.[52] Intellect was a later evolutionary development found in animals that we might now consider to have larger brains relative to mass. Intellect produces a more significant temporal pause between action and reaction. This pause in action and reaction allowed for creative responses to arising problems. In humans, this lengthier pause allowed for new inventions and tools that they could now "make and learn to handle."[53] These tools were both embodied (the capacity to conceptualize, think symbolically, analyze, fragment, etc.) and external (hammers, nails, computers), all for enhanced survivability and new potentials for activity. However, a negative consequence of the tendency toward intellect is the recognition of individuation - that one is apart from other images (not just humans, but all other beings and non-beings). The recognition of this apartness, and a new sense of the ephemeracy of images, culminated in the capacity to conceive the individual's death, thus contributing to its impulse towards self-interest. Intellectual creatures developed selfishness and mortal fear.[54]

Given the devastating effects of recognizing one's finitude, Bergson argues that nature attempted to resolve the issue by developing a new embodied tool, a "virtual" instinct.[55] This is a new sense of "virtual" but relies on his previous conception of the virtual as time, or the past's

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society is biological in nature, and not unrelated to the processes of cellular division and co-ordination that Bergson described in the passage quoted above.

[52] Though Bergson is careful to point out that "there still hangs round the edge of intelligence a fringe of instinct, and that in the depths of instinct there still survive gleams of intelligence." Bergson, *The Two Sources of Morality and Religion.*, 108.

[53] Bergson, *The Two Sources of Morality and Religion.*, 108.

[54] Bergson, 120.

[55] Unlike the sleep-walking instinctual sociality of bees and ants, instinct's power over humans has been minimized to the point of only existing as a virtual power of phylogenetic memory

active influence on the present. In this particular case, the "virtual" instinct in the individual, an active memory of the past influencing the present, manifested as an obligation towards the larger social body.[56] It is this virtual instinct of obligation that develops into religion, according to Bergson,

> Since instinct no longer exists except as a mere vestige or virtuality, since it is not strong enough to incite to action or prevent it, it must arouse an illusory perception, or at least a counterfeit of recollection so clear and striking that intelligence will come to a decision accordingly. Looked at from this first point of view, religion is then a defensive reaction of nature against the dissolvent power of intelligence.[57]

Intelligence leads to a sense of individuation, a dissolving of oneself from society. A dissolution that leads to death. For other creatures, instinct was instant action and reaction, but with the intellect came delays with various new deadly consequences. In response to these fatal consequences, nature cultivated what Bergson contends were religious tendencies in humans, giving more power to instinct's virtuality. Here, "religion" connotes the felt sense of social obligation in counterbalance to the active sense of isolation or individuation.

Fabulation

A tool of this virtual instinct towards religion was the tendency of fabulation.[58] In *Two Sources*, Bergson argues that nature cultivated fabulation to counteract the faulty aspects of intelligence, specifically its tendency to recognize and resist death.[59] As the individual becomes more intelligent, it inevitably leads to the selfishness of the individual against society, as the intelligence counsels "egoism first."[60] Fabulation was nature's way of counteracting the negating

[56] Bergson, 20.
[57] Bergson, 112.
[58] According to Robert's *Dictionnaire*, Bergson was the first to use this relatively rare French word in a philosophical sense. The translators of *Two Sources* translated the term as "myth-making" instead of keeping it as a proper and singular intellectual term associated with Bergson. I follow Deleuze, Bogue, and others who see it functioning uniquely in Bergson's work. Bogue, *Deleuze's Way*, 91 (footnote 54).
[59] Bergson, *The Two Sources of Morality and Religion.*, 122.
[60] Bergson, 111.

tendency of the intellect, and according to Bergson, arises most commonly in the form of a deity that "prevents or forbids."[61] Another way fabulation serves its purpose is by positing a spirit or soul image that persists beyond the body image's temporality.[62] This image is *felt* (presence) as much as it is *perceived*.[63] It is not necessarily about attributing subjectivity or individuality outright. Instead, it sees the potentialities of complex action within another image-object or that the object might also have a soul.[64] Arising from fabulation are more complex faculties like imagination, play, and dreams, including the capacity for what get called "religious experiences." It also leads to beliefs like the persistence of the soul beyond death, as well as the creative imaging of gods. Religion then, using this embodied tool of fabulation, "succeeds in filling in the gap, already narrowed by our habitual way of looking at things, between a command of society and a law of nature," between our selfish and illusory recognition of the distinctness of our bodies from those around us and the deep, immersive connection we have to those other bodies and the world.[65]

In VR we can encounter a crucial consequence of the fabulative tendency, namely, its capacity for distinguishing a double-image of embodiment within the perception of the singular

[61] Bergson, 112. John Mullarkey calls this the "trauma reaction" and it shares some similarity with the Kantian notion of the dynamical sublime that we will encounter in chapter four. See Mullarkey, "Life, Movement and the Fabulation of the Event," 57.
[62] Bergson, 123.
[63] John Mullarkey argues that this is what separates and makes unique "fabulation" from a more generalized "myth-making." Mullarkey, "Life, Movement and the Fabulation of the Event," 60.
[64] Bergson has a fantastic example about a soldier on the battlefield fearing the bullet more than a bombshell: "An officer who took part in the Great War told us he always noticed that the men dreaded the bullets more than the shells, although artillery-fire was far more deadly. The reason is that with bullets we feel we are aimed at; and each of us, in spite of himself, reasons as follows: "To produce the effect, which would mean so much to me, of death or a serious wound, there must be a cause of equal importance, there must be intent." A soldier who, as it happened, had been hit by a splinter from a shell, told us that his first impulse had been to exclaim: "How silly!" That this fragment of shell, projected by a purely mechanical cause, and which might just as well have struck anybody, or nobody, should nevertheless have come and struck him, him and not somebody else, appeared to his natural intelligence illogical. By introducing the idea of "bad luck," he would have demonstrated more clearly still the kinship of this spontaneous intelligence with the primitive mentality." *Two Sources,* 135-6.
[65] Bergson, 5.

human body. Bergson names it as the distinction between the "tactile image" and the "visual image" of our body.[66] We see ourselves as image, similar to looking in a mirror. However, while our mirror-image often leads to a sense of otherness, our double-image in VR maintains the sense of intimacy we have with our body in non-mirror encounters.[67] Seeing my hand in VR is more akin to the normal encounter I might have with my hand (looking at it while I type, for example), rather than what it might be like to look at my hand in a mirror. Bergson argues that this experience of the doubling-image is a result of the onset of fabulation, in which humans could perceive a distinction between their durationality as a species and their own particular materiality; an illusory distinction between their mind, soul, or spirit, and their touching, feeling, body. [68] In the Bergsonian evolutionary framework, that our own body (image) is capable of affecting reality is generally recognized instinctually.[69] Our bodies perceive and act and make changes in the world with self-reflexive awareness. This also helps explain the readiness to accept our affective capacities in VR environments. We assume that our digital body (image) has affective capacity in line with our perceptual capacity. Bergson argues that our ability to recognize that this power might exist in other image-objects, was a result of later evolutionary processes. Fabulation is the early answer to the "theory of mind" that projects and accepts the reality of "unseen" images (other people and creatures mind-images) that exist in time even when they might not appear spatially.[70]

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[66] Bergson, *The Two Sources of Morality and Religion*, 123.
[67] Zeller et al., "Sensory Processing and the Rubber Hand Illusion—An Evoked Potentials Study."
[68] Bergson, *The Two Sources of Morality and Religion*, 122.
[69] This follows because of the tie between perception and affection mentioned above.
[70] This is a type of evolutionary "theory of mind" but with Bergsonian flair. It could also possibly be seen as a reformulation of Hegelian recognition. Not "I am I, because the other recognizes me" (as in the Master/Slave dialectic) but "I am I in that I recognize you too are an I." It's a theory that arises out of excess and not lack, out of the proliferation of images and not the labor of the negative.

To reiterate, Bergson theorizes the body as our primary tool for mediating consciousness and the world. Fabulation, which is at the core of our tendency towards religion as social obligation or the pressure of the collective in the face of our individual finitude, is a part of this mediating process and plays a role, along with intuition, in our capacity for religious experience. Fabulation allows for the recognition that we exist as creatures in time beyond the present and encourages solidarity with the people and world around us.[71] Furthermore, fabulation is at the root of our embodied capacity to experience VR. The ability to experience a double-image of our body, our digital body in VR, as our own. Our ability to attach a sense of "self" to a digital-virtual image is only a difference in degree between our recognition of the attachment to the body-image and the mind-image.

vi. Intuition and Religious Experience

While instinct and intellect play a role, to understand fabulation's direct connection to both religious experience and VR requires an account of Bergson's third tendency of the human body, "intuition." For this project, I am looking at intuition as presented in Bergson's *Creative Mind*, as it relates to the human perceptual immersion into an object in such a way as to "coincide with what there is unique and consequently inexpressible in it."[72] This is an immersion that leads to the dilation of perception and eventual capacity to conceive an image's total relations or its pure difference within the world's heterogeneity. Bergson's intuition often gets mistaken directly with what some call ego-death, but intuition is not a loss of self-awareness or

[71] The idealistic fruits of Bergson's philosophy would lead him to become a key diplomat after WWI. For more on Bergson's political involvement, see Lefebvre, "Bergson, Human Rights, and Joy."
[72] Bergson, *The Creative Mind*, 135.

consciousness. While it might be considered an altered state of consciousness, it is a process of opening to a sensation of a thing's wholeness.[73]

While the intellect binds the individual to reality via rational, logical, and representational limitations, intuition sinks between the lattice of subjectivity without dissolving it.[74] Intuition is not about getting a clearer picture from the "outside," but, instead, getting a sense of wholeness from within. Bergson offers the metaphor of exploring and experiencing a city from inside rather than from a distance.[75] Intuition is a return to the immediacy of instinct, via intellect, "that has become disinterested, self-conscious, capable of reflecting upon its object and of enlarging it indefinitely." This intuition is a metaphysics of perception, not of an alternate reality, but "a heightened reality."[76] According to Grosz, Bergson's intuition

> involves both a lessening of the intellect's grip on the object's future use and a deepening of its capacity to scour and address the multiplicity of its other (nonutilitarian) qualities. It is a contemplation or observation that opens up worlds to us, rather than narrowing the object down to our potential concerns.[77]

While the intellect narrows our perception, intuition expands it. We can conceive Bergsonian intuition as self-reflexive awareness of affective flows of power and quality, a case I will make more strongly in the following chapter.[78]

Where intuition connects most closely to VR is through the popular concept of "immersion." For Bergson, intuition, a sense of wholeness, is an immersive process. For those

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[73] We see elements of this immersive intuition in parent child relations, or the ecstasies of love, or the focus of a child at play. We might even see elements of Durkheim's collective effervescence, as it concerns the social and communal more so than the individual.

[74] Bergson, 31.

[75] Bergson, 188.

[76] Bergson, *Creative Evolution*, 194.

[77] Grosz, *The Nick of Time*, 234.

[78] In chapter three I will argue that RE is a form of the affecognitive where cognition is already itself embedded with affect but also destabilized by it. And, like REs, intuition can also be facilitated by bio-chemical substances capable of loosening the static binds of the intellect without losing them altogether. And in the same way that it can be bio-chemically induced, technology can have the same effect, which is why, for my project, conceiving intuition is essential to understanding how it permeates RE and VR phenomenologically.

involved with the production of and engagement with VR, like Brenda Laurel in the previous chapter, one of the core qualities designers indicate seeking is that of reproducing a sense of "immersion" in the digital-virtual environment. Their aim is to create a sense of envelopment that does not merely blend the digital and non-digital environments but instead creates a sense of subjective wholeness to which the distinction between the two no longer matters.[79]

So when a person speaks of the "reality" of VR experiences, what they are referring to is the way VR triggers their intuition about their generalized experiences of the world. Jaron Lanier calls this intuitive acceptance of the digital-virtual world of VR the "conversion moment."[80] The moment when the player-user no longer feels the acute pressure of the technology mediating their experience.[81] How can digital technology do this? As mentioned earlier, intuition draws from memory (the Bergsonian "virtual") and not perception of the present (VR environment). There are plenty of digital-virtual experiences that a person can *perceive* but to feel *immersed* requires this type of Bergsonian intuition. This is because intuition and memory empower durationality. Thus, when a person "enters" into or immerses themself in a VR world, their durationality is what makes the experience feel "real." VR takes advantage of our body's intuitive tendencies and produces a sense of an integral experience.

Interlude

A Problem: Bergson's Critique of Technology and Illusory Time

While Bergson can help us connect RE and VR through his reconceptualization of the body and its tendencies (fabulation and intuition in particular), a critical problem arises when

[79] This dismissal of distinction is evident in the way people talk about VR feeling "real" despite not achieving 1-to-1 graphic fidelity.
[80] Lanier, *Dawn of the New Everything,* 172.
[81] An experience no doubt akin to "losing" oneself in a good book, or the "suspension of disbelief," or even "flow" of video gaming. However, the difference here involves the movement and activity of the body without the passivity of consciousness.

applying Bergsonism within broader conversations of mechanized imaging technology. For Bergson, this meant film and photography cameras. For my purposes here, this includes VR. Thus, any claim about VR and reality must contend with Bergson's criticism that imaging technology, notably film, can only offer us an illusory perspective of time, and therefore an illusory perspective of reality.

Unlike his contemporaries, the logical positivists, who thought photography and film could finally allow us to understand the world in frozen perfection, Bergson was antagonistic to film technology and all the claims of its capacity to perceive reality more accurately than the unassisted human eye.[82] In fact, the mechanism of film reinforces what Bergson says are the problematic illusory aspects of our "intellectual" tendency for "perceiving" stasis, homogeny, and singularity. He writes in *Creative Evolution* on the tyranny of the cinematographic eye, saying:

> Instead of attaching ourselves to the inner becoming of things [intuition], we place ourselves outside them in order to recompose their becoming artificially. We take snapshots, as it were, of the passing reality, and, as these are characteristic of the reality, we have only to string them on a becoming, abstract, uniform and invisible, situated at the back of the apparatus of knowledge, in order to imitate what there is that is characteristic of this becoming itself. Perception, intellection, language to proceed in general . . . the mechanism of our ordinary knowledge is of a cinematographic kind.[83]

These technologies replicate human apparatuses of epistemology but they do not give us the "real." That is because, in the Bergsonian framework highlighted above, the human apparatuses of perception, intelligence, and other embodied tools actually obscure our experience of reality.

[82] As Clevis Headly points out, that the "cinematographical method" was taken up by positivists in some circles of science to which Bergson was resistant. *Beyond Bergson*, 84.

[83] Bergson, *Creative Evolution*, 332. Bergson starts *Matter and Memory* with a nod to common sense, as a means of critiquing neo-Kantianism and the positivists, but here notes that cinema replicates our "ordinary knowledge" of time and image a bit too much.

Since reality is durational (dynamic and heterogeneous), any tool or technology that tries to create static patterns, or "snapshots" can only ever give us partial views of the world.

Bergson suggests that the static and measured process of the machinic film apparatus acts too much like the human intellect and obstructs reality. He uses film technology as a negative object lesson on how to think memory and the virtual. When we think of memory and the virtual like a ribbon running between two spools (like a film being projected), in which the one representing the past is getting larger and larger, we cannot see how the past is consistently folded into the present.[84] Film acts spatially like a clock, but tracks images instead of time. It substitutes static elements for what is otherwise a dynamic process, showing only discrete static frames in quick succession.[85] The inadequacy of this film spool analogy highlights what Bergson conceived to be a consistent problem: because time (duration/virtuality) is always moving, and not a merely a private-subjective experience, but, rather, an account of the entirety of reality, it can never be imaged (statically). In other words, film tends too much towards intellect and not enough towards intuition.

As Bergson understood film technology, any particular film, once captured on celluloid, is unchanging (unlike duration), and therefore incapable of creating anew. This inability to image time and duration frustrated Bergson about the medium of film, which he argued was mere trickery of movement. It does not image real-time, or real transformation, but merely presents degrees of images. For Bergson, film as a technological medium is incapable of showing us the

[84] Bergson, *The Creative Mind*, 192–93.

[85] Film also misrepresents reality in that thinking time spatially is also thinking time linearly, and there is no linear time for Bergson. Time is qualitative, and the totality of the past is not on a ribbon that is growing behind us. It is an entire and discrete totality that is constantly bearing down on our present. So to think of it in these discrete chunks, as film does, is to misrepresent reality.

virtual and it follows that VR might suffer the same fate. Grosz seems to suggest as such, arguing that digital technology:

> translates, retranscribes, and circumscribes the fluidity and flux by decomposing the analogue or the continuous into elements, packages, or units, represented by the binary code, and then recomposing them through addition: analysis then synthesis. But these activities of recomposition lose something in the process. The sweep and spontaneity of the curve, represented only through the aid of smaller and smaller grids, or the musical performance represented only through the discrete elements of the score, represent a diminution of the fullness of the real performance; the analogue continuum is broken down and simplified in digitization. What is lost in the process of digitization, in the scientific push to analysis or decomposition, is precisely the continuity, the force that binds together the real as complexity and entwinement.[86]

For Grosz, the digital, like film, is too intellectual and has less data than reality. However, like Bergson with film, Grosz's critique does not quite capture the potentiality for duration that VR technology offers. At this point, Deleuze steps in to show how film, and, I argue, the digital that follows in its footsteps, might actualize Bergson's conceptualizations of time, durationality, and the virtual, most accurately.

Solution: Deleuze's Bergsonism and Cinephilosophy

Though relatively ignored by computer scientists and programmers alike, the philosopher Gilles Deleuze has considerably impacted theorizations of contemporary modern digital technology. Widely considered the preeminent "philosopher of the virtual," Deleuze's work focuses on a broad range of philosophical issues, free-ranging through metaphysics, phenomenology, and politics, while commenting on things as diverse as music, math, and architecture. It is in his *Cinema I* and *Cinema II*, however, where Deleuze's thinking of the virtual gains its most significant weight, though for many years they were set aside as part of his oeuvre as scholars had trouble parsing whether they were film theory texts, film history, or books

[86] Grosz, *Time Travels*, 141–42.

on philosophy and technology. It was not until the mid-90's that these Cinema books started making their impact on scholarship that sought to reimagine the relationship between image, thought, and ontological distinctions between the virtual and the actual.

Deleuze turns to the medium of film, not merely in the manner of a film critic, but to theorize a new form of thinking involving cinema: the relations of film, screen, viewer, and event. This new cinematic thinking that he posits not only shows us what perception, consciousness, and duration might look like analogically but also shows us perception, consciousness, and duration as actualizing processes. He writes:

> [B]ecause Bergson only considered what happened in the apparatus (the homogenous abstract movement of the procession of images) he believed the cinema to be incapable of that which the apparatus is in fact most eminently capable of: the movement-image—that is, pure movement extracted from bodies or moving things. This is not an abstraction but an emancipation. [87]

So, contra Bergson, Deleuze suggests that film actively images reality (the actual and the virtual) more precisely than its early forms, which seemed more concerned with the spectacle and the scientific. Deleuze argues that Bergson's thesis "makes possible another way of looking at cinema, a way in which it would no longer be just the perfected apparatus of the oldest illusion, but, on the contrary, the organ for perfecting the new reality."[88] Deleuze transforms cinema itself into a concept that rethinks not only the human but all of reality, opening avenues to explore the in-between, force and flow, over and against the static or essential. He focuses on cinema's unique capacities for relationality and how it dissolves and disperses concepts like subjectivity, the body, and "the true."

III. Deleuze's Cinephilosophy

[87] Deleuze, *Cinema 1*, 1986, 23.
[88] Deleuze, *Cinema 1*, 8.

Deleuze's cinephilosophic oeuvre visualizes, articulates, and expands upon Bergson's conceptions of perception, affection, the body, memory, the virtual, and the spiritual. In a series of interviews about his cinema project, Deleuze admits that his goal in writing both texts was to produce a "natural history" of cinema by developing a classification or taxonomy of images and signs.[89] However, this simple admission does not entirely take into account the vastness of the project, of which the driving question was, "what exactly does cinema thereby show us about space and time that the other arts don't show?"[90] The books extend well beyond the discipline of film; reaching into diverse fields like mathematics, biology, and music. While *Cinema I* surgically dissects images of movement, action, and affect, *Cinema II* reflects on the medium's radical potentiality: that film is capable of imaging time, duration, and the virtual. Films can destabilize our typical spatialization of time, open gaps for new relationships between images, and rethink our concepts of subjectivity and experience.

i. Film, Images, and Thought

Just as Bergson was critical of the scientific positivists and realists/idealists of his day, Deleuze was critical of the structuralists and psychoanalytic and semiotic approaches to film popular during the 60s and 70s.[91] He argued that "it's not to psychoanalysis or linguistics but to the biology of the brain that we should look for principles" in how we make sense of film. He thought it was "catastrophic to try and apply linguistic models to cinema" as the "application of a linguistic model always ends up showing that cinema is something different" or something more than just language.[92] This move from the linguistic is a move away from thinking film, and, consequently, new media, only in terms of communication, transmitting order-words, or

[89] Deleuze, *Negotiations, 1972-1990*, 46.
[90] Deleuze, 58.
[91] Christian Metz was a big antagonist
[92] Deleuze, 52 and 60.

information. In Bergsonian terms, it is a move away from the tendency towards "intellectualization." Deleuze would rather we turn away from cinema as structures of discursivity and towards an understanding of cinema as affective, embodied, and durational images/materiality.

Across both books, Deleuze presents us with the aspects of film that make it special. He attends to the way film can present us (Bergsonian) images of real movement, perception, and affection as they are, directly encountered by our perceptive and affective capacities, and not merely as representations. However, he goes even further than Bergson to argue that film not only shows us an image of a thinking thing but actualizes thinking itself. Along these lines, Deleuze argues that cinema has always tried to construct an image of the mechanisms of thought.[93] This actualization of thinking within cinema arises from the projection of images, and also as a result of the enframing screen, the movement of the camera, the emitted light, and their relation to the viewer.[94] It is technological and material as much as it is phenomenological. Deleuze describes this conjunction as a "machine assemblage of matter-images."[95] This machine *assemblage* consists of relations between the active and heterogeneous materials of the film,[96] the camera, the camera eye, the viewer, the screen, and all the other elements that form a collective arrangement capable of forming cinematic *assemblages* like the "cinema-body-thought link."[97] In the following sections, what matters for my project is to show how the structure of VR

[93] Deleuze, 64–64.
[94] According to Rodowick, Deleuze couples this conception of thought with film because he sees "image practices as social" as a type of technological automata. Rodowick, *Gilles Deleuze's Time Machine*, 12.
[95] Deleuze, *Cinema 1*, 85.
[96] And the filmic apparatus is not the end-all-be-all, but rather one particular kind of system with its own unique abilities. Deleuze even has the forethought to ask what system a different type of material apparatus might produce, such as digital computing and VR. In *Negotiations* he asks "What sort of system is there in digital electronic images-a silicon system rather than a carbon system?" *Negotiations*, *1972-1990,* 67.
[97] Deleuze, *Cinema 2: The Time-Image*, 190.

as a time-based-media-human assemblage functions to produce new circuits of thought and feeling.[98]

ii. Cinematic Assemblages

Deleuze's concept of the "assemblage," developed with Félix Guattari, is a translation from the French *agencement,* which carries tones of the arranging or fixing together of heterogeneous objects (or with a Bergsonian ontology: images).[99] Philosophically, the concept has a dual aspect of both methodology and ontology, keeping focus on the in-between, the relationality between the objects rather than the sum they might produce. "What is an assemblage," according to Deleuze?

> It is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes and reigns—different natures. Thus, the assemblage's only unity is that of co-functioning … It is never filiations which are important, but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind.[100]

Assemblages are not about static identities or permanent consistencies; what is important is the temporality and effects of these relationships. For Deleuze and Guattari, assemblages are about "bringing into resonance, direction, coherence – not necessarily a logical consistency, but a kind of coherence of multiple heterogeneous elements – in such a way as to achieve an effect in the environment or in the assemblage itself."[101] These assemblages are all throughout the world, working in us, on us, and through us.[102] When we name them, construct them, they become

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[98] It is important to note that Deleuze's film examples - nor any VR analogues I could give - are not paradigmatic ones to be replicated.

[99] Inspired by Bergson, Hjelmslev and others. The term has taken on a life of its own since Deleuze and Guattari first articulated it, resulting in often vague usage in sociology, history, and archeology.

[100] Deleuze answers this question in dialogue with Claire Parnet. *Dialogues II*, 69.

[101] Packer and Wiley, *Communication Matters*, 25. This is from an interview between communication theorist Stephen Wiley and Katherine Hayles.

[102] There are two major types of assemblages that work in conjunction: "simultaneously and inseparably a machinic assemblage and an assemblage of enunciation." These assemblages function similarly to the mindbody image of Bergson above. As a relational multiplicity, assemblages of enunciation result in discursive framing practices or "what is said," while machinic assemblages tend towards action, "what is done." Deleuze is trying to

visible, and when we see them, we can begin to see their effects and functions in the world. And because they work heterogeneously across the material, phenomenological, social, and linguistic we can use the concept to think through VR as a technology and as an experience in relation to human embodiment. Deleuze articulates that:

> A thing, an animal, a person are now only definable by movements and rests, speeds and slownesses (longitude) and by affects, intensities (latitude). There are no more forms but cinematic relations between unformed elements; there are no more subjects but dynamic individuations without subjects, which constitute collective assemblages.[103]

By "cinematic relations" (or "cinematic assemblages") Deleuze means to say that the atomic elements of cinema, which he breaks down as part of his cinephilosophic taxonomy, can help us make sense of our larger metaphysical reality, even outside of actual films. Cinematic assemblages, which can also be found in VR, break down barriers between objectivity and subjectivity and focus human attention on function, activity, and affectivity.[104]

When it comes to art and technology like film in particular, assemblage-thinking considers the importance of bodies, context, and the apparatus itself "where certain processes in becoming are operative and are distinct from those operating in other apparatuses."[105] The interplay between the technology and our phenomenological experience catches us "in a correlation between a perception image and a camera-consciousness which transforms it."[106] Assemblages always entail bodies, and bodies must make choices. The gap or interval between shots of a film allows for the cinematic creation of new worlds, much as Bergson's "zone of

articulate that the words we use, what we say, the discourse around topics and ideas, has its own particular structures that interplay differently, and sometimes in not so clear ways with the machinic material, or active elements. Deleuze and Guattari, *A Thousand Plateaus*, 504.

[103] Deleuze and Parnet, *Dialogues II*, 93.

[104] McQueen, *Deleuze and Baudrillard: From Cyberpunk to Biopunk,* 5-7.

[105] Deleuze, *Two Regimes of Madness*, 342.

[106] Deleuze, *Cinema 1*, 74.

indetermination" gives the organism space to make choices.[107] From pre-linguistic imagistic, material, "visual dust," filmmakers, programmers, and game designers craft, arrange and codify organizational structures and images into signifying or destabilizing forms.[108] Directors and game designers like Tetsuya Mizuguchi (who we will see more of in the following chapter) arrange images in a particular manner that is meaningful and productive. It is not merely accidental. If that were the case, we would see assemblages everywhere, and they would lose their analytical power.[109] It is from a viscous vapor of images (what Deleuze calls its "signaletic material") that signs and signals take shape through the camera, projector, and screen intensive relational encounters with human bodies (as audience). The body and the filmic apparatus co-function as an assemblage to produce cinema.

Thinking in terms of cinematic assemblages is what allows Deleuze to index its unique properties compared to other media[110] and applies usefully to media technologies beyond film.[111] As we analyze machinic assemblages like the film projector-film-screen-human assemblage, we can also think the HMD-software-body assemblage of VR. However, it is not enough for film and VR to show us time and durationality, as if mere representation had any power. Thinking in terms of assemblage allows us to see how film and VR can cause fundamental change in our experiences of the world. The subjectivity-altering power of cinema is in how it provides events for us to be taken up into new machinic assemblages of desire, allowing us to ultimately become

[107] Deleuze, *Cinema 2: The Time-Image*, 68.
[108] A Bergsonian metaphor as interpreted by Maurizio Lazzarato.
[109] But this is not to give directors or auteurs the power either, as cinema helped end the "author-function" as a primary mode of analysis.
[110] All technology and media generate their own unique assemblages.
[111] Bergson, in contrast, was concerned with the filmic apparatus alone - the camera and its capacities- and thus missed the ways that the assemblage of body-camera-conciousness can give us insight into the virtual.

"spiritual automatons."[112] In other words cinema allows us to see and participate in our nature as durational machines of the virtual and the actual.

iii. *Shock to Thought (and Subjectivity)*

Deleuze writes that cinema reveals no singular static dogmatic schema or "truth" to which one must apply all life, but, rather, offers images, sensations, that allow bodies to do, falsify, and create as a mindbody in constant and dynamic forms of spiritual and mechanical relations. Cinema shows us what new capacities these spiritual-machine-mind-body's make available. Here again, it is worth quoting Deleuze at length:

> The body is no longer the obstacle that separates thought from itself, that which it has to overcome to reach thinking. It is on the contrary that which it plunges into or must plunge into, in order to reach the unthought, that is life. Not that the body thinks, but, obstinate and stubborn, it forces us to think, and forces us to think what is concealed from thought, life. Life will no longer be made to appear before the categories of thought; thought will be thrown into the categories of life. The categories of life are precisely the attitudes of the body, its postures. 'We do not even know what a body can do': in its sleep, in its drunkenness, in its efforts and resistances. To think is to learn what a non-thinking body is capable of, its capacity, its postures. It is through the body (and no longer through the intermediary of the body) that cinema forms its alliance with the spirit, with thought.[113]

The bodily experience of these time images, these moments of disrupted sensory-motor linkages, moments of our thinking becoming shockingly apparent to us, open up space for a taste of virtuality. Or, as Bergson wrote, as a "shock to the soul."[114] A moment of disassociation from intractable subjectivity and be informed by new potentialities. To become subjectively malleable enough for these images to imprint new lines of flight and schemas of possibility beyond a singular and intellectualized individuality.

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[112] "Spirit" here sharing in the sense of Bergson's spirit/soul as it relates to the concept of freedom which I do not have time to develop.
[113] Deleuze, *Cinema 2: The Time-Image*, 189.
[114] Bergson, *The Two Sources of Morality and Religion.*, 218.

Deleuzian cinema is about experience, consciousness, and subjectivity as much as it is about actual images on the screen. However, this is not the subjectivity of liberal humanism.[115] Throughout *Cinema II,* Deleuze advances a different way of thinking subjectivity. De-individualized yet embodied, non-hierarchical yet connected, and non-dialectical yet moving, where subject and object "lose their distinction, but also their identification, in favor of a new circuit where they are wholly replaced, or contaminate each other, or are decomposed and recomposed."[116] Rather than a hard Cartesian split of a mind and body magically connected in the pineal gland, this is a collection of subjectivities that are different only in degree between their motor material aspects and their spiritual temporal aspects.[117] "I"-ness, Ego, body, consciousness all swirl together in a haze of melting imbricating images. To be clear, this is what films *can* do, which is not to say they achieve these types of trancelike events at every moment. These revelatory moments of filmic potential are realized when assemblages form relations capable of producing a shock to thinking itself:

> It is only when movement becomes automatic that the artistic essence of the image is realized: *producing a shock to thought, communicating vibrations to the cortex, touching the nervous and cerebral system directly.* Because the cinematographic image itself 'makes' movement, because it makes what the other arts are restricted to demanding (or to saying), it brings together what is essential in the other arts; it inherits it, it is as it were the directions for use of the other images, it converts into potential what was only possibility. *Automatic movement* gives rise to a *spiritual automaton* in us, which reacts in turn on movement. The spiritual automaton no longer designates — as it does in classical philosophy — the logical or abstract possibility of formally deducing thoughts from each other, but the circuit into which they enter with the movement-image, the shared power of what forces thinking and what thinks under the shock…[118]

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[115] Hence Deleuze's constant refrain of Rimbaud's "I is another." Deleuze, *Cinema 2: The Time-Image*, 133.
[116] Deleuze, 149.
[117] In his text on Bergson Deleuze presents five different types of subjectivity: need-subjectivity, brain-subjectivity, affection-subjectivity, recollection-subjectivity, contraction-subjectivity.
[118] Deleuze, *Cinema 2: The Time-Image*, 156.

Deleuze argues that there are filmic moments where the viewer is carried away by the film's movement and time. Not just narratively or emotionally, but in a physiologically vibrating way that carries the viewer's embedded thinking (spirit) and body (brain) outside of a particular spatial singularity. Their mindbody moves through time instead of space. It is an experience analogous with what gets called the "sublime," or what we call an "out of body experience," but without the assumed dualistic baggage.

Rather than generating a disembodiment, carrying a subject outside of their materiality, the shock to thought produces a spiritual automaton. A blended, "selves"-aware machine, in which the movement on the screen "embeds itself within us."[119] It produces a merger of the powers of conception and the powers of the image, a fusion of thought and materiality catalyzed by the brain-screen's affectivity. Deleuze writes that these moments of shock to the mindbody are the events that can give us reasons to believe "in the world" again.[120] To recognize our intuitive, immersive link between the part we play in the whole. This is because we are always creatures in time, even if we cannot always see it or feel it. But there are moments when time, and our durationality within it becomes visible and sensible.

iv. Time and Crystallization

Deleuze argues that the cinematic image, in general, is entirely an "ensemble of time relations" which make time and duration "sensible and visible."[121] In the *Cinema* texts, he makes the case that the simple narratives and actions that dominated pre-war films seemed naïve in a world reeling from the devastation and revelations of the atomic bombs and the Holocaust. Many

[119] Deleuze, 157.
[120] Deleuze does not explicitly call this a "religious experience," but he connects it to "Catholic quality" that attempts to repair the broken link between humans and the world. Deleuze, 171–72. For Deleuze it is "good" films that can give us a reason to believe in the world. For someone who rarely uses "valuative" language, this is important. It is not every film, but the ones that do interesting things.
[121] Flaxman, *The Brain Is the Screen*, 371.

postwar avant-garde film directors tried to capture this disconnect between the devastation of the present, the presence of horrors in the just recent past, and the uncertainty of the future, by exploring the unique temporal affordances of the filmic medium. As the form (the new technologies of production) of film changes, it enables the presentation of time to change.

For example, as Deleuze argues in *Cinema II*, one of the core features of post-WWII film was that it sought to make us aware that we are creatures in time.[122] He provides example after example of scenes, images, and themes from a menagerie of post WWII films that involve people out of time, and consequently, disconnected from their spatiality, their emotions, their relationships to others. One of the ways film achieved this visualization of duration is by confronting us with images of states of shock and fluid relationships to time. Deleuze theorizes these processes for imaging time as "crystallization" which he argues was "the key factor in modern cinema."[123]

According to Deleuze, the primary method for making crystallization visible is through crystal-images. For the metaphor of "crystal-image," Deleuze draws again on biology and geology, namely, on the formation of inorganic crystals, which are naturally occurring structuring events. They are not as random or unknowable as mutations but still allow for living complexity and a level of indiscernibility. The time-crystal, or crystal-image, presents us with the cinematic collapsing of the past (virtual) and the present (actual) into visible sensible form. Drawing on Bergson's discussion of time, Deleuze writes:

> What constitutes the crystal-image is the most fundamental operation of time: since the past is constituted not after the present that it was but at the same time, time has to split itself in two at each moment as present and past, which differ from each other in nature, or, what amounts to the same thing, it has to split the present into two heterogeneous

[122] In other words, it was a cinema that made apparent Bergson's duration.
[123] Deleuze, *Negotiations, 1972-1990*, 66.

> directions, one of which is launched towards the future while the other falls towards the past. … Time consists of this split, and it is this, it is time, that we see in the crystal.[124]

Inside the crystal-image, we can see past and present split from each other while being simultaneously held together.[125] This process of time within the crystal image is much like Bergson's dual fabulative image of the human and their reflection in the water. These splitting, facet-forming crystals of time, images of duration, visions of the past pregnant with potential, are "real" time. Time, actual time, is the dynamic interaction of the totality of past images (the virtual) informing the acute present moment. The crystal is an image that can capture the qualitative multiplicity of time. Or, as related directly to the human body, in crystal images, the most immediate form of memory, memory at its most contracted point, is made present, as if reflected holographically between two mirrors.[126] Visions of reality of which the virtual is an inherent part, exist in its totality within and behind every actuality: "for the time-image to be born … the actual image must enter into relation with its own virtual image as such."[127] Deleuze describes this moment of crystallization as involving "an exchange between an actual image and a virtual image, virtual becoming actual and vice versa."[128] In the example of Rizzotto's time machine, the crystal image occurs instantaneously when he initiates the "time jump." Rizzotto's actual image (in the form of his association to the floating hands in the VR environment), is surrounded and enveloped by images of his past (the virtual) and a crystal is formed. One in

[124] Deleuze, *Cinema 2: The Time-Image*, 81.
[125] Interestingly, this state was also achieved by computer scientists that has radical potential for advancing quantum computing. Randall et al., "Observation of a Many-Body-Localized Discrete Time Crystal with a Programmable Spin-Based Quantum Simulator."
[126] Deleuze spends a significant amount of time unpacking two forms of memory (habit and recognition) early in *Cinema* 2.
[127] Deleuze, 273.
[128] Deleuze, *Negotiations, 1972-1990*, 66.

which Rizzotto describes as “seeing through his eyes again” and the experience of his brain “lighting up” while memories of the past “rush in.”

More importantly, and what Rizzotto shows us, is that these cinematic and (VR) time crystals are also affective. Deleuze notes that affects are what we initially "experience in time; then time itself, pure virtuality which divides itself in two as affector and affected, 'the affection of self by self as definition of time."[129] The splitting of time itself, the virtual, is subjective, like the collapsing of Bergson's visual-body-image and the tactile-body-image. In this affective recognition, the unity of a particular set of images is what forms a sense of inhabiting one's body. Deleuze writes that "as sensual revelation, the unity becomes personal."[130] This crystallizing process is "a coincidence of subject and object, or how the subject perceives itself, or rather experiences itself or feels itself 'from the inside.'"[131] In the same way that the experience of time collapses, the past and the future into the present, so too does our experience of subjective consciousness, in that we experience the process of crystalizing as a collapse of our objectivity (sensual body) and subjectivity (conscious mind) into a crystal-image: the mindbody.[132]

The crystals are affective because they are subjective; feelings and sensations, pathways and closures, pressure and release. However, this is not a subjectivity or affectivity of pure interiority. In its assemblage of images, cinema reveals that any hard ontological separation between inside from outside as false. We are not, as digital dualism might have it, singular bodies that move into ontologically different worlds, but a heterogenous multiplicity of time and space, spirit and matter. In "the crystal image there is the mutual search" for that Bergsonian

[129] Deleuze, *Cinema 2: The Time-Image*, 83.
[130] Deleuze, 96.
[131] Deleuze, *Cinema 1*, 65.
[132] As noted in Chapter One.

dualism of "matter and spirit."[133] Crystal images reveal to us this non-oppositional, non-hierarchical dual ontology in a way that reminds us that subjectivity "is never ours" as if we could own or control it, rather, subjectivity "is time" in its entirety as it manifests in actual bodies and a swirling indiscernible but distinct event. Deleuze claims that time crystals visualize for us "the soul or the spirit, the virtual"[134] - embodied, but not necessarily bound by space. Our subjectivity, our materiality, our becoming in time, experience of VR is always distributed, multifaceted, crystalizing.

For Deleuze, like Bergson, the virtual is a *temporal* ontology rather than spatial. The virtual is a mode of existence that is "real without being actual, ideal without being abstract."[135] In other words, this definition conceives the virtual as an imagistic problem-solving process capable of changing the world as we perceive it to be. In an interview with the filmmaker Claire Parnet, Deleuze explains the virtual (and the actual) as one of the most elementary forms of an image:

> they are called virtual in so far as their emission and absorption, creation and destruction, occur in a period of time shorter than the shortest continuous period imaginable; it is this very brevity that keeps them subject to a principle of uncertainty or indetermination. The virtuals, encircling the actual, perpetually renew themselves by emitting yet others, with which they are in turn surrounded and which go on in turn to react upon the actual: ' in the heart of the cloud of the virtual there is a virtual of a yet higher order . . . every virtual particle surrounds itself with a virtual cosmos and each in its turn does likewise indefinitely.[136]

The virtual is a force not necessarily human, though necessarily embodied (imaged). This virtual being-in-the-world is never a static state; it is always becoming. The virtual is a dynamic force of

[133] Deleuze, *Cinema 2: The Time-Image*, 75.
[134] Deleuze, 82–83.
[135] The conceptualization that both Bergson and Deleuze pull from Proust.
[136] Deleuze and Parnet, *Dialogues II*, 148.

reality that shapes and changes materiality without ever taking on its form. The virtual inheres and inhabits immanently to every present actual image in all its fullness.

To be clear, this conceptualization of reality as the virtual-actual does not privilege actuality over virtuality, or vice versa, but champions the vibrant relationality and movement from one to the other. The virtual never quite arrives while the actual is already too late. In these crystallizations of time, then, what we consider to be real, imaginary, true and false is destabilized. And it is at this moment where Deleuze uses Bergson's fabulation to resolve the Bergsonian critique of film.

v. Deleuzian Fabulation: The Powers of the False

For Deleuze, "all fabulation is the fabrication of giants (gods)," or in other words, that which can create anew.[137] According to the philosopher Ronald Bogue, Deleuze's concept of fabulation involves a form of becoming which fashions "larger-than-life images that transform and metamorphose conventional representations and conceptions of collectivities."[138] Fabulation is the "fundamental aim of the arts - that of capturing the affects and percepts of sensation... Percepts and affects exceed lived experience and our recollections of that experience."[139] By fabulating gods and giants, creating an excess of experience, artists, including filmmakers and VR designers involved in fabulation can produce new collectivities and enable "the invention of a people to come." [140] This is one of the ways we "can take up Bergson's notion of fabulation and give it a political meaning."[141] Deleuze saw the fabulative capacity in film in what he termed its *powers of the false*, or its ability to shatter classical notions that tie "Truth" to objectivity. In

[137] Deleuze *Difference and Repetition* 1994.
[138] Bogue, *Deleuze Dictionary*, 100.
[139] Bogue, 99.
[140] Bogue, 100.
[141] Deleuze, *Negotiations.*

VR, this question of the "true" is at issue in the digital dualism of chapter one, which attempts to belittle what happens in digital virtual environments as being merely "virtual" or *as if,* but not quite "real" or true.

We can see the "real" effects of the fabulative powers of the false at play in the virtual, as it is imaged in film and VR as crystal-images. These crystal-images reveal the virtual as it is - the active past, bubbling with change and indeterminate potentiality, bearing on the present. These direct images of the *virtual*, undermine static or permanent conceptions of the objects and subjects we encounter, including ourselves. Deleuze writes that what "we see in the crystal is falsity or, rather, the power of falsity. The power of falsity is time itself, not because time has changing contents but because the form of time as becoming brings into question any formal model of truth."[142] These momentary crystal-images allow the virtual, time, to burst forth in the present, in all its totality and potentiality. The experience of crystal-images reshapes subjectivity, among other things, revealing impermanence, temporary persistence, and momentary coherence. Rizzotto and his time machine are an example of this. Experiencing his VR Time Machine, left him with a profoundly different and better relationship to himself.[143] What Rizzotto had was *an experience of the virtual in a digital world*.

This is where the language of VR needs to shift: virtual reality does not create virtual worlds. The virtual is always past bearing down on the present. What the discourse of VR calls "virtual worlds" are "actual worlds." They are digital, accessible in the present, and a part of our material reality. Calling VR "virtual" in this regard is imprecise and leads to false problems like those represented in digital dualism. I argue, however, that VR may allow for experiences *of the*

[142] Deleuze, 66.
[143] As I will show in my conclusion, there are many examples where people are experiencing intuition with a body very different to their own (race, sex, etc.) and leaving profoundly changed.

virtual in digital worlds, as I will show below by expanding on Rizzotto's time machine. As mentioned in the introduction to this dissertation, VR can destabilize our intellectual notions of time, the past, our memories, and qualitatively affect our experience of our own duration and subjectivity. And it does so more effectively than other new media. This makes it a better paradigmatic example than Deleuze's cinema, and certainly beyond what Bergson thought art and technology made possible. Thus, VR deserves its name, or, at the very least, VR's association with the "virtual" is worth maintaining.

To summarize: Deleuze theorizes cinema as an assemblage capable of changing how we see, think, feel, and become in the world. Cinema achieves this change by enveloping us in circuits of virtualization and actualization occurring within contracted and dilated points of duration: crystal images. These de-spatialized chunks of time loosen the bonds (through the powers of the false) between what are otherwise tightly-knit subjectivities, setting them momentarily adrift in ways that allow for creative change to take place in ways that as Rosi Braidotti points out, help us rethink "embodiment in a manner that is co-extensive with our technological habitat."[144] What was otherwise a relatively firm bond between the mind-image and the body-image is relaxed as the individual dilates into the intuitive, sympathetic, heterogeneous whole. Film has the capacity to be both an actualizing and virtualizing process. It actualizes virtual duration on the screen, showing us what it is like to see "thinking." It also displays the virtualizing process, as it moves materiality (images) from the present into the past, and towards the future. It also virtualizes we who watch, imbuing us with the greater potential to become something new and different (although not necessarily good!). More importantly, the virtual and the actual are ontological tendencies of all matter (images). Reality is always being

[144] Braidotti, *Metamorphoses*, 225.

virtualized or actualized. Moving from potentiality to activity. In other words, Deleuze has shown how Bergson's metaphysics actualizes in the cinema. As a scholar of religion and new media, however, I want to make the case that this metaphysics finds its most apparent actualization in VR technology.

IV. The "Virtual" of VR

What makes the connection between the Deleuzian cinematic philosophy and the medium of VR so compelling is how VRXs like Rizzotto's tend towards the crystal image and the coupling of the Bergsonian virtual and actual. The Bergsonian virtual has time as its substance. The virtual is the pre-spatial, ontological category which forms one half of the virtual-actual dyad of which reality consists. (The "actual" half of the dyad consists of those points we call "the present," in which time condenses into materiality). For Bergson, the virtual cannot be imaged by technology. The Deleuzian virtual can. Deleuze's cinematic philosophy is precisely a set of empirical examples of how film images the virtual-actual dyad at play. But whereas Bergson's imagination of the virtual was limited by his technophobia and needed to be rescued by Deleuze's cinematic philosophy, Deleuze's imagination of the virtual is limited by his dismissal of the digital and needs to be updated to account for contemporary advancements in VR. In this chapter I have shown how the Deleuzo-Bergsonian paradigm of the virtual powerfully describes the capacities of this digital medium in ways Deleuze himself denied.[145]

Thinking VR in terms of Bergson and Deleuze allows us to see the fabulative work at the center of VR as a medium. In VR, fabulation collapses the distinction between the body-image as visual, and the body-image as tactile. For example, a human:

> has only to stoop over a pool to see his body just as it really appears, detached from the tactile body. Of course the body he can touch is also a body he can see; this proves that

[145] Deleuze, *Cinema II*, 265.

> the outer envelope of the body, which constitutes the seen body, can become dual and that one of the two semblances stays with the tactile body. But the fact remains that there is a body which is detachable from the one he can touch, a mere shell of a body, devoid of weight, which has moved in a trice to the place where he sees it.[146]

The merger of the double image is what happens when we see our reflection or a digital image of our body in VR. The fabulative tendency means that we already see ourselves as a kind of dual image even though it exists in its singularity. This naturally gets close to the smallest circuit, the circuit between two images, which in this case is the connection of a mind-image to a body-image. To make this circuit, VR leans heavily on the human fabulative capacity. Toying specifically and directly with this fabulative capacity allows VR to introduce actual movement within images of time and movement. Therefore, for Deleuze, experiences of the virtual are transformative. You can inhabit an image and move within an image. In contrast to films, where the viewer is seeing an image of movement, that Deleuze argues we *can* participate in, for VR participation is automatic and non-consensual. As soon as the headset is donned, one begins moving within the VR images.

However, the fact that the VR user is moving with the images they can see and feel within the digital-virtual world is what makes calling what one does in VR "viewing" or “watching” problematic. Putting on the headset and thereby obscuring your vision and perception means you cannot check out of the experience to the extent you could in a movie theatre. The baseline for the potentiality of participation is already higher than film, though of course the extent of that participation will be variable from VRX to VRX. Participation is key for immersing into the Deleuzo-Bergsonian virtuality. To just watch an image is intellectual. To experience the virtual is to immerse into the durationality of the moment. Hence, we can say VR

[146] Bergson, *The Two Sources of Morality and Religion*, 123.

begins from the position of intuition. One is already "inside" the world, but not in a way that sets clear boundaries between inside and outside, but in the Bergsonian sense that by engaging with VR, one does so intuitively, sympathetically.

Where the cinematic imaged the spiritual and temporal aspects of reality allowing us to become something new, VR allows us to enter into time, to see and feel our own becoming. A movement from crystal-images to what I am calling "sympathetic-crystal-images" or "intuition-images." It is the visualization of the integrating of a multiplicity of images into a singular duration. Sympathetic-crystal-images produce literally a feeling-*with*, or feeling-*in*, because the distinction between the self and the VRX evaporates. The VRX allows us to experience a circuit of profound intuitive sympathy with ourselves. VR enthusiasts regularly claim VR is an empathy machine, but it is not necessarily an empathy machine allowing you to somehow feel the lives of others. Rather, its strength is its ability to allow for participation with a crystal image, to experience your own durationality. The empathy is created by the fact that you achieve a third-person perspective (you become a "ghost" to yourself).[147]

We can understand how VR allows for these new assemblages because Bergson and Deleuze's concept of the virtual opens up new ways of thinking about the relations between actual bodies and digital images. Digital images are neither merely visual (representational) nor are they merely physical (things), yet they can have affective power over material bodies.[148]

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[147] But this is an inverted "ghost" to the one Bergson presents in *Time and Free Will*. In that text he argues " [B]ut the moments at which we thus grasp ourselves are rare, and that is just why we are rarely free. The greater part of the time we live outside ourselves, hardly perceiving anything of ourselves but our own ghost, a colourless shadow which pure duration projects into homogeneous space. Hence our life unfolds in space rather than in time; we live for the external world rather than for ourselves; we speak rather than think; we "are acted" rather than act ourselves." Bergson, *Time and Free Will*, 231.

[148] Per Bergson above, these images have: "certain existence which is more than that which the idealist calls a representation, but less than that which the realist calls a thing—an existence placed half-way between the 'thing' and the 'representation.'" *Matter and Memory.*

They are real images, because, as Deleuze via Bergson has shown, all images (elements that can be acted upon or have action) are in a process of virtualization and actualization. With all the affordances of the cinematic medium and new modes of agency and affectivity, VR has a similar capacity for experiences of the virtual. When the user immerses into a digital-virtual space, the assemblage of images and actions creates temporal gaps from which new images arise. These reality-altering technologies can help us break down the tendency to perceive our bodies as somehow separate from the world, individual and apart. They challenge notions of mind-body dualism as being a privileged mediating tendency and remind us that our bodies both mediate and are mediated by the world in thick (digital and material) networks of signification.

As Rizzotto articulates near the end of the video, his VRX time machine has the capacity to go beyond mere perception-images and recollection images, and allow for intense participation in virtualization and actualization. For the person in the headset, the time machine actualizes the virtual. To be clear, this virtual does not involve Rizzotto just watching his previously recorded memories play out within the portal of the VRX, that is, if the images just sparked a small thought circuit of remembering. [149] What happens in Rizzotto's time machine is that the assemblage of HMD-Digital-Virtual-Objects-Rizzotto-Portal enters into a zone of indiscernibility where the boundaries between inside and outside, mind and machine, body and technology, and between actual (present) and virtual (past) collapse and becomes something

[149] In its early stages, Rizzotto's time machine functions similarly to the "grain" in the Black Mirror episode "The Entire History of You" which allows the user to watch "re-dos" of any recorded moment of their own history. The difference between the "grain" and Rizzotto's time machine lies less in the all-encompassing nature of the recorded-image and more in the affective-tactile capacity that VR adds to images. Both take advantage of the cinematic assemblage, but Rizzotto's time machine offers the potential capacity for movement and affective interaction within the cinematic world created. The problem with analyzing Rizzotto's VRX is that our primary access to the event is through a different medium than the medium Rizzotto experienced; we experience it as a digital YouTube video. This problem is important: it is this hitch that shows us that Rizzotto's video of his virtual reality experience is not virtual in the Deleuzian sense; we are not experiencing the virtual by watching his video. Until we can put on a headset and experience it ourselves, we are only getting a second-hand virtual.

more than a looking back, but a becoming new: what Deleuze calls a spiritual automaton. The "spiritual automaton" names an assemblage whose function is a self-dissolving awareness of being a body in time while also witnessing the breaking apart of one's body in time and its reformulation --a consistency that exists as it is paradoxically and persistently being destroyed and made anew.[150]

As Rizzotto points out: "It's really hard describing the feeling you get when re-living your own past." This re-living, or re-durationality, is first and foremost affective. "It doesn't feel like watching a video. Not at all." In fact, the VRX immediately produces a shock to thought as "the moment you see through your eyes again your brain lights up" getting caught up in new cerebral circuits that allow him to "remember everything connected to that moment." The cinematic world of the VRX begins crystallizing in a way that "you don't just see the memory portal. You see everything around it. Like the rush of memories you get when you smell food you used to eat as a child." Like Proust with his madeleine, Rizzotto's VRX slices time, and the virtual emerges into the present moment in a way that is "crazy, overwhelming, emotional and way more immersive" than one could imagine. It is not a matter of merely "seeing" a perspective-image, or recollection-image, but a crystallization of time, space and a dissociative subjectivation, embodying a spiritual third-person perspective. "In fact, I was my own ghost. Watching myself wander through life with no idea what was going to happen next."[151]

This VR time machine engenders an experience of more than mere affective-visuality. Realizing it or not, Rizzotto's explanation gives flesh to the Proustian notion of not merely being carried to the past, but rather jumping into and being overtaken by the immediate re-living of a

[150] This process is the spiritual for Deleuze.

[151] Rizzotto, *I Built a REAL-LIFE Time Machine!* 🕐⚡. The language of "ghost" here bringsto mind the monstrous "kaleidoscopic mirror-function" of Braidotti, *Metamorphoses*, 201.

pocket of previously lived action. But Rizzotto's reflection does not end there. He continues saying:

> Now I have to be honest with you. I'm someone who is very hard on himself. There's many days I wake up and I don't like who I see in the mirror. I don't like the way he talks, the way he thinks, the way he looks. I don't like who that person is, but watching myself from a distance has given me a new perspective. It has let me appreciate myself as a separate person. And using the time machine made me realize I liked the person I was watching. Sure, he wasn't perfect, but he was nice, thoughtful, and smart and it took me building a time machine to see all of that. To see my own self-worth.[152]

Jumping into these portals of past moments, Rizzotto is changed. He gets a taste of the indiscernibility of the virtual-actual circuit produced by the VR assemblage. He experiences a moment of the multiplicity of subjectivity as he embodies a third-person perspective. The digital-virtual time machine Rizzotto created does not physically and spatially transport a person to a moment in the past, which the concept of the virtual shows us is a fallacy. It also does not quite reach the full potential of the medium of VR, though it is one step closer to expanding the actualization-virtualization circuit which affords new levels of change and difference.[153]

The change and difference that VR makes possible is because the movement of VR is real movement, not just an image of movement. The movement is real, and the time is real, the durationality, too, is real. And VR goes even further: it both occludes perception with the donning of the HMD, but it also doubles the sensory-motor of film by contributing tactile feedback, in addition to what Laura Marks calls "haptic visuality," immersing the user into a sympathetic intuition.[154] And as Marks points out, touch is "capable of storing powerful memories that are lost to the visual."[155] In these visually occluded but tactilely enhanced spaces,

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[152] Rizzotto, *I Built a REAL-LIFE Time Machine!* 🕐⚡.
[153] As a reminder, this particular VRX only functions so significantly because it involves Rizzotto's own memories. This consideration only raises practical, not theoretical difficulties.
[154] Marks, *The Skin of the Film*, 162.
[155] Marks, 130.

the virtual range of actions expands. The body can now act on, and potentially be acted upon, by a whole new set of variable images.

However, VR can also enhance the degrees of *separation* with the body, which as Marks argues, is normally "necessary in order for our bodies to function" but in doing so VR creates the possibility for new functions and experiences. [156] VR reconfigures and recombines matter and time, body and spirit. It can create a point of indiscernibility between materiality and phenomenology. Much like Deleuze's theorization of time in space in cinema in the post-war period, VR has "greatly increased the situations which we no longer know how to react to, in spaces which we no longer know how to describe."[157]

V. Conclusion

With this Deleuzo-Bergsonian notion of the virtual in hand, a scholar of religion and new media can bring an approach that situates "religion" as a tendency and impulse of the virtual itself, that can be actualized to different percepts and affects in the digital virtual (as a machinic assemblage). VR creates situations that call for new fabulative instances, and in doing so, brings forth new images, subjectivities, and virtualities. As "Bergson was able to see, fabulation— the fabulating function— does not consist in imagining or projecting an ego. Rather, it attains these visions, it raises itself to these becomings and powers."[158]

Tracking the Deleuzo-Bergsonian conceptualization of the virtual brings to the "V" of VR a much grander capacity of the virtual than the as-if "falsification and illusion" debate of digital dualism lends to virtuality. This transversal conceptualization shows how this debate's distinction between "false" and "real," or the "virtual world" and the "real world" causes us to

[156] Marks, 132.
[157] Deleuze, *Cinema 2: The Time-Image*, xi.
[158] Deleuze, *Essays Critical and Clinical*, 3.

lose sight of the affective capacities of this technology; that it can reorient to and with our experience of our body temporally and spatially.[159] The fears of VR commentators should not be about falseness or trueness of the experience, it should be about how the experience is affecting us. The real problem is: what are VR experiences doing to our mindbodies? How does VR reduce or increase our capacities? How does it limit or expand what our bodies can do, in the Spinozan sense of affect being the capacity to do more things in life, experience more things in life?[160] This is where the ethical strain of Bergson and Deleuze becomes salient; the more life that can be generated, that can happen, can be experienced, the better.

The assembled philosophy of Bergson and Deleuze helps us explore and understand the affective fabrics traced by new technologies and the media they weave together. Deleuze's cinema project uses Bergson's metaphysics to show how films actualize the virtual as they image movement and time.[161] I argue that VR follows and then amplifies the virtual capacities of film. VR shares many (if not all) of the machinic elements of film, since it too is an apparatus consisting of various affective intensities, lines of subjectification, and new modes of consciousness. However, what makes VR tech different from film is its material: the digital-virtual, or that which is electronically simulated. Like cinema, it "does not just present images, it surrounds them with a world." [162] It is capable, like film, of imaging perception, time, and sensation.

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[159] Vivian Sobchak, talking about film writes that it is "expression of experience by experience…an act of seeing that makes itself seen, an act of hearing that makes itself heard, an act of physical and reflective movement that makes itself reflexively felt and understood." Sobchack, *The Address of the Eye*, 3–4.

[160] In a chapter titled "What Can a Body Do?" Deleuze highlights two key phrases from Spinoza's work to raise the question of embodiment and affectivity. The two phrases are: "We do not even know what a body is capable of…" and "We do not even know of what affections we are capable, nor the extent of our power." Deleuze, "What Can a Body Do?," 226.

[161] We can see other direct connections between film, religion, and the virtual in the work of Sergey Dololgpolski and his book chapter "The Talmud as Film" from his book *The Open Past.*

[162] Deleuze, *Cinema 2: The Time-Image*, 68–69.

Simultaneously, the uniqueness of VR as a medium and material arguably allows it to do so with more depth and intensity by offering new dimensions of interactivity and virtuality.[163] Athina Karatzogianni discusses the interplay between the digital-virtual and the Deleuzian virtual by arguing that software "poses challenges to the actual world…as the place of potentiality, which encompasses the revolutionary window for change, in the sense of movement, affect and sensation."[164] In other words, VR catalyzes the digital-virtual to produce new topographies for experiencing the affects of images and time. By simulating and imaging perceptions, sensations, and time, VR performs its own liminal type of consciousness similar to cinema, capable of moving deeper into durationality and opening up for a greater virtual affective capacity. With this metaphysics in mind, we can begin to interpret VRX like Rizzotto's time machine as an event, a space, a sensation of the actuality of the digital-virtual becoming virtual. In other words, they are machinic assemblages for spiritual immanence.

In that vein, the following chapter theorizes VR as a type of "religious experience" that asks questions of materiality, subjectivity, and culture differently than the traditional rhetoric of religion and new media while exposing consequences for human engagement with VR technology in the hopes of making sense of its applications and affective reality. The next chapter will explore VR's ability to generate powerfully affective experiences of subjectivity as "dispersed throughout the cybernetic circuit" of bodies and machines. In VR games and art, Hayles points out, players and users learn "kinesthetically and proprioceptively, that the relevant boundaries for interaction are defined less by the skin than by the feedback loops connecting

[163] For an extended discussion of video gaming and temporality, see Hanson, *Game Time*. In the future I will discuss the importance for VR of its "low latency" functionality, which plays a significant role in a sense of immediacy in digital-virtual environments.
[164] Karatzogianni and Kuntsman, *Digital Cultures and the Politics of Emotion*, 55.

body and simulation in a techno bio-integrated circuit."[165] This means that boundaries between what we might consider a "self," a "body," and techno-visual imagery begin to break down, leaving us with uncertainty about where we might begin and end.

[165] Hayles, *How We Became Posthuman*, 27.

CHAPTER 3

VR and Religious Affects

*"*Tetris Effect *feels like a religious experience."*
– Critical Hit

*"*Tetris Effect *is more than an evolution, it's a spiritual experience."*
– Turtle Beach

"This is all thanks to the near religious-experience of Tetris Effect*'s visuals and audio."*
– We Got This Covered

"A warming dose of spiritual sedative that I've slipped back into more than any other game."
–Eurogamer

I. The Religious Experience of Tetris Effect

This chapter examines the VR game *Tetris Effect* in light of claims that it generates "religious experiences" for players, reviewers, and critics alike. Inspired by these claims of individuals whom I will dub the "tetrimystics," this chapter explores the question: what is happening to the body through the experience of *Tetris Effect* that it comes to be labeled as "religious," "spiritual," and "mystical"? In contrast to studies of video games and religion that focus primarily on *discourse*, I take the "religious" framing of gameplay experiences to raise key questions about *embodiment*. My answer to these questions is that these players use the language of religious experience to make sense of a disconnect between embodied thinking and embodied feeling that occurs in particular VR experiences. I argue that players are reaching for the language of religion as the affective link that bridges the gap between thinking and feeling.

To understand how the language of "religious," "mystical," or "spiritual" experiences function for those involved in VR gaming, I look to the concept of "religious experience" (RE)

as conceived within the study of religion. Since the concept of RE has a complicated history in the study of religion, I first discuss the foundational work of William James, then briefly consider Wayne Proudfoot's critique of James, and then mobilize Ann Taves' interdisciplinary reconsideration of RE from scientific and sociocultural perspectives. However, while I start with the discursive claims of the tetrimystics, I am more interested in the ways an experience provided by VR is felt by the people who engage it. Thus, I turn to affect theory rather than semiotic or linguistic approaches in order to consider the complex interplay of actual human bodies, digital environments, the aesthetic of light, material technologies, and social realities.

After unpacking the concept of RE through its conceptual lineage from James to Anne Taves, I then pair RE as a conceptual apparatus alongside philosopher and religion scholar M. Gail Hamner's "affecognitive" to explore how the form of VR has particular consequences for embodied experiences, specifically in three affective dilemmas. Shifting the language from RE to "religious affects" allows for the more precise targeting of the affective dilemmas induced by *Tetris Effect* which consist of 1) a general ineffability in the face of the simulated scale (space and time) of certain VR environments, 2) an ascriptive sensation of a special nonhuman otherness, 3) and an effacement, dissolving, or "immersive" sense of embodied subjectivity usually via a proprioceptive confusion. It is these three affects of RE that set the *Tetris Effect* VR gameplay apart from other games that are credited with producing more general affective states.

i. Tetris Effect

Tetris Effect a reimagining of the 1984 classic video game *Tetris* designed by Alexey Pajitnov.[1] While the original *Tetris* featured prominently on Nintendo's Gameboy and other systems, the newer *Tetris Effect* was released in 2018 on the PlayStation 4 and PC and was

[1] The original name of *Tetris Effect* was going to be "Zen Tetris." See Valdes, "'Tetris Effect's' Development Was Anything but Zen-Like."

eventually ported as a prominent title for the PlayStation Virtual Reality (PSVR) peripheral. All three versions in this "media convergence" were highly rated by critics and players alike, with over 100,000 units sold.[2] The game also won multiple awards in 2018, including two game-of-the-year awards.[3] What makes *Tetris Effect* compelling is that despite being playable with three different (but related) media types, consoles, PC, and VR, it seems only the PSVR version of *Tetris Effect* resulted in a series of claims regarding players having "religious experiences" during gameplay. This convergence of different media forms makes *Tetris Effect* a key focal point for examining the uniqueness of VR as a medium and what it might have to say about the digital-virtual and RE.

Since its initial release for the Electonika 64, the original *Tetris* has resulted in 173 variants, with that number ballooning to 245 when unofficial (not licensed by The Tetris Company) games are included.[4] What makes *Tetris Effect* unique from its 80s progenitor and other versions of the game that came out in the 90s and 00s is that rather than merely trying to recreate the original game with twenty-first-century images and visualizations, *Tetris Effect* instead looks to recreate the "real-world phenomenon where players' brains are so engrossed that images of the iconic falling tetrimino blocks linger in their vision, thoughts, and even dreams."[5] Like the original *Tetris*, *Tetris Effect* gives players control over manipulating the orthogonal placement of blocky objects inspired by the geometric shapes known as tetriminoes [see figure 1]. When the player fills a horizontal row, the blocks of that row are cleared, achieving a "tetris"

[2] Jenkins' *Convergence Culture* is an important framing text for parsing the important differences and similarities between delivery technologies for media (like games). What makes Tetris Effect such a compelling case study for the examination of the unique affective capacities of VR as a gaming medium is that it exists as multiple media forms and is thus able to offer insight into the unique consequences of VR over and against other gaming systems or visual displays like televisions, smartphones, or computer monitors.
[3] "Tetris Effect for PlayStation 4 - Sales, Wiki, Release Dates, Review, Cheats, Walkthrough."
[4] "List of Games."
[5] "TETRIS® EFFECT."

and earning points. The player's goal is to clear as many rows as possible to earn points within a set time frame without letting the tetriminoes stack beyond the top of the in-game screen. And though this goal is shared across *Tetris Effect*'s convergent forms, what is distinctive about the VR version of the game compared to the PS4 and PC versions is that it uses contemporary VR technology like a head-mounted display and haptic wands to stimulate audio-visual and somatic immersion.

Within the sensorily elaborate diegetic game environment, the player is literally surrounded by digital images and auditory pulsations of rhythm as the HMD cuts off all other light sources except for the digital light emanating from visual displays within the VR headset. These sensory qualities encourage players to move their body, ever subtly, along with the beat and rhythmically match their actions to different musical notes, often performing gamic actions like rotating tetriminos simply based on what "feels" right in the moment rather than any "strategic" foresight. *Tetris Effect* clearly extracts the unique capacities of VR technology in order to do something the other delivery technologies (PS4 and PC) cannot. According to the marketing materials on the *Tetris Effect* website, the VR version creates a gameplay experience that:

> amplifies this magical feeling of total immersion by surrounding you with fantastic, fully three-dimensional worlds that react and evolve based on how you play. Music, backgrounds, sounds, special effects—everything, down to the Tetris pieces themselves, pulse, dance, shimmer, and explode in perfect sync with how you're playing.[6]

The VR version leverages reactive environments and compelling new game mechanics, in addition to the stylish visuals and hypnotic musical tracks of the other versions, in order to

[6] "TETRIS® EFFECT."

deliver a "warming dose of spiritual sedative" in the words of one reviewer in the epigraph above. And, according to the game's designer, Tetsuya Mizuguchi, this was no accident.

ii. The Varieties of Tetsuya Mizuguchi's "Gaming Experiences"

In an interview for the game journal *VG247,* Mizuguchi admits that his design choices for *Tetris Effect* were inspired by Jeffery Goldsmith's psycho-physiological concept of the "Tetris Effect," the game's namesake. In the 90s, Goldsmith described a type of hypnagogic hallucination wherein players of *Tetris* would continue to see tetriminoes in their dreaming and waking life after extended playtime and could not help but think about the world in terms of tetromonic patterns.[7] However, in Mizuguchi's desire to recreate this experience, it was not enough to merely induce just the *visual* hallucinations of the "Tetris Effect." He sought to add more sensorial attributes, specifically ones that spoke to what he considered to be deeply internalized pre-cognitive tendencies:

> If you want to create that kind of *feel*, you have to *know*. Maybe we have a beat, you know, a heartbeat. I think this is a basic instinct. I don't have all the answers, but naturally we have the beat. You have the beat," he says, pointing to [the interviewer's] chest, "and maybe we have some synchronization. And if we play drums together, maybe in just ten seconds, twenty seconds, we can synchronize. This is the ability of all humans. Even children – any human being can connect through music. This is a big thing.[8]

Mizuguchi indicates his interest in creating a feeling, one he leaves unnamed, yet describes in terms of the cardiac rhythm of human bodies. His design choices are an attempt to get at something that occurs below conscious awareness yet has embodied effects. It is a feeling of rhythm and tone, volume and atmosphere, with bodies acting and being acted upon. His approach is reflective of game designer Jesse Schell's argument that ultimately, "games are

[7] Ackerman, *The Tetris Effect*.
[8] Mizuguchi qtd. in McKeand, "'I Spent My Everything. I Broke.' - Tetsuya Mizuguchi on Burnout and Creating the 'New-Wow'"; emphasis mine.

merely a means to an end...When people play games, they have an *experience*. It is this experience that the designer cares about. Without the experience, the game is worthless."[9]

Mizuguchi admits that many of his games are an attempt to recreate a particular type of "mystical" experience he had as a child in the Tokyo arcades of the 80s.[10] Although he enjoyed other games, it was *Tetris* that won his attention, as he was captivated by the colorful tetriminoes, which were "such elegant perfection."[11] This experience of "elegant perfection" inspired many of the game design choices for his other projects like *Rez*, *Lumines*, and *Child of Eden*. With these projects, Mizuguchi earned the reputation of a chaser of experiences that, in religious studies, we might call "the techno-synesthetic," "the digital sublime,"[12] or the "mystical." He pursues the chase technologically, focusing on the interplay between game hardware, software, and human wetware. Here, Mizuguchi, like many other game designers, talks about the profound affective potential of games. Games like *Journey* and *Deepak Chopra's Leela*, among others, have made similar claims and attempts. But if the players, reviewers, and critics are to be believed, *Tetris Effect* seems to have resulted in "more than an evolution" in gaming; it has risen to the level of "spiritual experience."[13]

iii. Introducing the "Tetrimystics"

What follows is a collection of responses from reviewers, journalists, and players who I have dubbed "tetrimystics."[14] Their effusive descriptions of *Tetris Effect* gameplay use language

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[9] Schell, *The Art of Game Design*, 10; emphasis mine.
[10] McKeand, "'I Spent My Everything. I Broke.' - Tetsuya Mizuguchi on Burnout and Creating the 'New-Wow.'"
[11] McKeand.
[12] Shinkle, "Videogames and the Digital Sublime."
[13] *Tetris Effect Is More Than An Evolution, It's A Spiritual Experience*. As unorthodox as this transcendental language may seem in a video game review, the reviewers account of the game is actually relatively reserved when compared to the response of others who have reported having religious experiences while playing the game.
[14] I am using this term lightly as a shorthand for a collection of reviewers, critics, and players who, in various ways, have described *Tetris Effects* in using first-order "mystic" language. I make no claim for any kind of unified identity among them, or for their representing any kind of new religious movement.

like "spiritual," "meditative," and "transcendent." This language is predominantly Christian, reflecting their sociohistorical situation in the religious social worlds of North America and Europe. Though it is the language supplied by hegemonically Christian popular discourse, the fact that it is religious at all makes them stand out from typical game reviewers, both for *Tetris Effect* in particular, and in the gaming industry at large. Their responses are curated from the first six months of the game's release (between October 2018 and April 2019). I divide their responses into those that speak to *Tetris Effect*'s "ineffability," its digital noetic quality, and those that speak to personal and physiological experiences of the game.

The Ineffable and the Digital Noetic

Speaking to the ineffable and noetic qualities of *Tetris Effect,* Martin Robinson, an editor for *Eurogamer*, describes his experience of the VRX as a "spiritual sedative."[15] When pushed to explain why, he answers that he does not "necessarily view spirituality as something explicitly connected to religion, though they do share common ground…spirituality speaks to something that's unknowable."[16] Martin's gesture of spiritual as something "unknowable" highlights a common thread among the reviewers that there is a vagueness around the feelings and knowability involved with the experience of playing *Tetris Effect.* A dilemma they seem to attempt to resolve with gestures to "religion" and the "spiritual." In this same vein, a reviewer from the video game peripherals company Turtle Beach describes the experience of playing *Tetris Effect* as "spiritual" as well as "meditative":

> There are many reasons people are comparing *Tetris Effect* to a religious experience. There's something spiritual and meditative, about the way it inspires singular focus, and rewards you for avoiding distraction…While a good headset deletes the outside world entirely. It's just you and the zone.[17]

[15] As mentioned in the introduction, here "spiritual" and "religion" are functioning as second order terms to reflect something special or different from the ordinary.
[16] Robinson, "Twitter Direct Message to Jordan Loewen," September 3, 2019.
[17] *Tetris Effect Is More Than An Evolution, It's A Spiritual Experience*.

The Turtle Beach reviewer seems to have already encountered other individuals comparing their *Tetris Effect* gameplay to a RE and seems to use the language of a hard digital dualism when reflecting on the headset, "deleting" the outside world entirely. However, despite suggesting that there are "many reasons" for comparing *Tetris Effect* to the spiritual and meditative, the reviewer struggles to describe the phenomenon in concrete terms. Hedging with the analogical language of "*there's something* spiritual and meditative," they suggest that the experience depends on cognitive focusing and sensory deprivation. In playing *Tetris Effect*, experiential reality narrows, and any sense of the non-game world is occluded by the physical technology of the VR headset. The reviewer even suggests the "outside" world gets deleted entirely, leaving only subjective presence within the space of the game, which they redescribe as "the zone."

With similar language, Kirk McKeand, writing for the game journal site *VG427* a few months later, describes that playing the game:

> can feel like a religious experience, temporarily transforming you out of your fleshy existence into this space where all that matters is the zone. It's undeniably powerful and it even makes some people cry the first time they experience it.[18]

McKeand's comments echo the Turtle Beach reviewer's ascription of the game's "spiritual" ability to get players into a "meditative" zone. The "zone" referred to by both of these tetrimystics has been described in games studies literature as a matter of "transient immersion" or in terms of a "flow state"; a pleasurable altered state of consciousness that reconfigures our sense of space and time.[19] Getting in the zone has been attributed to everything from racking up combos in a fighting game, to being fully engaged in a game's story. Given its association with both perception and affection, I argue that it is best to conceive of the zone here in the same way

[18] This quotation comes from the same article containing McKeand's interview with Mizuguchi. To be clear, the block quote here is all McKeand's words.

[19] The zone will be described further in the next chapter.

Bergson describes the "zone of indetermination" mentioned in chapter two. With all this new possible activity comes new levels of uncertainty and new gaps of inaction and this degree of uncertainty, arising from interactions between image-objects and the player's potential actions within that context of the game. This zone of indetermination, or freedom, surrounds the player (as organism) and its activity in such a way that the line between what it senses and how it acts blurs. It is a blurring that makes it difficult to distinguish between how it affects and is affected by the other images it encounters.[20] Bergson writes that this "affection is not the primary matter of which perception is made; it is the impurity which perception is alloyed."[21] In other words, much like we will see with the *affecognitive* of M. Gail Hamner below, "all cognition embeds affect."[22]

However, words like the "zone" or immersion have little to no self-reflexively overt religious overtones within gaming culture.[23] And though they are often used, it seems that in these players' experiences "zone," "flow," and "immersion," miss something affective only made effable with words like "spiritual," "meditative," and "religious."[24] Even among reviewers who avoid explicitly religious terms, there are still implicitly religious themes at play. The game reviewer Peter Brown writes that "rather than attempt to bring your physical and mental self into a virtual world, *Tetris Effect* is aimed squarely at making you detach from your physical self to fully embrace the swirling digital realm in your head." Here Brown indicates what seems to be

[20] Furthermore, the internalized subjective "I" no longer maintains a privileged position because this "I" is also a property of matter (images) itself. It exists in simple and complex forms, depending on the body doing the perceiving.
[21] Bergson, *Matter and Memory*.
[22] Hamner, "What Is 'Affecognitive'?"
[23] Although the term "immersion" has been related in the study of religion to terms like the *unio mystico* and the cloud of unknowing.
[24] It is worth noting that Sony did not use "religiously" valent language in its marketing of *Tetris Effect* (even though Mizuguchi himself does when speaking about the game). Instead, it chose the more sanitary branding of "magical" and "immersive" gameplay experiences.

the opposite of the McKeand and Turtle Beach reviews; the game's immersive qualities induce not a *deeper integration* than ordinary experience allows, but a *disintegration*. For Brown, getting immersed in the zone depends on moving *outside* of one's body into the world of the digital-noetic mind. Brown's review ends up displaying the digital dualism presented in Chapter One (which itself has implicit religious overtones). Brown seems to be suggesting that the game induces a mind-body split in which the "digital realm in your head" takes over, leaving the player in a purely noetic state.

The examples of Brown, McKeand, Robinson, and the Turtle Beach reviewer highlight two things about their *Tetris Effect* gameplay: 1) the fact that implicit and explicit religious language and themes seem to fill the gap in the failure of language to capture "ineffable" experiences; 2) the fact that the noetic quality of digital-virtual experiences gets emphasized. It is worth noting that claims of "ineffability" have a long-standing history in traditions of "mystical experience." As we will see below, these claims say less about ontological reality, and more about the literal failure of particular languages to capture descriptive experience, rather than the failure of language altogether. Richard Gale in "Mysticism and Philosophy" and Ninian Smart in "Interpretation and Mystical Experience," both make arguments that "ineffability" ends up being more an honorific category to highlight the intensity of an experience. As it turns out, these experiences of VR are actually quite effable, but, it seems, only in the conceptual language of religion. Words like "spiritual" and "meditative," or descriptions involving the disintegration of the body into pure digital spirit, serve to resolve an experiential tension. When there is a failure in our experiential model of ourselves, the solution seems to be a turn to the language of religion.

A Sense of the Heart

This next set of reviewers are best understood in light of Jonathan Edwards *Treatise on Religious Affections* and refers explicitly to types of experiences "wherein the mind does not only speculate and behold, but relishes and feels."[25] For example, though he shares the language of "spirituality" with the previous reviewers, Jimmy Donnellan, Editor-in-chief of the game journal *Cultured Vultures* looks inward rather than trying to situate the game's cultural effects. In his review titled "Your Brain on Drugs" he writes:

> *Tetris Effect* is one of the most spiritual games I've ever encountered, so much so that my mouth was slack-jawed so often that I am surprised nothing decided to make a nest in there. It's a true stunner, whether in virtual reality or not, and about as far away from being a simple game about blocks as you could imagine…That being said *Tetris Effect* is far more than just a puzzle adventure. Instead, it becomes an enlightening and spiritual gaming experience that uplifts the player…*Tetris Effect* is a visual paradise of pristine starscapes and elegant wonder that will delight the heart and empower the soul for those who play it…Meshed together with Tetsuya's vision, *Tetris Effect* ascends to new heights and transcends what games can be. Games can put players on adventures to experience great stories, but for *Tetris Effect*, it is a game that opens itself into the hearts of players and onto the very bridge of why humans play video games. That bridge is a connection, that in this wild world we live in, we are human.[26]

Donnellan captures how different reviewers emphasized the experience of playing *Tetris Effect* in personal or confessional tones. The game is noetic and "enlightening." It is experienced as a physical place, a physiological encounter with another world, rather than merely a piece of entertainment technology. In fact, Donnellan's take seems to elevate the entirety of the video game hobby along with it. Playing the game, allowing one's heart to be moved in cardiac rhythm with the game's design, results in a new understanding of one's relationship to the world and their sense of humanity and connection and synchronization with humanity. His comments also stand in contrast to the notions about VR being relatively individual and private. It is and it is not,

[25] Edwards, *A Treatise Concerning Religious Affections*, 272.
[26] Donnellan, "Tetris Effect (PS4) REVIEW - Your Brain On Drugs," 4.

since it takes teams of people using historically sedimented technologies and discourses to lure individuals precisely to the feeling that individuality is false and that this connection is real.

Carrying through this personal and confessional tone, another reviewer, Martin Robinson, explains that the spirituality of *Tetris Effect* consists of a "sense of otherness, of something almost incomprehensible that can't be put into words yet is profoundly important and ultimately life-affirming." Unlike other games, *Tetris Effect* can evoke "a sense of otherness on an incredible scale – something it does through the abstractions of its mechanics and its music."[27] Robinson adds a sense of nonhuman otherness and a wonder at the scale of the experience, but, yet again. there is a lack of concrete ascriptions. Nevertheless, as Zachary Braiterman points out

> the relationship between aesthetic form and spiritual reality depends upon the presupposition that the presence of a god or God or spiritual presence is made manifest to human consciousness through sensual media, especially visual and aural form. Such theoretically fraught claims and the counterclaims made against them are of unique concern to theological speculation and philosophical analysis insofar as the spiritual in art purports to relay human consciousness past the limits of reason into the uncertain terrain of aesthetic judgment and religious intuition.[28]

So while Robinson does not attribute this sense of "otherness" to a deity or deities, or even general agential force, the experience is aesthetically and affectively powerful, but cognitively vague, indicating a struggle to connect feeling and knowing.[29]

While Robinson hedges on committing to something that might be explicitly "religious" in terms of tradition or institution, he and other tetrimystics invoke a host of what will be explained below as “first-order” terms that are of interest to scholars of religion.[30] These terms

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[27] Robinson, “Twitter Direct Message to Jordan Loewen,” September 3, 2019.
[28] Braiterman, *The Shape of Revelation*, xxii.
[29] And as Max Muller reminds us, the historical use of "religio," when used subjectively, referred to "conscientiousness, reverence, awe, and was not originally restricted to reverence for the gods.” Muller, *Lectures On the Origin and Growth of Religion,* 12.
[30] In short, first-order terms are those that are used casually and emically without recognition of the complicated histories and baggage that come with their complex development. Scholars can use these terms as signposts for possible future study, but their use does not guarantee anything meaningful is taking place.

are not just thrown around randomly in gaming culture.[31] By and large, outside of traditional religious groups like GameChurch, the gaming community refrains from displaying anything so explicitly "religious."[32] In the broader gaming community, the non-religious are overrepresented, often rendering such overt religiosity taboo.[33] Nevertheless, gaming culture in America is entangled in a culture that is already religious, Christian, and "romantic."[34]

While *Tetris Effect* as a game presents repetitive actions that might be deemed ritualistic and music and visuals that draw from popular aesthetics of meditation, neither the game nor its designer (Mizuguchi), nor its producers (Sony), claim any explicit religious authority.[35] Designers and companies are fine with vague gestures and hints at profound affectivity, but are reticent of making harder claims that might lead to judgments of being "gimmicky."[36] Digital games scholar Aaron Oldenburg points out that even many games designed by traditional religious communities or authorities "do not attempt to simulate the internal cognitive processes" of faith practices or experiences of the divine.[37] Nevertheless, even though the experiences of the tetrimystics may sound "out of the ordinary" when considering gaming broadly, people across

[31] Space for religious expression in gaming is growing, however, it is typically reserved for narratives within the gameplay or set aside within particular religious communities rather than what might be considered "secular" gaming. It is undoubtedly not a requirement to play the game in a sacred space, like a church, synagogue, or mosque, nor during a religious season or holiday. And, to be clear, *Tetris Effect* and these psychedelic descriptions of it are not without skeptics as we will be dealt with directly in chapter 4.
[32] "GameChurch."
[33] Burris and Redden, "No Other Gods Before Mario?"
[34] In *New Romantic Cyborgs*, Mark Coeckelbergh writes "if you like colorful fantastic, spiritual, and demonic figures, be my guest: reenchantment is core business in the games and entertainment industry. Technology enables you to escape reality, to overlay reality by augmenting it with a romantic game, or to reach wholeness and union, perhaps reach a communion of matter and spirit. The new material romanticism as it takes shape today promises to finally realize what we may call the end of the machine." *New Romantic Cyborgs* 15.
[35] The game also encourages players to participate in weekly community challenges called "Rituals" that challenge players from around the globe to compete together to earn points.
[36] A claim that will be further explored in chapter four.
[37] Oldenburg, "Simulating Religious Faith," 1.

the contemporary gaming world found something special about *Tetris Effect*.[38] It seems that something about the VR version of the game and the "zone" it puts players in cultivates feelings of peaceful euphoria.[39] It brings players to tears, "transforming" them through sensorial bombardment, "transporting" them to another place, which is somehow "higher" or more massive than our "fleshy existence."

So how should we interpret the tetrimystics' claims about ineffability, noesis, and the religiously inflected personal and physiological experiences of *Tetris Effect*? A current game studies approach would set aside the language of "religion" and "spirituality" as culturally accidental and instead focus on how the games' mechanics generate states of "flow," a concept with its own critical and complicated history.[40] Meanwhile, many religious studies approaches to video games and religion either focus on religious communities or on explicit religious imagery, and would therefore have a hard time explaining how the game evoked "spiritual," "mystical," and "religious" experience broadly across the gaming community.[41] The approach of this dissertation is to turn to affect theory which can explain how *Tetris Effect* generates these experiences, but prior to that move, we have to get clear on what is meant by RE. As the anthropologist of religion Ann Taves writes, "we can neither simply invoke the idea of 'RE' as if

[38] An observation made on scouring blog posts, reddit boards, and comment threads focused on the game. Other examples include *Journey,* in which Nuenen, writes in "Procedural (E)Motion" that the game brought players to tears and even left some asking whether a "religious experience" was possible in a game.
[39] It is worth noting that the notion that religion is euphoric does not quite fit with all forms of religion, e.g. prophetic religion which is decidedly painful or Christian or Hindu or Buddhist asceticism.
[40] Hrabec and Chrz, "Flow Genres." In the future I hope to explore possible connections to Raymond Williams' concept of "flow" as developed in his work *Television: Technology and Cultural Form*
[41] See Campbell and Grieve, *Playing with Religion in Digital Games*, and Detweiler, *Halos and Avatars*. My approach aligns most closely with Oliver Steffen's differentiation of '"God Modes" and "God Moods"' in his chapter in *Playing with Religion in Digital Games*, however, I look to more examples of more extreme language regarding experiential phenomena that arise from VR more particularly.

it were a self-evidently unique sort of experience nor leave experience out of any sensible account of religion."[42]

II. The Problem of Religious Experience

The following section elaborates on what is meant by "religious experience" in the study of religion, highlighting its conceptual baggage while building up to how it might be re-evaluated as an important concept for understanding what I will call *Tetris Effect's affecognitive design.* RE is useful not solely because it and its cognates like "mystical" and "spiritual" was the language used by the tetrimystics, but because it highlights critical experiential issues in the study of religion otherwise ignored by other disciplinary methods: the importance of sensation, immersion, emotion, and subjectivity in religious practice, understanding, and embodiment. I trace these issues of subjective experience from the foundational work of William James, through its contemporary reconsideration by Ann Taves, and then into affect theory, specifically Gail Hamner's *affecognitive*.[43]

i. William James and *The Varieties of Religious Experience*

When it comes to RE, the American philosopher and psychologist William James is a critical figure for establishing the parameters and objects of study. In his canonical *The Varieties of Religious Experience*, James takes a sociopsychological approach that attributes value to the *function* of REs rather than their *origins*.[44] In doing so, James highlights the effects of religious feelings and impulses while considering whether or not they "bring us good consequential fruits

[42] Taves, *Religious Experience Reconsidered*, 8.
[43] For James' influence on affect theory, see Frank, "Thinking Confusion" for a brief intellectual history of Silvan Tomkins who was taught by two of James' students.
[44] For an extended examination of how this "functional" approach was developed as a part of James' own radical empiricism, see Hamner's *American Pragmatism: A Religious Genealogy*

for life."[45] He takes the plurality of subjective experiences seriously.[46] Yet, despite articulating a range of different REs, the lasting impact of James' text has coalesced narrowly around a few problematic concepts, such as his theorization about mysticism as a subcategory of RE. Many theorists have used this caricature of James to privilege both an Enlightenment concept of the liberal autonomous subject and a *sui generis* approach to "mystic" thoughts and feelings, despite James' own resistance to such theorizations.[47]

Methodologically, the bulk of James' *Varieties* consists of descriptions of extreme moments, feelings, and sensations gathered from a range of first-hand accounts.[48] Summing up his work broadly, James writes that the religious life includes beliefs about the world that suggest a "spiritual universe from which it draws its chief significance" and that the goal is union with this world, and that our actions allow spiritual energy to flow from that spiritual other world.[49] However, his chapter on "mysticism" stands apart when considering the text's impact on the study of RE. James concludes that the purpose of "mystical experiences," a subset of the broader category of RE, can mitigate psychological "unease" or a sense of "wrongness" about one's relation to higher, divine powers.[50] He lays this out explicitly as his answer to the question of a "common nucleus" to the intellectual content of religion, arguing that it typically follows:

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[45] James, 17.
[46] James, 11.
[47] In contrast to figures like Rudolph Otto and Friedrich Schleiermacher, James initiates his theorization of religious experience by resisting reductionist and essentialist notions of a "religious sentiment." However, while James considers his work as descriptive rather than theological, his work isn't as neutral as he claims. For example, his looking to the "fruits not roots" of religious experiences is drawn from the early American pastor and theologian Jonathan Edwards. Simultaneously, concepts like the "once-born" and "twice-born" reflect the Protestant encouragement of conversion experiences and the American Evangelical push towards affective experience, as evidenced in works like Edward's "A Treatise Concerning Religious Affections."
[48] Primarily those of mostly white Protestant Christians from the US and UK around the turn of the 20th Century drawn from the work of his protégé E. D. Starbuck. James does offer examples of medieval mystic women and Islamic mystics, more often than not for the purpose of critique.
[49] James, *The Varieties of Religious Experience*, 375. This is a position he echoes in *A Pluralistic Universe,* pointing "with reasonable probability to the continuity of our consciousness with a wider spiritual environment," 299.
[50] Here is talking about religious experience in its ideal form - i.e. not in cases, for instance, of demonic possession.

1. An uneasiness; and
2. Its solution.
1. The uneasiness, reduced to its simplest terms, is a sense that there is *something wrong about us* as we naturally stand.
2. The solution is a sense that *we are saved from the wrongness* by making proper connection with the higher powers.[51]

James argues that these sensations of "unease" and "wrongness" along with all sentiment, action, and experience draw from a "common storehouse" of our thought capacity.[52] In other words, our bodies are "wired" in a way to valence things *as* "religious." Emotions, feelings, and ideas are never essentially "religious" themselves - the uniqueness of any "religious" aspect of a thing stems from its *function*.

Following this functional and relational approach, James ultimately defines religion as "the feelings, acts, and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the divine."[53] This definition resonates closely with the way those involved with contemporary VR and video game culture describe their experiences, especially the tetrimystics. However, the hesitancy of the tetrimystics to signal a direct correlation between *Tetris Effect* and any ontotheological commitments aligns with James' resistance to a *sui generis* explanation of religion.

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[51] James, *The Varieties of Religious Experience*, 392.
[52] James, *The Varieties of Religious Experience*, 27. James defines “experience” as “a conscious field plus its object as felt or thought of plus an attitude towards the object plus the sense of a self to whom the attitude belongs.” *The Varieties of Religious Experience*, 385
[53] James, 29–30. It is important to note at the outset that James' definition of religion excludes institutions, doctrines, texts, spaces, and communities. In forgoing these aspects of "religion," James creates a narrow definition that cuts out large swaths of what many consider to be essential aspects of religion both in theory and practice. Neither does James, a product of his time, offer an adequate reflection on the religious experiences of minority perspectives or examinations of how religious experience might look different from the viewpoint of gender, sexual orientation, or class. This lack of care for minority and non-normative perspectives might inform why James is so strikingly minimalist on Christian mysticism's erotic aspects. It also begins to highlight James' protestant framework, which manifests itself both methodologically and theoretically. For example, without reflecting on the ways his theological lineage has shaped his thinking, James is unbalanced and weighted in his criticism. He is far more sympathetic to the Protestant figures in his text, such as George Fox and Jonathan Edwards, as representatives of healthy examples of the twice-born mentality over and against the Catholic figures Teresa of Avila, Ignatius Loyola, and Gertrud of Helfta.

Though James remains open to the idea of there being forces beyond our comprehension, his concern is not whether these forces exist in actuality, but with the consequences ("fruits") of people's relating to them.[54]

> It is as if there were in the human consciousness a sense of reality, a feeling of objective presence, a perception of what we may call "something there," more deep and more general than any of the special and particular "senses" by which the current psychology supposes existent realities to be originally revealed.[55]

Since religion's "common nucleus" is in the subconscious structures of our cognition, James' concern is the psychological.[56] Likewise, for the tetrimystics, it is not about whether *Tetris Effect* reveals something ontological that was previously unknown and ineffable, rather, it is that their relating to the game *as something spiritual* helps them resolve their unease about the disconnect between thinking and feeling in the VR gameplay experience. James observed that what makes these events-deemed-mystical so compelling is that they are typically experienced as *immediate* sensations of a higher ("divine," "transcendent," etc.) order that are free from the restraints of other types of experiences, whether or not these forces exist in actuality. These experiences are unique, hard to explain, yet profoundly affective. James writes that:

> It is between these two elements [thinking and feeling] that the short circuit exists on which [Religion] carries on her principal business, while the ideas and symbols and other institutions form loop-lines which may be perfections and improvements, and may even some day all be united into one harmonious system, but which are not to be regarded as organs with an indispensable function, necessary at all times for religious life to go on.[57]

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[54] In his *Principles of Psychology* James writes: "The mere fact of appearing as an object at all is not enough to constitute reality. That may be metaphysical reality, reality for God; but what we need is practical reality, reality for ourselves; and, to have that, an object must not only appear, but it must appear both interesting and important" 203. In relating to these higher powers through the subconscious, a person might undergo a mystical experience that establishes a "right relationship," resolve the unique religious sentiment of uneasiness. James, *The Varieties of Religious Experience*, 396.

[55] James, *The Varieties of Religious Experience*, 50.

[56] On 394 James writes that "The subconscious self is nowadays a well accredited psychological entity." He is drawing his understanding of the subconscious from the work of F. W. H. Myers. This was also post-Freud.

[57] James, *The Varieties of Religious Experience*, 389.

We can start to see how James' general notion of RE as affective, personal, and psychological might serve as a useful starting point for understanding the RE of gaming.[58] But in order to investigate claims that *Tetris Effect* can evoke something like a Jamesian RE, we require a more methodical breakdown of the components of RE as it applies to the subset of mystical experience.

According to James' observations, the uniqueness of mystic experiences over RE more broadly, stems from four primary attributes: ineffability, a noetic quality, transiency, and passivity. These experiences are "more like states of feeling than like states of intellect."[59] Like the visual and auditory pulsations of the *Tetris Effect*, Jamesian mystical experiences often result in physical manifestations like automatisms[60] and photisms (unconscious bodily movements, visions, etc.), the consequences of which are primarily positive:

> We pass into mystical states from out of ordinary consciousness as from a less into a more, as from a smallness into a vastness, and at the same time as from an unrest to a rest. We feel them as reconciling, unifying states. They appeal to the yes-function more than to the no-function in us. In them the unlimited absorbs the limits and peacefully closes the account.[61]

And after these experiences, the individual undergoes changes in their thinking and acting, often leading them to a new "zest" in life and an assurance of "safety and a temper of peace."[62] For James, these mystic states "represent the highest end-point on the continuum of experiences which present themselves as being progressively more revelatory of a progressively wider and more profound reality."[63]

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[58] While also being wary of what Hamner calls the "Puritan imaginary" that informs the development of James' thinking along with his "dogged individualism." Hamner, *American Pragmatism,* 158.
[59] James, 295.
[60] James, 369.
[61] James, 197 and 322.
[62] James, 375.
[63] Suckiel, "The Authoritativeness of Mystical Experience: An Innovative Proposal from William James," 178.

ii. Critiquing Antireductionism: Wayne Proudfoot's *Religious Experience*

In his book *Religious Experience*, philosopher of religion Wayne Proudfoot criticizes James' construction of mysticism, particularly his use of ineffability and noetic quality as markers of a mystical experience.[64] Proudfoot argues that in seeking a single "core or several fundamental types" of experience, classical studies of mysticism, including James', have failed to recognize how an individual's attitudes and beliefs shape their interpretation of a RE. In other words, there might be as many types of mystical experience as there are people experiencing them.[65] Consequently, we should not assume that claims of ineffability - claims that the experience is so immediate and overwhelming that it cannot be put into words - point to a transcendent force at work. We should understand them simply as a reflection of the limitations of a particular language. Otherwise, according to Proudfoot, anytime a person had a limited language set, they could argue for ineffable experiences all the time, as any experience that could not be put into words could be deemed mystical.[66]

Because Proudfoot's primary problem with James' emphasis on ineffability and noetic qualities, which rely on profound affects, he reserves the bulk of his criticism for the scholar who influenced James in this direction, the theologian Friedrich Schleiermacher.[67] Schleiermacher argues that religion results from a feeling of absolute dependence when an individual recognizes

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[64] Proudfoot, *Religious Experience*, 120.

[65] As Proudfoot puts it, the "terms in which the subject understands what is happening to him are constitutive of the experience" which is why those "from different traditions have different experiences." Proudfoot, 121.

[66] Similarly, see Steven Katz' analysis of mystical language.

[67] Schleiermacher was responding to the overly rationalistic Enlightenment thinking of his day, which sought to divest religion (primarily Protestantism and Catholicism) of its epistemic power of truth via revelation. Following Kant, many of these thinkers situated religion apart from reason and rationality and solely in the realm of morality and practice (not revealing moral truths but encouraging their actualization). Schleiermacher made it his project to redeem religion in those cultural despisers' eyes by bringing it together with the romantic tradition. He made a case for religion's power and value through its force as a pre-linguistic, pre-rational emotion that compels individuals towards right relations with the world. Religious language, beliefs, concepts, etc., are expressions of religious affect, rather than descriptive or analytical.

and responds to their finiteness in relation to the infinite, and therefore religion is that which cannot be reasoned, rationalized, or argued - it is an *affective experience*.[68] However, just as Proudfoot argues that interpretation is always linguistic and culturally dependent, he argues that all emotions are, too.[69] Critiquing Schleiermacher, Proudfoot points out that the object felt to be too transcendent for words is already post-linguistic; it can only be described using words like transcendence, etc.

Ultimately, Proudfoot's critique is more about the antireductionism that James' theory of RE inspired in later scholarship (with its roots in Schleiermacher).[70] According to Proudfoot, thinkers like Mircea Eliade and Rudolph Otto appropriated James to position the study of RE outside the realm of science.[71] James gave ammunition for these types of readings with passages like "as a matter of psychological fact, mystical states of a well-pronounced and emphatic sort are usually authoritative over those who have them. They have been 'there,' and know."[72] Quotes like these form the backbone of attempts to shield RE from scientific scrutiny and have resulted in scholars deemphasizing the diversity of religious forms in different times and places in favor of emphasizing religious continuities. This approach has often been coopted in theological

[68] For Schleiermacher, doctrines, theologies, and rituals result from trying to make sense of these deeper feelings of reality. "The common element in the religious consciousness is now specified not as a sense and taste for the infinite, nor as an intuition of the unity of the self and universe, but as a feeling of absolute dependence upon a source of power that is distinct from the world." Proudfoot also highlights the ways both the term "religion" and "experience" are problematically generalized, though inherently particular (to the Western tradition).
[69] All observation is theory-laden.
[70] Proudfoot, 205. For a look at the various lineages of Jamesian influence, see Kay, 2017. Proudfoot agrees with Otto and Eliade that a *particular* type of reductionism should be avoided: descriptive reductionism: “The failure to identify an emotion, practice, or experience under the description by which the subject identifies it,” Proudfoot, 196. On the other hand, scholars should be comfortable with explanatory reduction “an explanation of an experience in terms that are not those of the subject and that might not meet with his approval,” Proudfoot, 197. The work of scholarship is to try and make sense of the world (even though we might be wrong). “ A considerable problem is that Proudfoot does not consider how explanations themselves are informed by descriptions.
[71] Proudfoot, 191. Ironic, given James’ own commitment to psychology and to creating a “science of religion.”
[72] James, *The Varieties of Religious Experience*, 327.

apologetics and in defense of religion broadly. Against antireductionism and the focus on individuality, Proudfoot writes critically:

> recognition of the requirement that religious experience and belief must be identified under the description employed by the subject is used to argue that all accounts of religious experience must be acceptable to the subject. This accords with the assumption that in order to understand religious experience one must participate in that experience or reproduce it in oneself.[73]

Thus, according to Proudfoot's analysis, if the tetrimystics started to ascribe an ontotheological aspect to *Tetris Effect* at the same time as other players claimed *not* to have had a mystical experience with the game, then the tetrimystics could explain this difference away by saying the others failed to relate profoundly enough to the game. This move would also put their own experience beyond critique, as something purely subjective and irreducible. Proudfoot argues that in the very act of claiming "ineffability" they are guaranteeing the emotion to be considered "religious."

But there is also a critique to be made of Proudfoot. Ann Taves argues that Proudfoot and other theorists like him focus too much on the cognitive. This focus on cognition rather than embodiment results in a top-down approach to RE that is too invested in language and misses the value of religion's affective elements.[74] Taves argues that we should instead follow James in looking at how affective experiences become or are *deemed* to be religious.[75]

iii. Anne Taves' *Religious Experience Reconsidered*

In contrast to Proudfoot, Ann Taves contends that James did not claim that RE was *sui generis*, even if he has been misinterpreted as arguing for such a position. Taves argues that James ultimately "popularized what had been a predominantly Protestant concept as a core

[73] Proudfoot, 199.
[74] Taves, *Religious Experience Reconsidered*, 92.
[75] Taves, 8.

feature of religion in general," freeing it from its context to be used from different perspectives.[76] In *Religious Experience Reconsidered,* Taves reinvigorates a concept others have argued is passé and seeks to link "the study of experience in religious studies, the social-psychological study of the mind, and neuroscientific study of the brain."[77] Rather than RE as a pregiven, Taves approach allows us to consider how particular experiences come to be *deemed* as religious, or set apart and special over other more ordinary experiences.

The core of Taves' argument rests on four "building blocks": singularization, simple ascriptions, composite ascriptions, and attributions. Singularization is the process by which "people consciously or unconsciously ascribe special characteristics to things, and the attribution of causality to the thing or to behaviors associated with it."[78] Ascription refers to when something is set aside as "special," while attribution refers to when those "special" things are said to *do* something in the world, that is, when people make (religiously) causal explanations about them. Rather than the term "religious," which is problematic even as a second-order term, Taves prefers "special" (or "unusual") as a second-order umbrella that covers "religion" and other first-order terms like "sacred," "holy," "divine," etc.[79] In many encounters, events, or experiences, people make both "simple" ascriptions and attributions (e.g. designating an object or place as special), and "composite" ones (e.g. combining simple ascriptions and attributions into the cultural formations we tend to call religions or spiritualities).[80] But it is when particular experiences are set apart as special or non-normative that they become a focal point for study.

[76] Taves, *Religious Experience Reconsidered*, 4.
[77] Taves, xiii.
[78] Taves, 13.
[79] Taves, 17.
[80] Simple formations, like ritual objects, can become the means by which people pursue what Taves calls a "special path." Special paths are "defined as sets of practices that individuals or groups view as effective in attaining goals associated with special things." For Taves, these are the building blocks of "religion." Taves, 46-49.

Furthermore, these "ascriptions of specialness may take place below the threshold of awareness; when this happens, it tends to make things seem inherently special."[81]

Taves' method allows us to better understand the sociocultural function and some of the embodied reasons for the language of spirituality, meditation, and the mystical in VR gameplay experiences. We can begin to see the language of the tetrimystics above as *ascriptive* and *attributive*. Their use of language like "spiritual," "religious," and "mystical," stands out as unusual in broader gaming experiences, which fits with Taves' point that it is "*ideal* or *anomalous*" emotions, sensations, and perceptions that people are most "likely to stand out as special and to stimulate processes of reflection and explanation."[82] The tetrimystics are using first-order terms like "spiritual" and "mystical" to highlight the specialness of their experiences which they attribute to the uniqueness of VR as a technological medium. They are ascribing special qualities to the game pathway and attribute it to mystical states, though they have thus far stopped short of engaging a process of "composite formation," turning their experience into what we might consider a formal religion. Instead, they have maintained just the simple ascription of the specialness of the *Tetris Effect* experience.

Yet, for Taves, to study RE is not only to study the deeming of things as religious, but also the way these things are experienced given human cognitive and physiological capacities and how these embodied capacities are shaped by social context.[83]

> Viewed in this way, we can think of the ability to represent experience linguistically as layered on top of underlying non- or prelinguistic forms of experience. The layering of representations on non- and prelinguistic experience suggests that we might expect to find some continuity between the way something is experienced (non- or prelinguistically) and the way it is represented (linguistically) without having to equate them.[84]

[81] Taves, *Religious Experience Reconsidered*, 162.
[82] Taves, 56.
[83] Taves, 29.
[84] Taves, *Religious Experience Reconsidered*, 63.

This is a significant addition to James as it branches the origin of "RE" from merely a psychological "common nucleus" to include broader aspects of human sociology. By showing how the materials for ascription and attribution bubble up nonconsciously from neurological and somatic sources in the body, Taves expands James' attention to emotion and sensation even further.[85] She highlights how designating something as special is not a conscious choice; it is a response to the sensation that something has entered our awareness of its own accord, as if by the agency of some being or force outside of us.

Taves' move is so helpful because it allows us to observe how individuals and communities structure the significance of unusual experiences. With it, we can appreciate these experiences "as a complex mixture of both biology and culture."[86] She notes that "as new technologies make it possible to develop a comparative neurophysiology of altered states of consciousness, careful depiction of subjects' corresponding conscious experience, motivation, and intentionality will be crucial,"[87] but this is not fully developed in Taves' building blocks method. So although she gives us a method for understanding the sociocultural function and embodied reasons for the language of spirituality, meditation, and the mystical in VR gameplay experiences, like *Tetris Effect*, her concepts do not quite take into account the formal and material aspects involved with using digital technologies like VR headsets.

Approaching *Tetris Effect* with Taves in mind means not merely examining it as a piece of media entertainment capable of producing these experiences, but, rather, in light of the "special" conjunction of the game, the players, and the subjectivity and material capacities of VR

[85] Following in James footsteps, as he was making a similar move by sidestepping rationalizing philosophical approaches to religious experience.
[86] Taves, 64.
[87] Taves, 164.

technology. The fact the tetrimystics make their claims based on the VR version indicates that VR is doing something different to the human body than other media types. It is having different effects. VR does not simply remediate other media experiences but pulls in a host of new sensorially qualities and sensory limitations to produce new affects of immersion and presence[88] The evidence for this is that while the non-VR version of *Tetris Effect* was well-received, it did not produce the same collective response of its VR counterpart which evoked claims of experiences beyond merely "fun" and "visually appealing." Because of this unique comparative situation, I suggest that the concept of RE serves as a hinge for rethinking *Tetris Effect* affectively. The following section reconsiders Taves' method with the critical work of affect theory as a tool for understanding the complexities of the VR version of *Tetris Effect* in addition to gaining further understanding of the embodied consequences of contemporary VR technology. Specifically, I look to the affect theory of M. Gail Hamner, as she focuses on the complex dynamic and transformative processes, relations, and interactions of bodies both human and non-human alike.

III. Emotion, Affect, and Religious Experience

i. M. Gail Hamner's "Affecognitive"

Affect theory is useful for parsing out RE as a concept in that it helps us rethink both what might be constituted by the term "religious" and the term "experience."[89] Thinking with affect allows us to conceptualize “experience” apart from and more basic than conscious states or

[88] A claim echoed in Bolter and Grusin’s *Remediation*.

[89] The affect theorists Brown and Tucker point out that the value of affect theory is that “despite its polysemic constitutive vagueness, [it] provides a way of engaging with "experience" shorn of some of its humanist garb. It allows us to begin to argue that experience is not singular, that it is, following Henri Bergson, a multiplicity of intersecting planes.” “Eff the Ineffable: Affect, Somatic Management, and Mental Health Service Users,” 232.

tags to belief. In Bergsonian terms, it is a turn towards intuition and instinct rather than intellect. When rethinking experience, for example, affect theorists like Hamner reckon that:

> By this rubric, the (infinite) varieties of religious experience are not fundamentally personal and are not society's valuation of itself channeled through signifying or significant totems, because religion is nothing; religion does. Religion is not the separation of the sacred from the profane, it is not the feeling of ultimate dependence, it is not a system of symbols, it is not ritual acts of devotion, and it is not belief in a god or Gods or the valorization of specific texts. The concept of religion emerges to signal certain modalities of relationship, that is, certain kinds of subjective-public form and subjective-public function."[90]

Whereas James presented religion as more of an "acute fever" than a "dull habit," for Hamner, "religion is nothing in and of itself but emerges as a concept" or designation in the "valuated conjunction of subjective social forms and subjective-social functions."[91] Hamner's key contrast to James (and neo-Jamesians) for whom cognition can be excluded from emotion is her contention that feeling and thinking cannot be extricated from one another.[92] Thus, she introduces her concept of the *affecognitive* (a portmanteau of affect and cognitive) in order to represent their inextricable link. The affecognitive:

> refers to the ways in which the social circulation of affect (re)settles in a body and weaves into that body's extant physical and psychological makeup, and about how this (re)settling and (re)weaving orients that body to react to and redeploy social affects.[93]

Considering the tetrimystics claims about *Tetris Effect* in terms of the *affecognitive* captures both their noncognitive (feeling and somatic) and cognitive (appraisal/ascriptive) experiences. The affecognitive allows us to deal with questions of mediation between bodies and technologies, and between individuals and publics, for instance: types of human-machine relation (human-computer interface, human-human via interaction with technologies, in-game interactions

[90] Hamner, "Theorizing Religion and the Public Sphere: Affect, Technology, Valuation," 1042.
[91] Hamner, 1036 and 1042. The concept "signals a particular, valuated dynamic of the affecognitive form and function of subjective-public relationality."
[92] For example, see Prinz, *Gut Reactions*.
[93] Hamner, "Theorizing Religion and the Public Sphere," 1041.

between humans), VR's technological capacities, and how VR is centered (religiously) in new media discourse. Framing the dilemmas of *Tetris Effect* and RE in affective terms sidesteps the longstanding problem of RE being conceived as primarily psychological or merely social. Affect allows us to see past explicit, discursive, or denotative manifestations of religion and, rather, see the "cultural connotations of religion."[94]

ii. VR and Affecognitive Design

With the affecognitive in hand, we can begin this analysis by looking at the explicit design choices and hardware capacities of the VR version of *Tetris Effect*. Mizuguchi's goal for *Tetris Effect* was to amplify the psycho-physiological effects already present in the 2D version of the video game. His use of VR generated what he calls "new emotional chemistry through new stimulations." He elaborates that: "If we can amplify that, and add something — the sound and the visual magic — in an interactive process, then you can feel more."[95] For the tetrimystics, this "more" is a transformation "out of your fleshy existence," ascending "to new heights" that reveal "why humans play video games."[96]

When discussing his design choices for making *Tetris Effect* Mizuguchi says his goal was "to create a new experience, using [the] new technology" of VR. He argues that VR is one of the "best forms" to create a special kind of "sensory experience." So *Tetris Effect* became an experiment in blending music, mechanics, and haptics to subtly manipulate the players' behaviors, sensations, and consciousness. Mizuguchi recalls:

> I got a lot of inspiration from music and music videos – music videos are audio and visuals combined to create a new narrative. It's a great form, but it's passive. It's an outside of the box experience. So we have daily experiences in life and we know this is

[94] Hamner, "Affect Theory as a Tool for Examining Religion Documentaries," 102.
[95] McKeand, "'I Spent My Everything. I Broke.' - Tetsuya Mizuguchi on Burnout and Creating the 'New-Wow.'"
[96] Echoes here of Nicholas of Cusa and Psuedo Dionysius and their desire to ascent the soul. Stępień, "The Understanding of Symbols and Their Role in the Ascent of the Soul to God in Pseudo-Dionysius the Areopagite and Nicholas of Cusa."

> life, or this is a real thing. New types of experiences make you go, 'Wow, what is this?' It's a fun moment for the player, but it's also a fun moment for the designer. Designing those experiences was impossible, but now it's becoming possible using new tech. It's a new era. We are moving towards an experiential era…It's not fake, it's an acceptable reality. This is the big ability of the human, we have creativity. VR is just the beginning. It's a door to much more gorgeous experiential art. I'm dreaming more. We want to make the new-good feel, the new-good zone, and the flow states. We have that feeling inside, but we don't know how, so this is a new area. I'm just thinking about the next game. This is an 'our life' theme. How can we enhance experiences? We create the new experiences with sound, maybe some haptic. What is the new-wow?[97]

Rich with affective qualifiers and affective suggestions, Mizuguchi's devotion to VR's sensory capacity is clear; VR is the agent that will create new kinds of "good" or “wow” sensory experience. In making the impossible possible, VR is no longer clearly artificial but instead indistinguishable from non-digital reality, or, as he puts it, “It’s not fake." Here, Mizuguchi highlights (perhaps too optimistically)[98] how VR has advanced to a point where its affective and cognitive capacities are meeting the human body in a way where "flow," the "impossible," and "enhanced experiences" are increasingly open to us.

VR as a technological form, Mizuguchi's design intentions, and the tetrimystics' explicit use of first-order religious terms highlight how *Tetris Effect* gameplay experience is "not a psychological *state* so much as an interpersonal matrix of expectation *in the very moment of its unexpected disruption.*"[99] What I mean by this, is that before playing *Tetris Effect* in VR, players share an expectation of how playing a *Tetris* game will make them feel and think, based on the established "social and physical form" of its predecessors, as well as its contemporary media convergence. But *Tetris Effect* disrupts players' expectations. The tetrimystics experience is "a physiological, sensory response" in gameplay that has "social and physical form but no proper

[97] McKeand.
[98] With chapter one in mind, we can see how Mizuguchi himself might have gotten carried away with the religious imagination of VR and its implicit dualisms.
[99] Hamner, 95.

emotional term."[100] In this aporia, the only appropriate emotional terms for the tetrimystics seem to be "religious" ones in the Tavesian sense of special and unusual.

Though the tetrimystics all described their gameplay experiences slightly differently, the commonality of their "religious" response indicates that whatever was occurring in *Tetris Effect* was more than just coincidental. The tetrimystics' response to the VR game seems to be "situational" and "structural" and transmitted through the interaction between bodies and VR technology. Their attachment to the "vague affective orientations that skipped through the structure of [the] small public culture" of their gaming world "as indices of unexpected disturbance"[101] led them to deem *Tetris Effect* as "religious" ("special"; "valuable"; "unusual"). A disturbance indicative of the formal and aesthetic properties of what VR can do, particularly a VR version of *Tetris Effect* intentionally designed to induce types of experiences that might be deemed religious.

iii. *Tetris Effect* as "Religious Experience"

Just as Hamner writes about film, *Tetris Effect* and VR more broadly "[plunges] viewers into worlds drenched with noise, color, landscape, and texture."[102] We can see this perhaps most clearly in the design of one of the early levels of *Tetris Effect*, "The Deep." Outside the game world, the player's audio-visual connection to reality is obscured by the headset covering the eyes and ears, however, within the game, their sensory organs are slowly bombarded with sensations generated by the dynamic interplay of the hardware and software. The level starts with a familiar *Tetris*-looking screen, a blue rectangle in which falling blue tetriminos are directed by the player to land and stack. As each tetrimino stacks, it splashes with a pleasant

[100] Hamner, 95.
[101] Hamner, 95.
[102] Hamner, 101. *Tetris Effect* even offers a "Theater Mode" to recreate the experience of watching a film.

watery visual effect. A repetitive soundtrack of synthetic and muffled beats and sighs vibe softly in the background, simple photisms that will evolve into grand animations of light as the level progresses. With each twist and turn of the blocks, the tetrominos make a soft, brief, satisfied phonism ("ah") in response to their shifting orientation. These vocalizations, coming from a high female voice always occur on-beat with the level's soundtrack song, embellishing the gentle melody sung by vocalist Kate Brady in the same high register. The musical track is a dynamically modified version of "Connected (Yours Forever)," by Hydelic, a "stage" name of electronica producer and composer Noboru Mutoh. "Connected (Yours Forever)" shifts between an "appealing" 4/4 time and a "calming" 6/4 time depending on your gameplay, both of which match to heartbeat signatures.[103] The tempo flows between 100 to 120 beats per minute, ranging from a resting to an elevated, excited heart rate. As the music plays, the digital virtual world fills with "whirlings, particle effects, flying whales, and staccato controller vibrations that pulsate to the music [and] combine with the core of Tetris to effortlessly submerge the player in" what tetrimystic Devin Raposo calls "that unknowable-until-it's-there thing called the *sublime*."[104] Another tetrimystic example of the merger of mystery, encounter, and radical affectivity.

As the player's stack of tetriminos grows and tetrises (full rows of blocks) are cleared with fireworks of watery light, the music increases in volume and intensity. The blocks themselves visibly pulse to the beat and, as described by the tetrimystics, the player begins giving in to automatisms, losing a sense of distinction between their actions and the onscreen effects. The player is physically moving the joystick of the controller and pressing buttons to

[103] In an interview with Devin Raposo, Noboru Mutoh, the artist behind Hydelic's track said "When creating excitement, we gravitate towards 4/4 for its appealing feel. The tempo is set at around 135 BPM. When creating something that's calming, 6/4 feels pleasant. The tempo is around 100~120 BPM. These tempos and time signatures were new discoveries for me, too."

[104] Raposo, "Hydelic on Creating Music for Tetris Effect, Their Creative Process, and More - Blog | Splice." This claim of the "sublime" will be explored more in Chapter 4.

activate different abilities, but they feel as if the blocks themselves have become part of their body, moving as easily as proprioceptive signals sent to make their hands move.[105] This proprioceptive merger was intentional and perhaps even the result of proprietary technology: *the synesthesia engine*, which adapts the speed and spatial reality of the game to player actions.[106] The invisible gamic engine responds to player choices, and the visual space grows as the player makes it further through the level, allowing them to see more and more of the environment that spans impossible horizons.

As each tetris clears, the VR environment "comes to life" with splashing bubbly-looking whales, fish, and manta rays, freeing the players from the confines of the diegetic boundaries of the gamic interface to float among the creatures of the deep. The angelic vocals of Kate Brady aurally flitter through the space with reminders to the player that:

> Every passing day the winds might blows stronger
> Joy to light the way to keep the reminder
> We're all connected in this
> There is no end in sight for us
> Nothing could measure
> The kind of strength inside our hearts.
> Don't you forget it
> We're all connected in this love[107]

As Brady continues her song, ambient light begins piercing in from above, like sunlight or moonlight breaking through the surface of the water overhead. *Tetris Effect* generates a digital world saturated by light, and as religion scholar Jeffery Kosky writes about in the artwork of James Turrell, "light clarifies. It makes a clearing, and it clears a space in which objects can appear distinctly, but it can do this only if, at the same time, it withdraws, disappears, or remains

[105] Pan and Steed, "How Foot Tracking Matters."
[106] Valdes, "'Tetris Effect's' Development Was Anything but Zen-Like."
[107] "Hydelic - Connected (Yours Forever) Lyrics - Google Search."

invisible, nothing itself."[108] This is a light similar to Zachary Braiterman's description that submerges "individual objects in the limpid succession of everyday phenomena, light becomes its own autonomous object, an optic that awakens human persons to their true and natural humanity.[109] Ken Hillis argues that with flashes of light in the darkness of these headsets, the shapes can stimulate our brains in ways conducive to shaman-like trances allowing individuals:

> …to enter into virtuality where space and light…have become one immaterial "wherein." The ability to experience a sense of entry into the image and illumination enabled by [virtual reality's] design, coupled with both esoteric and pragmatic desires to view technology as a "transcendence machine" or subjectivity enhancer, works to collapse distinctions between the conceptions built into virtual environments by their developers and the perceptive faculties of users."[110]

The world of "The Deep," now teeming with life, light, and the fullness of a synthetic-psychedelic soundtrack, blurs hard distinctions between where the player ends and the game starts.[111] These are techniques used to create a sense of the dizzying virtual of Las Vegas, according to religion scholar Mark C. Taylor and also often used in film, according to Hamner, to "signal religion, transcendence, or even just ordinary, fingers-crossed hope."[112] While film carefully manipulates "through devices such as flashbacks, high-contrast lighting, and oblique camera angles"[113] VR does so by adding to those same filmic elements: reflexive hapticity,

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[108] Here, Kosky is writing about the light-work of artist James Turrell. Kosky, *Arts of Wonder*, 92.
[109] Braiterman, *The Shape of Revelation*, xxvi. And in Elliot R. Wolfson's *Through a Speculum That Shines* Wolfson makes the case that "…the complex symbolism of kabbalah was made possible by the shared acceptance of an ontology of light to characterize both the divine nature and the quintessential human experience of that nature," 273.
[110] Hillis, "Modes of Digital Identification: Virtual Technologies and Webcam Cultures," 349.
[111] Suggestive of what James was articulating in his imaginative conceptions of individuals experiencing unique worlds: "The world we feel and live in will be that which our ancestors and we, by slowly cumulative strokes of choice, have extricated out of this, like sculptors, by simply rejecting certain portions of the given stuff. Other sculptors, other statues from the same stone! Other minds, other worlds from the same monotonous and inexpressive chaos! My world is but one in a million alike embedded, alike real to those who may abstract them. How different must be the worlds in the consciousness of ant, cuttle-fish, or crab!" James, The Principles of Psychology, Vols. 1-2, 174.
[112] Hamner, "Theorizing Religion and the Public Sphere," 1029.
[113] Hamner, "Affect Theory as a Tool for Examining Religion Documentaries," 100.

viewer-camera agency, and sight-totalizing images. If a particular RE in VR will be powerful, like film it will be so because of its "structural/formal properties,"[114] including the ways it is structured and formed by language and culture. This is because when it comes to the religious aspects of VR we know it not only because we see it "but also because we know it when we feel it."[115]

Just as the player reaches a moment of becoming sensorially overwhelmed by the surrounding diegetic elements, a non-diegetic suggestion on screen encourages them to press a button and "activate the zone," which, if considered as part of Bergson's "zone of indetermination," brings about new futures not contained in its past. If the player chooses to activate “the zone,” the game signals that time is slowing. The music fades, and the colors of the digital world are modulated in a subdued, haze-like mode of perception, but the rectangle of falling tetriminos pops with sharp lines and vibrant blues. The game acts like Bergson's mindbody-image in that it dilates and contracts perception depending on its contexts and situations, changing the types of things the player finds interesting, desirable, or repulsive. For the players, the game narrows our range of experience of images to only those it can affect within the digital virtual environment. The player, with the help of the affecognitive design of the game, shifts their perceptive resources from seeing things broadly to perceiving the depth of particular things in order to make thoughtful choices about where pieces might best fit. As per Mizuguchi's design intention, the player is meant to feel they have achieved a sudden clarity within the chaos of rhythm and motion of the gameplay and environment. What was chaos before is now made powerfully clear. It is as if the game itself has taken a breath, and the human

[114] Hamner, 99.
[115] Hamner, “Theorizing Religion and the Public Sphere: Affect, Technology, Valuation,” 1042.

body cannot help but follow suit.[116] This is the world of *Tetris Effect;* the world which inspires the poetic descriptions of the terimystics above.[117]

iv. The Affecognitive of *Tetris Effect*

Turning our attention even closer to the form of VR itself means looking at the tech as a "visual display" as much as an affective one, and then examining how these "circuits of *affect*" are "generated by the disturbance of emotion." If, as Hamner writes, affect "is like the atmosphere or musical *key* of a film, and affect is also its dynamics, its aesthetic *volume* and stylistics of execution" and if "cinematographers set this kind of circulating affective structure in motion, by manipulating aspects of a film that viewers attend to less consciously, such as color, pacing, framing, and music," then looking to VR would mean exploring the choices made by the game's designers and programmers to manipulate the attention and emotions of players in order "to render the cultural connotations of religion as *felt* and not *thought*." [118] With this in mind, we can begin to rethink Mizuguchi's claims about VR as the quintessential medium for affecognitive design; making our thinking feel like something.

In light of Hamner's notion of the affecognitive and taking into account the language Mizuguchi and the tetrimystics use to index *Tetris Effect's* psycho-physiological effects, I suggest that, functionally, the use of "RE" as a descriptor comes down to three main affective dilemmas induced by the complex relation of gamic-expectations and the technological capacities of VR technology. These dilemmas begin to highlight an answer to the question of

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[116] This agential description of the game has notes of Jane Bennet's new materialism. *Vibrant Matter*, she writes that when we "relax into resemblances discerned across ontological divides…[A] chord is struck between person and thing, and I am no longer above or outside a non-human 'environment'" p. 119-20. Zachary Braiterman is critical of an implicit elitism of the cultivated discernment of a "very human subject whose subjective standpoint is first disavowed" who claims "to be recouped at a higher level of organization and awareness."

[117] Readers might note tonal similarities with James *Pluralistic Universe.* This is a connection I hope to develop in future work.

[118] Hamner, "Affect Theory as a Tool for Examining Religion Documentaries," 102.

what it means for *Tetris Effect*, and VR more broadly, to be able to induce a "RE." These affective dilemmas of *Tetris Effect* are 1) a vague sensation of ineffability in the face of the simulated scale (both spatial and temporal) of certain VR environments, 2) a sensation of (connection to a) nonhuman otherness, and 3) an effacement or dissolving sensation of embodied subjectivity. It is these three affects of RE that set the *Tetris Effect* VR gameplay apart from other games that are credited with producing more general affective states. My claim is that these three affective dilemmas are the constituents of what tetrimystics deem "RE."[119] In other words, the tetrimystics attempt to index an event where the use of religious language captures a particular type of *feeling* of unexpected subjective disruption.

IV. Conclusion

An affect theory reading of tetrimystic experiences and of *Tetris Effect* itself is useful for multiple reasons. First, a turn to affect considers the complex interplay of actual human bodies, digital environments, material technologies, and social realities, unlike more semiotic and linguistic approaches. Much of the scholarship in religion and digital media, like its film studies counterpart, has focused primarily on explicitly religious narrative, dialogue, or images occurring within and around video games and virtual reality.[120] As Hamner notes, these approaches often look for "specific assertions" or ambient allusions "made about God, redemption, or grace, or to character names and relationships that seem to mirror or evoke familiar religious figures," much

[119] Each of the three might be present in various intensities. Similar to "classic" examples of “religious experience” presented in James' Varieties or throughout the personal and academic accounts more broadly. Why can they get away with being “duller” rather than more “intense”? Because James looked to radical experiences as they provided the most food for theory. For this project, while claims of these “radical experiences” in gaming culture are uncommon, they are quite common in VR culture more particularly, nor are they radical in certain contexts of religious experience such as charismatic ones where intensity is deliberately sought. All three characteristics are often ascribed to special states of awareness that are then associated with religion and mysticism.

[120] See Bosman, “The Sacred and the Digital. Critical Depictions of Religions in Digital Games” and Campbell et al., “Gaming Religionworlds.”

as I did in chapter one.[121] For these approaches, the linguistic and discursive is enough, rather than merely a starting point for further study. This project does not settle for explicitly traditional religious linguistic or symbolic content and its influence in contemporary VR, which is actually quite common. Instead, I follow Hamner's theorizing of the medium of film and look to "transversal, transpersonal affective movement"[122] as a model for analyzing the connections of VR and digital media more broadly from the perspective of religious studies.

In this project, affect theory has opened up avenues for seeing and understanding the impact of technological *form*, and not just content, on subjective experience. I have examined the formal qualities of *Tetris Effect* in order to notice "oblique religious sensibilities or dispositions that are evoked through less cognitively received ... elements, such as patterns and interruptions of music, color, and mise-en-scène." With this approach, I have shown how the tetrimystics' "references to religion" were references to *feeling* and not to assertion as brought about by the technological form of *Tetris Effect*.[123] Looking to the formal qualities of *Tetris Effect* as VR helps us understand why players still "felt" as though something "religious" was taking place through gameplay, since, as mentioned above, neither *Tetris Effect* nor its designer make traditional or formal "religious" claims itself.

Orienting to the tetrimystics' language of RE through the affecognitive helps us attend to how "the networked and data-driven realities of our bodies, technologies, and social interactions" change how individuals and communities relate to their thinking and feeling in digital-virtual worlds.[124] Doing analysis affecognitively means looking for the ways affects are circulated in "physiological and social matrices" of VR gameplay and the social gaming world, as they are

[121] Hamner, "Affect Theory as a Tool for Examining Religion Documentaries," 99.
[122] Hamner, 94.
[123] Hamner, 100.
[124] Hamner, "Theorizing Religion and the Public Sphere: Affect, Technology, Valuation," 1011.

informed by the language and memory with which the tetrimystics "feel and respond to their worlds and situations."[125]

[125] Hamner, “Affect Theory as a Tool for Examining Religion Documentaries,” 101.

CHAPTER 4

Is VR a Gimmick or Digitally Sublime?

"Virtual Boy delivers this and more. It will transport game players into a 'virtual utopia' with sights and sounds unlike anything they've ever experienced."

- Hiroshi Yamauchi, in a 1994 press release announcing the Nintendo Virtual Boy

"I think it's a novelty. I'm not sure if it's going to make it or not."

- High Voltage Software founder Kerry Ganofsky

In this chapter, rather than chasing the material and affective qualities of claims about *Tetris Effect* as RE, I turn to parallel claims of its *sublimity*. The philosopher and cultural theorist Sianne Ngai writes that "the sublime never loses [its] theological dimension" and "never seems to fully shake off its way of abetting older forms of religiosity." [1] In the case of *Tetris Effect*, the sublime, and aesthetic judgments like it, are utilized as a part of the VR vernacular with little regard for its philosophical or religious significance.[2] And, yet, counter to claims of its sublimity, VR is also often dismissed as a mere gimmick. The experiences that it can generate for users recognized as visual marvels, but vacant of any actual value or meaning. Thus, in this chapter, I follow Ngai and pit "the gimmick against the sublime," the banal against the extreme, because as

[1] Or "what Adorno calls the 'self-exaltation of art as the absolute.'" Ngai, *Our Aesthetic Categories*, 22.
[2] These claims are worth taking seriously because, as Ngai points out, "the vernacular judgments people use in daily life" often are neglected in favor of academic philosophy's reliance on "'the beautiful and the sublime' to theorize aesthetic experience." Ngai, "Gimmicks Might Be the Key to Understanding Capitalism."

Ngai argues, other than the quick, easy, and clichéd gimmick, there is no other opponent to the sublime's "epitome of aesthetic might."[3]

This chapter takes the critique of "VR as gimmick" seriously. If the connection of VR and the sublime is not merely rhetorical, then what identifiable aesthetic phenomenon might these experiences of VR indicate? It answers that what these claims are attempting to do is highlight how our experience of boundaries between body and environment, present and past, feeling and machine blur and result in profound changes to how we relate to sensations triggered in our bodies. And while they might not be able to trigger "sublime" judgements, their transversal capacities do make them far more aesthetically "interesting" than dismissively "gimmicky."

I. VR as Gimmick

In chapters One and Two I presented examples of VRXs from developers like Jaron Lanier, Brenda Laurel, and Lucas Rizzotto, that displayed the powerful affective capacity and promises of VR. In chapter Three, I narrowed my focus to the tetrimystics, and made a case for how appeals to RE function as a second-order term highlighting the affective dilemmas induced by VR. I used the discourse surrounding Tetsuya Mizuguchi's *Tetris Effect* (2018) as an example of religious language being used to describe VR experiences. I sidestepped the radicalness of these claims by looking at these claims *affecognitively* as "not a psychological *state* so much as an interpersonal matrix of expectation *in the very moment of its unexpected disruption.*"[4] I situated these experiences as evidence of affective dilemmas, the struggle to make sense of feelings. However, as with most VR experiences, *Tetris Effect* and the claims of RE by the tetrimystics are not without their critics.

[3] Ngai, 263.
[4] Hamner, "Affect Theory as a Tool for Examining Religion Documentaries," 95.

For example, in a review of the game for *Paste Magazine*, games journalist Garrett Martin dismisses the claims of the tetrimystics by arguing that the visual representations were hokey and inauthentic, painting a picture an unflattering picture of *Tetris Effect* as a pastiche of the worst stereotypes of New Age culture. Martin writes:

> After playing through the entire game, I can verify that its psychedelic bona fides have been greatly exaggerated. Its "trippy" visuals are too programmatic and predictable to ever attain the dreamlike atmosphere of a truly psychedelic experience. It too often relies on stock trappings from the New Age movement, with imagery from Native American culture and Eastern spiritualism. On more than a few levels the synesthetic effect is undermined by those uninspired visuals—sometimes I felt like I was stuck in an '80s sitcom mockery of a New Age bookstore. One level of Tetris Effect comes perilously close to whipping out some dancing Kokopellis.[5]

Martin does acknowledge that regardless of its VR form, the inherent mechanics of Tetris already lock "into your synapses and makes the surrounding world melt away" and forces the "music and visuals into the background," and "virtual reality and headphones makes [these elements] even more powerful and evocative." However, He concludes that the game is "a gorgeous, sometimes glorious vision, and a true VR stand-out," just not the "mind-altering psychedelic experience" others had made it out to be. Martin's critique parallels general critiques of VR as full of radical promise, but ultimately, just one more twenty-first-century gimmick.

II. Sianne Ngai: The Gimmick and the Sublime

In her work *Theory of the Gimmick: Aesthetic Judgment and Capitalist Form*, Ngai makes a case for considering the "gimmick" as an aesthetic form and category unique to capitalism. Ngai defines the gimmick as "an idea, a technique, or a thinglike device" that "is sometimes instrumental and other times pointless."[6] As examples, she lists a few different

[5] Yet despite his dismissal of grand aesthetic claims, Martin's impression of the game overall is a positive one that echoes some of the sentiments of the tetrimystics. Martin, "Tetris Effect Is Beautiful, Powerful, and Afraid to Get Truly Psychedelic."

[6] In an interview Ngai says "It's worth noting that the gimmick is our only aesthetic judgment indexing the way in which these three variables—value, labor, and time—come to be inextricably linked under capitalism. The

gimmicks, like stainless steel banana slicers, the Fyre Festival, Hamburger Helper, and the case of Google Glass, an augmented reality headset that involved promises of a "safer more convenient world" which generated significant hype in the tech world before it was ultimately shelved by Google back in 2015.[7] These gimmicky technologies are "ambivalent" because they are either too far behind or ahead of their time and are perhaps best defined in negative terms: once a technology starts doing what it is supposed to, people no longer talk about it.[8] Ngai argues that "we have no distinct aesthetic term for that which is "not gimmicky," because under capitalism the device that is not a gimmick, that simply performs its function in an unremarkable way, is no longer an aesthetic object. It is just a device."[9] The discourse of VR spent decades hovering around promises of radical potentiality and failed to deliver on the hype. This is why, like we see in the epigraph about the Nintendo Virtual Boy, for years, VR has been called "gimmicky." Recently, however, VR is starting to "work" as promised, yet, rather than just becoming another device, as Ngai argues, claims of both its grandness and its gimmicky status remain.[10]

It matters whether people use the language of "gimmick," "sublime," or "religious experience" to talk about VR because, as Ngai argues, "how we talk is immanent to aesthetic experience." In other words, language can shape experience. She reminds us that our language is "diffused into the feelings that underpin it and the key to its significance."[11] While words like

judgment thus gets at the core of how our economic system works, but it does so obliquely, at the aesthetic level. Nonetheless, to use the term is to register doubt about that system." Ngai, "Gimmicks Might Be the Key to Understanding Capitalism."

[7] Ngai, *Theory of the Gimmick*, 51.

[8] Think of the smartphone. At one time the talk of the town, now a necessary and often unthought extension of our bodies.

[9] Ngai, 96.

[10] This is perhaps because, at least in the popular sense, VR, like RE are supposed to be remarkable, "special" or creating special [religious] [affective] effects.

[11] Ngai, 20.

"gimmick" or "sublime" might not be affects in their own right, when we hear them used to make aesthetic judgments, what we are hearing are "verbal performances correlated with affects not identical to, yet *echoing or amplifying*, the affects that give rise to them."[12] That is, our "ways of speaking" are connected with "ways of perceiving" and feeling. The aesthetic judgments "we utter, a way of speaking; the form we perceive, a way of seeing [is] sutured by affect into a spontaneous experience."[13] Our ways of speaking "constitute forms of appearance in their own right."[14] Furthermore, the gimmick, for its part, is overly concerned with the false vs. real distinction that has sidetracked VR theory to date because, as Ngai says, gimmick's "concern about fraudulence becomes essential to its ontology,"[15] and thus essential to notions of the sublime. As I have hinted at in previous chapters, claims about the “truth” and “falsity,” or fears of charlatanism, about the reality of experiences and sensations are central to the discourse of VR.

Furthermore, Ngai's framing of aesthetic claims as a mix of affect and judgment makes the gimmick a particularly compelling aesthetic category for thinking about the affecognitive implications of RE in VR and the uniqueness of both under capitalism. To think of VR, or any particular VRX, as gimmicky means considering the moment people begin making ambivalent judgments. First as something positive and promising, but then as a disappointing failure or trick, echoing the charlatanism of chapter's one and three regarding both VR and RE. With a gimmick, "concern about fraudulence becomes essential to its ontology."[16] For VR, becoming gimmicky is a matter of whether the promises made by its enthusiasts are promises kept. Here, the gimmick

[12] Ngai, 135. Emphasis original.
[13] Ngai, 1.
[14] Ngai, 21–20.
[15] Ngai, 94.
[16] Ngai, *Theory of the Gimmick*, 94.

functions as "a codified concept for something that is breaking its promise to deliver value."[17] Ngai argues that:

> The gimmick thus names an experience of dissatisfaction—mixed, for all this, with fascination—linked to our perception of an object making untrustworthy claims about the saving of time, the reduction of labor, and the expansion of value. No other aesthetic experience so directly invokes, as if explicitly to solicit our misgiving about these promises."[18]

Judging something as gimmicky, especially with VR, happens when objects promise a sublime experience that they cannot actually cash out. Yet the relationship goes deeper, as Ngai argues that both the sublime and the gimmick can trigger a kind of negative pleasure. In their disappointment with the gimmicky object, people nonetheless gain pleasure in the act of judging and sharing their negative judgment socially.[19] Others, however, are caught up in the promise of the gimmicky object and substitute critical judgments of the object's substance or magnitude with mere hype. With Ngai's theory of the gimmick we can rethink the use of the tetrimystics second-order terms like "spiritual" and "mystic" as signaling a type of aesthetic experience that suggest sublimity while for Martin and for anyone not willing to buy into the hype of VR technology, the judgment of *Tetris Effect* as a gimmicky experience.

As we saw in the brief history of VR in the introduction and in the failed Nintendo Virtual Boy product in the epigraph, VR has a history of overpromising and underperforming.[20] Products like the Virtual Boy, Google Glass, and VR broadly become gimmicky when there is radical uncertainty among general consumers, users, and players about whether "they are working too hard or too little, if they are historically backward or just as problematically

[17] Ngai, "Gimmicks Might Be the Key to Understanding Capitalism."
[18] Ngai, *Theory of the Gimmick*, 3.
[19] Ngai, 31–32.
[20] For more, see the Holmes Stereoscope of 1922, or the Viewmaster from 1939, or Nintendo's VirtualBoy in 1995 in addition to a host of military patents and products.

advanced if they are wonders or tricks."[21] This is a question of the felicity of our aesthetic judgment - a matter of perceiving reality: is what we are feeling, seeing, or touching "real" or illusory?

For VR, the felicity of our aesthetic judgment about reality and illusion brings to the surface the facet of VR as producing a "false" reality: the digital dualism of Chapter 1, but with the added element of "cheapness" that the judgment of gimmick assumes.[22] Yet, VR as gimmick neither rises to the level of Platonic danger nor to Nietzschean deific creation (or Bergsonian fabulation, or Deleuzian powers of the false). On the contrary, to think of VR as gimmick is to perform a neutralizing reduction that empties the experiences of any meaningful reality-shaping potential. It also renders any claims of potential meaningfulness suspect:

> our experience of the gimmick underscores the surprisingly dynamic formalism—the formalizing activity—of aesthetic judgment overall. Grounded in feelings activated by appearance, as opposed to in concepts, rules, or laws, aesthetic judgment is by definition neither cognitive nor practical. Yet such judgments are crucially elicited in its immediate aftermath. In the gimmick, specifically, our spontaneously affective, explicitly aesthetic appraisal of an object's form as unsatisfyingly compromised triggers and comes to overlap with economic and ethical evaluations of it as cheap and fraudulent.[23]

If the experiences promised by Lanier and Laurel or the claims of the tetrimystics turn out to be cheap or fraudulent, then perhaps the technology is as well. I argue that this is not the case.

Ngai's concept of gimmick allows us to see that while judgments of VR technology as gimmicky in the past were accurate, the label does not quite fit VRs status today.[24] Of course, particular VRXs produced for the technology can undoubtedly retain the title of "gimmick," the status of the technology in the form of HMDs like the Vive, the Rift and others have entered the

[21] Ngai, *Theory of the Gimmick*, 49.
[22] Ngai, 2–3.
[23] Ibid.
[24] The main reason that the claim was accurate for early iterations of the technology is based on its accessibility. The early tech was limited to elite circumstances (expensive labs and setups).

territory of making good on their radical promises.[25] Even the skeptical Garrett Martin recognizes that *Tetris Effect* powerfully expresses the potentials of VR, even if it does not create a genuine sublime or psychedelic experience. Thus, dismissing VR and claims of inductions of RE as gimmicky is too reductive. But it does help us recognize where VR is in its sociohistorical development: VR is no longer a mere gimmick. VR can do a significant amount of what it claims to do, and that means we must take its radical claims seriously. Taking these claims seriously requires thinking through the sublime; its historical development as a concept and the way it both fits and does not fit as a contemporary aesthetic category for the mediating properties of VR. What follows is my attempt to establish the philosophical roots of the concept of the sublime in the work of Immanuel Kant and trace its development into new forms in the work of David Nye and later in Eugenie Shinkle's "digital sublime."

III. The Kantian Sublime

i. *Aesthetic Judgments and Reflection*

While Immanuel Kant was not the first to theorize the sublime (as he built on the work done by Edmund Burke and Moses Mendelssohn), he is often the starting point for any conversation concerning the concept.[26] For Kant, the sublime manifests from a reflective judgment of nature resulting in mixed sentiment (positive and negative pleasure) and is closely associated with religious sentiment and moral value.[27] The human faculty for making judgements, of which aesthetic judgments are one kind (beauty, taste, pleasure, sublime), is part of the structures that shape our experience of the world.[28] Kant argues that aesthetic judgment is

[25] Which was the argument in both chapters two and three with the examples of Rizzotto's time machine and *Tetris Effect*.
[26] Longinus is often credited with being the concept's initiator.
[27] Kant, *Critique of the Power of Judgment*, 128.
[28] In the first introduction of the *Critique of the Power of Judgment,* Kant describes aesthetic reflective judgments which:

subjective. This is because there are no set, determinate concepts (as is the case with cognitive Understanding). However, these aesthetic judgments often assume a universal form because we expect (all) others to agree with our judgment that x is beautiful or sublime. In other words, we all make judgments about beauty, but there are no rules to determine whether any singular thing is objectively beautiful (despite our best efforts to make others agree with us). As Jean-François Lyotard explains, "in aesthetic judgment, reflection is…stripped of its objective, teleological function."[29] There is no necessary "end" or universal conclusion (unless we agree) or standard for an aesthetic judgment of beauty. Rather than being about rationality, or information, or facts about the world, the human faculty of aesthetic judgment has more to do with "pure pleasure, it has nothing other than itself to pursue."[30] As in VR experiences and videogame play, this aesthetic capacity is for itself; it pursues itself, perpetuates itself.

Kant argues that in our day-to-day experience our judgments take two forms: determinate and reflective. When presented with an object in the world, we either make a determinate judgment which is concluding: the object is a cup, bird, the image of a tree in a digital-virtual world, etc. Reflective judgments are more complicated. A reflective judgment occurs when we encounter an object that we cannot bring to mind a memory of that would help us determine what it might be.[31] In these reflective judgments, our imagination is given "free play" to attempt to intuit the object we encounter. Reflective judgment can generate "a feeling of the promotion

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lay claim to necessity and say…that they have an a priori principle for themselves. If the relation to such a principle were not contained in such judgments, even though they lay claim to necessity, then one would have to assume that one can assert that a judgment ought to be universally valid because, as observation proves, it is universally valid, and, vice versa, that it follows from the fact that everyone does judge in a certain way that he too ought so to judge, which is an obvious absurdity," Kant, 39.

[29] Lyotard, *Lessons on the Analytic of the Sublime*, 6.

[30] Lyotard considers aesthetic judgment "from the point of view of the 'soul,'" which "has no claim to knowledge." Lyotard, *Lessons on the Analytic of the Sublime*, 6.

[31] Kant, *Critique of the Power of Judgment*, 128.

of life, and hence is compatible with charms and an imagination at play."[32] The imagination is free to play and does not have a "rule" forced on it by Reason (as in the determinative judgment).[33] For Kant, this moment of free play is pleasing and is the basis for our judgments of beauty, so long as the object is self-enclosed. Beauty is triggered by the "form of the object, which consists in limitation."[34]

In contrast to the contained form for beauty, the sublime is triggered by encounters with the formless, limitless, and totalizing. Where beauty arises out of finite, enclosed objects, a sublime judgment occurs in encounters with undefined phenomena or experiences, indiscernible in time and space. Experiences of sublime judgment might occur when we encounter "the wide ocean, enraged by storms," "shapeless mountain masses towering above one another in wild disorder with their pyramids of ice" and "the dark and raging sea," "mountain ranges towering to the heavens, deep ravines and the raging torrents in them, deeply shadowed wastelands,"[35] or "the starry heavens."[36] However, Kant is careful to clarify that it is not the object that is the cause of the sublime, a key contrast to his contemporary Edmund Burke.[37] Rather, the sublime is a result of our human faculty of reason in relation to these objects.

For Kant, sublime judgments are less about being *sensorily* or affectively overloaded by a phenomenon and more about a judgment of the mind's *reflective* ability to intuit and experience its own unity apart from and superior to nature and the power of nature. Neither the beautiful nor the sublime arise from sensation but, rather, from reflection, and they yield pleasure, not

[32] Ibid.
[33] I use the "R" because Reason is conceptually distinct from Understanding.
[34] Kant, 128–29. For example, when we are surprised by a cutscene in a video game, or the impossible physics within digital-virtual environments.
[35] Kant, 144.
[36] Kant, 152.
[37] Burke, *A Philosophical Enquiry Into The Origin Of Our Ideas Of The Sublime And Beautiful*.

knowledge. The contrast is that the experience of the sublime is not "cognitive" in the same way the beautiful is. A sublime judgment can be made when an encounter with nature triggers a subjective experience of our capacity for reason reaching its breaking point. When we make sublime judgments, we are making a judgment about the power of our own mind to play with the idea of the infinite and power in nature. When we stand before the vast natural powers, what's sublime is our own moral grandeur, our own moral compass. Kant writes

> Thus the feeling of the sublime in nature is respect for our own vocation, which we show to an object in nature through a certain subreption (substitution of a respect for the object instead of for the idea of humanity in our subject), which as it were makes intuitable the superiority of the rational vocation of our cognitive faculty over the greatest faculty of sensibility.[38]

While the encounter with the natural world might be full of awe, wonder, or terror, the focal point of the sublime (when the subject judges that the infinite or powerful in nature is sublime) is on the power of our rational faculties in the face of such tremendous power. In other words, the sublime is not correlated with the experience of the object itself but with the *structures* that make judgment possible. It is not the object that triggers the sublime but the relationship of the subject to the object. Kant goes on to say that it would be a mistake to locate the sublime in an object itself, and not in our capacity for Reason:

> we express ourselves on the whole incorrectly if we call some object of nature sublime, although we can quite correctly call very many of them beautiful… for what is properly sublime cannot be contained in any sensible form, but concerns only ideas of reason, which, though no presentation adequate to them is possible, are provoked and called to mind precisely by this inadequacy, which does allow of sensible presentation.[39]

These expressions cannot be captured by the senses or represented in form because they defy form by their very nature. While other encounters and judgments result in knowledge (their teleological function), the result of the sublime is pleasure. The sublime provides first an

[38] Kant, *Critique of the Power of Judgment*, 141.
[39] Kant, 129.

unpleasant and then pleasurable structure to our subjectivity as it moves above and beyond mere sense data through Reason itself. Yet, Kant saw the experience of the sublime as "a pleasure that arises only indirectly: it is produced by the feeling of a momentary inhibition of the vital forces followed immediately by an outpouring of them that is all the stronger." The sublime repels even as it attracts; it is a repulsive or "negative pleasure."[40] Or, as Ngai notes, the sublime is an "emotion…that alternates between an affective 'no' and 'yes.'"[41] To speak of the sublime, then, is to speak of an altered state of consciousness, an elevated mental disposition.[42] Derrida, following Kant, writes that "the sublime, is not only high, elevated, nor even very elevated. Very high, absolutely high, higher than any comparable height, more than comparative, a size not measurable in height, the sublime is superelevation beyond itself."[43] In Derrida's reading there are echoes here of Nicholas of Cusa and Pseudo-Dionysius and theosis as the body is put in service to the soul's ascension towards God.[44]

With this sense of "elevation" in mind, philosopher and Kant scholar Robert Doran argues that the sublime serves as "a secular analogue of religious transcendence for Kant."[45] However, this is not to confuse a sense of "transcendence," the going-beyond the realm of experience conceived in the Christian sense of the heavenly or divine, with Kant's *transcendental* approach, which involves examining the structures of thought. Kant was not concerned with going above or beyond (transcending) things-in-themselves, but how our transcendental (universally human) conditions of knowledge and judgment determine and color our experience

[40] Ibid.
[41] Ngai, *Our Aesthetic Categories*, 19.
[42] A disposition that Kant connects to morality, and also uses to distinguish as an "aesthetic" sublime, different from both the mathematical and the dynamical. Kant, *Critique of the Power of Judgment*.
[43] Derrida, *The Truth in Painting*, 122–23.
[44] Stępień, "The Understanding of Symbols and Their Role in the Ascent of the Soul to God in Pseudo-Dionysius the Areopagite and Nicholas of Cusa."
[45] Doran, *The Theory of the Sublime from Longinus to Kant*, 230.

of reality. He parses this distinction out more finely in his articulations of two types of sublime, the mathematical and the dynamical. The mathematical sublime is concerned with our faculty of Reason as it processes grandeur and magnitude, while the dynamical sublime concerns our faculty of Reason for overcoming power, awe, and terror.[46] This distinction matters because the latter maintains a sense of the theological and ontological, while the latter keeps its focus on *schemas* and *structures* that inform our capacity for thought.

ii. *The Mathematical and Dynamical Sublime*

According to Kant, a mathematical sublime judgment can occur in encounters with objects of immense and incalculable scope. It is the reason we can "call sublime that which is absolutely great."[47] Doran argues that it is in this section on the mathematical sublime that Kant makes a distinction between simple and absolute (greatness) which is one of the ways that he distinguishes "an authentic experience of transcendence (one proximate to religious experience) from experiences that resemble it only superficially."[48] The simple experiences are aroused by intuitive judgment, like when we encounter a tall building that we recognize but cannot fully grasp. We *can* comprehend these experiences, though we sometimes fail to. The absolutely great (mathematical) sublime experience arises from calculation, measuring, and finding wanting our capacity for reason. We can *apprehend* these experiences, even if we cannot quite comprehend them.[49]

Since comprehension is based on Reason, we can use it to make more sense of the world than mere apprehension allows. This is why the mathematical sublime (a recognition of reason's

[46] Doran, 221.
[47] Kant, *Critique of the Power of Judgment,* 131.
[48] Doran, *The Theory of the Sublime from Longinus to Kant*, 223.
[49] These are both initially defined in the First Introduction of the third *Critique*. Apprehension for Kant is our ability to conceive of an object partially, while comprehension is understanding, or taking in its wholeness.

capacity) is so powerful: it gives us a taste of our capacity to approach and conceive the idea of infinity.[50] As Kant puts it, "the very inadequacy of our faculty for estimating the magnitude of the things of the sensible world awakens the feeling of a supersensible faculty in us." In context:

> nothing that can be an object of the senses is, considered on this footing, to be called sublime. But just because there is in our imagination a striving to advance to the infinite, while in our reason there lies a claim to absolute totality, as to a real idea, the very inadequacy of our faculty for estimating the magnitude of the things of the sensible world awakens the feeling of a supersensible faculty in us; and the use that the power of judgment naturally makes in behalf of the latter (feeling), though not the object of the senses, is absolutely great, while in contrast to it any other use is small.[51]

In other words, the experience of the mathematical sublime is a failure event of the Understanding and cognition (specifically, of our imagination) but pleasurable in that it inspires appreciation of our Reason. As a judgment of an encounter with "magnitude, force, quantity in its purest state," the mathematical sublime denies "the imagination the power of forms." It denies nature "the power to immediately affect thinking with forms."[52] It shows us the limits of our senses and the unlimited power of reason.

The dynamical sublime, on the other hand, pushes beyond the limits of comprehension and challenges us on an existential level. Unlike the beautiful, which produces feelings of pleasure, the dynamical sublime is ambivalent with both pleasure and fear. This mixing of sensations, first fear followed by pleasure, occurs because of judgments of the power of nature and ourselves. Kant writes:

> Power is a capacity that is superior to great obstacles. The same thing is called dominion if it is also superior to the resistance of something that itself possesses power. Nature considered in aesthetic judgment as a power that has no dominion over us is dynamically sublime.[53]

[50] And in doing so does a "violence" to the imagination. Kant, *Critique of the Power of Judgment*, 129.
[51] Kant, 134.
[52] Lyotard, *Lessons on the Analytic of the Sublime*, 53–54.
[53] Kant, , *Critique of the Power of Judgment,* 143.

The dynamical sublime occurs when we encounter a natural phenomenon that is powerful enough to have dominion over us, but we nevertheless persist: like the raging storm or the starry heavens. In this sense of power and fear, the dynamical sublime ultimately differentiates itself from the mathematical sublime. Where the mathematical sublime triggered a sense of awe and powerlessness, the dynamical sublime triggers both fear, power, and the pleasure of their resolution:

> For just as we found our own limitation in the immeasurability of nature and the insufficiency of our capacity to adopt a standard proportionate to the aesthetic estimation of the magnitude of its domain, but nevertheless at the same time found in our own faculty of reason another, nonsensible standard, which has that very infinity under itself as a unit against which everything in nature is small, and thus found in our own mind a superiority over nature itself even in its immeasurability: likewise the irresistibility of its power certainly makes us, considered as natural beings, recognize our physical powerlessness, but at the same time it reveals a capacity for judging ourselves as independent of it and a superiority over nature on which is grounded a self-preservation of quite another kind than that which can be threatened and endangered by nature outside us, whereby the humanity in our person remains undemeaned even though the human being must submit to that dominion.[54]

We tremble before the power of nature, knowing that it is more than enough to cause our destruction, yet because it does not destroy us, we recognize the superiority of reason.[55] And "by *virtually* conquering our natural inclinations, we show ourselves to be (morally/spiritually) stronger than the nature that threatens us."[56] This conflict results in recognition of the power of human reason as it overcomes our imagination's attempts at apprehending nature's power.[57] At

[54] Kant, *Critique of the Power of Judgment*, 145.
[55] What Doran calls Kant's "Virtual heroism." Doran, *The Theory of the Sublime from Longinus to Kant*, 248.
[56] Doran, 246. In particular the rational idea of freedom. We are free over nature. Here Doran is using "virtual" in the "as if."
[57] Lyotard points out that the move from the mathematical to the dynamical is one from "a conflict in which reflection dismisses both parties with its double "no": neither of you, neither one nor the other, has any legitimacy to claim what you claim-we move to a conflict in which it credits both of them with a double "yes": imagination is justified in trying to present the unpresentable and in not being able to succeed; reason is right to demand that it make this vain effort, because reason here is practical and the Idea to be presented is unconditioned causality, freedom, which constitutively requires its present realization bur also constitutes the supreme "destination" of the mind." Lyotard, *Lessons on the Analytic of the Sublime,* 43.

the same time, it highlights how the sublime is also relational. For Kant, the encounter with the world is given freely through the sensory manifold and constructed by the categorical schema. It is what the unaccountable does to the categorical schema that generates the experience of the sublime as a kind of judgment (a certain operation of reason).

Yet, a key question for this chapter remains: what role might technology, and VR more particularly, play in an encounter capable of being judged as sublime? As pointed out above, Kant argues that "we express ourselves on the whole incorrectly if we call some object of nature sublime, although we can quite correctly call very many of them beautiful."[58] Perhaps, then, the digital artifacts of VR and VRXs like *Tetris Effect* can only be beautiful, a matter of pleasure and taste, and not the monstrous and colossal sublime? Or can they actually disorient the concepts of the understanding? While many of Kant's examples of the sublime are natural phenomena, the two that stand out are the Pyramids and St. Peter's Cathedral, two human-made structures.[59] How can these human-made objects work with what Kant said earlier, that "nothing that can be an object of the senses is, considered on this footing, to be called sublime"? [60] Kant is clear to point out that sublime judgments are a result of encounters with "raw" natural phenomenon.[61] How then are we to make sense of these two human-made structures? Initially, we might respond that human-made structures can trigger judgments of the mathematical sublime, while the dynamical is reserved for the natural world. In fact, in his *American Technological Sublime* the

[58] Kant, *Critique of the Power of Judgment*, 129.
[59] Kant, 136. Though commentators argue whether or not this is an example of the "sublime" or merely great. See Allison's *Kant's Theory Of Taste*, 318.
[60] Kant, 134.
[61] Kant writes, "if the aesthetic judgment is to be pure (not mixed up with anything teleological as judgments of reason) and if an example of that is to be given which is fully appropriate for the critique of the aesthetic power of judgment, then the sublime must not be shown in products of art (e.g., buildings, columns, etc.), where a human end determines the form as well as the magnitude, nor in natural things whose concept already brings with it a determinate end (e.g., animals of a known natural determination), but rather in raw nature (and even in this only insofar as it by itself brings with it neither charm nor emotion from real danger), merely insofar as it contains magnitude" Kant, 136.

historian David Nye attempts to resolve this contradiction by considering the sublime as a contingent category by tracing the historical development of what he calls the *technological sublime* and its offshoot the *consumer sublime*.

VI. David Nye's Technological and Consumer Sublime

Nye opens *American Technological Sublime* by arguing that the sublime underlies our "enthusiasm for technology" and that it is "one of the most powerful human emotions" that can weld society together."[62] He argues that his project is less philosophical and more about stressing "the historicity and the politics of sublime experiences, presenting them as emotional configurations that both emerge from and help to validate new social and technological conditions." His work "traces the emergence of new forms of the sublime, considering them not as absolute categories of aesthetic experience but as contingent categories within social and political systems,"[63] particularly in nineteenth and twentieth century America.

i. *Technological Sublime*

Nye explains that although enlightenment thinkers like Kant recognized nature as both generative and radically other, in the 19th and 20th centuries humans started replacing nature with the technological (like the Eerie Canal, Niagara Falls, and the Hoover Dam). All of a suddent technology could overcome "raw" and terror-inducing natural phenomena while also being itself terror and awe-inducing in its magnitude. As a result, particular American sensibilities and self-reflection co-opted the concept of the sublime and the "technological sublime" emerged as "an essentially religious feeling" generated by encountering "impressive [technological] objects."[64]

[62] Nye, *American Technological Sublime*, xiii. Note here already his conceiving of the sublime as "emotion" and not a faculty of "reason."
[63] Nye, xvii.
[64] Nye, xiii.

This transformation resulted in a growing appreciation for the power and presence of science, technology, and industry in American life. Nye argues that

> technology has long played a central role in the formation of Americans' sense of selfhood. From the first canal systems through the moon landing, Americans have, for better or worse, derived unity from the common feeling of awe inspired by large-scale applications of technological prowess.[65]

Reflection on technology's "awe-inspiring size or complexity...came to replace self-reflection as the key dimension of sublime experience."[66] No longer awe at reason's ability to survive the overwhelming affects of nature, it was awe at technology's capacity to overcome nature itself. This is "the corollary to an expansion of human power and yet simultaneously [as] evoking the sense of individual insignificance and powerlessness…as an extension and affirmation of reason or as the expression of a crushing, omnipotent force outside the self."[67] The sublime became the "overpowering and often delicious sense of awe and disorientation that we experience in the presence of some gigantic structure or immensely powerful machine." Americans began turning to their own creations for the power of the sublime and less so the natural world. In other words, the American imagination about technology supplanted a recognition of the self (both as a culture and for individuals) as a primary locus of power.

ii. *Consumer Sublime*

Nye continues his history by arguing that eventually the technological sublime developed into a "consumer sublime," which describes situations "where technology is divorced from use-value and employed instead to enact fantasy."[68] In constructed fantasy worlds like Las Vegas and Disneyland, the sublime is simulated as a mode of entertaining diversion: "[their] epiphanies

[65] Ibid.
[66] Shinkle, "Videogames and the Digital Sublime," 98.
[67] Nye, *American Technological Sublime*, 285.
[68] Nye, 291.

have no referents; they reveal not the existence of God, not the power of nature, not the majesty of human reason, but the titillation of representation itself."[69] Mark C. Taylor writes that places like these are "where the real becomes virtual and the virtual becomes real,"[70] or, in this case, the sublime becomes just another packageable and marketable product for consumption. The sublime is no longer an aesthetic judgment about the limitations of reason. It is no longer only a boundary-producing affect for human subjectivity, but just one more affect to consume and be consumed by. However, when these experiences to be consumed fail to meet the promise of sublimity the result is judgments of them as gimmick. For example, instead of going to explore the Grand Canyon, consumers could:

> sit in an IMAX theater and watch *The Grand Canyon—The Hidden Secrets*, a 34- minute film shown on a 70-foot screen with six-track Dolby sound. As an additional attraction, the theater advertises "Native Americans in traditional dress on the staff." During the performance guests are encouraged to "enjoy our fast food, popcorn, ice cream" and other snacks. Why bother to hike into the canyon when all the highlights have been prepackaged?[71]

Nye argues that because many of the natural wonders could no longer live up to their fantastic descriptions, people sought the promised grandeur in film and digital technology images.[72] Why bother with the natural world when humans could now imagine a "world entirely without infrastructure and beyond the limitations of nature."[73] The natural world begins to feel gimmicky, too old, and unable to deliver on its promises in the same way grand new technologies like the IMAX theater could.

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[69] Ibid.
[70] Taylor, *Rewiring the Real*, 67. Note Taylor's oppositional dualism of the virtual and the real.
[71] Nye, *American Technological Sublime*, 289.
[72] Under the Kantian framework, these experiences fall under the category of the beautiful, despite Americans claims of their sublimity.
[73] Nye, 295.

For our purposes here, it is important to note that neither the technological sublime nor the consumer sublime is about a Kantian encounter with the limits of one's subjectivity or powers of Reason. Instead, they are encounters with pleasure itself as a feeling, one that overwhelms. Technology replaces nature, and mere pleasure replaces transcendence. Under this model of the sublime, it is not a matter of recognizing the power of our cognitive structures and their persistence in the face of possible and magnificent destruction, but, rather, pleasure in being overwhelmed by technological grandeur.

In other words, Nye's conception of the sublime suggests a type dualism that separates "real" or authentic experiences from "false" gimmicky ones. For example, under Nye's model of the sublime, what Mizuguchi's *Tetris Effect* offers is mere "overwhelming" pleasure. It misses the radical subjective recognition of the self that Martin associated with the true psychedelic experience - pleasure for transcendence. This makes *Tetris Effect*, in a word, gimmicky. There are arguments to be made that it might produce both the technological and consumer sublime. If that's the case, however, it is more likely than not that they could also be considered gimmicks as well. This is because, as Ngai writes (following Kant), the sublime shares with the gimmick "a strange place between aesthetic experience and cognition" that involves particular types of judgments, specifically "the qualitative estimation of sizes or quantities."[74] Except that the gimmick creates feelings of cheapness, tricksiness, suspicion, and doubt, whereas the sublime, in its popular sense, is an experience of transcending nature, elevation, and absolute reality. Under the Kantian model, it is not the choices of the designers or the hardware itself that somehow contains sublime attributes, but, rather, the relationship between the player/user, the technological machine, and the software.

[74] Ngai, *Theory of the Gimmick*, 31.

VII. Shinkle's Digital Sublime

I turn now to Eugenie Shinkle and her concept of the "digital sublime" to try and rethink a possible Kantian sublime for VR. Shinkle, like Ngai, Kant, and Nye, is concerned with the aesthetic experience of new technologies, specifically video games. She writes that aesthetics is "a cognitive category, concerned not just with what cultural forms are, but with what they do, their effect on an embodied subject."[75] In the particular case of VR, the cultural form is a matter of both hardware and software. This is why Shinkle's digital sublime offers a compelling argument for thinking about how the digital-virtual affects subjectivity. For Shinkle, digital technologies bind and define the individual's subjectivity through powerfully aesthetic experiences. She considers aesthetics to be a "cognitive category" that concerns how embodied subjectivity is affected by cultural forms and how sublime affect shapes the way we conceive of ourselves in relation "contemporary digital technologies" - in this case, video games.[76]

i. Video Games and the Kantian Sublime

In her essay "Videogames and the Digital Sublime," Shinkle builds on Nye's "technological sublime" and claims to construct a Kantian case for video gaming's sublime potential as an aesthetic form. Her primary interest in doing so is to examine how "the experience of the limitless potential of human ingenuity is lodged within artifacts whose material existence is fleeting and insignificant."[77] She concludes that because of the ubiquity and consumer entertainment quality of contemporary technology, and video games, in particular, the sublime is emptied "of the transcendence that the term originally comprised"[78] and leaves the user and player with an experience of profound rupture of the self that is also "utterly banal" and

[75] Shinkle, "Videogames and the Digital Sublime," 94–95.
[76] Shinkle, 94.
[77] Shinkle, 106.
[78] Shinkle, 104.

"situated in the mundane reality of the consumer everyday."[79] She calls this new rupturing sensation the “digital sublime.”

Shinkle contends that the affectivity of the digital sublime, like previous iterations of the sublime, allows for an experience of the boundaries of subjectivity as it highlights the limitations of nature and the human self. She points out that "typically, the trajectory of sublime experience begins with a loss of human agency, as the subject feels itself overpowered by a greater force."[80] In video games and VR, transgression of subjective boundaries occurs through the transversal interactions of technology and gameplay experiences. Using the occluding properties of the HMD, the proprioceptive drift of controllers and images, and haptic feedback, VR has been crafted to efficiently produce an "absence of a consistent and uniform boundary between the self and the machine."[81] However, Shinkle argues along with Nye that when applied to the digital, the concept of the sublime has lost its association with subjective reflection. Instead, the sublime has become a mere aesthetic category meant to qualify profound emotional experiences triggered by "awe-inspiring size or complexity."[82] It has also lost its direct connection with the natural world and has become closely tied with the technological, primarily as it increased in size and complexity. And since video games and VR represent an "incomprehensibly complex technological achievement"[83] in regards to their digital and material constructions, for Shinkle, they have become the contemporary locus of the sublime.

Shinkle highlights a problem, however, in that while games might be awe-inspiringly complex, they are also designed to hide their complexity. The hiddenness means it cannot trigger

[79] Shinkle, 105.
[80] Shinkle, 97.
[81] Shinkle, 101.
[82] Shinkle, 97.
[83] Shinkle, 99.

reflective judgments, which means we cannot be astounded by the mathematical complexity, and so video games must then trigger the sublime through different registers and aesthetic interfaces. In a straightforward reading inspired by Nye's technological and consumer sublime, video games capacity for the digital sublime would involve being disoriented and ruptured by the human ingenuity and the mathematical precision and feats of engineering involved in producing the hardware and the software, but it does not seem like that's the case. To resolve the problem of gameplay and the sublime and recover a sense of subjective reflection, Shinkle experiments with a backwards approach that rethinks the unique affects tied to the digital sublime of video games. Rather than awe and wonder, Shinkle suggests that the affects of the digital sublime are *stuplimity* and *flow*. She draws these concepts from the work of Ngai and the psychologist Mihaly Csikszentmihalyi respectively.

ii. Stuplimity and Flow

What Ngai calls "stuplimity" is the particular mixture of shock and boredom that "confront us with the limitations of our capacity for responding in general."[84] Shinkle argues that given the general repetitiveness of video games, their mechanics, and gamic actions, coupled with the overwhelming amount of code and design that goes into their creation (though hidden), players experience stuplimity when playing them. The shock and boredom of stuplimity "involve a kind of paralysis, an impedance of normal actions and responses."[85] Shinkle argues, however, that the stuplime cannot quite capture the essence of the digital sublime as "stuplime affect suggests a similarly shallow kind of engagement: rather than a challenge to subjective

[84] Ngai, *Ugly Feelings*, 262.
[85] Shinkle, "Videogames and the Digital Sublime," 100.

boundaries and an affirmation of the powers of reason, the subject experiences an attenuation of self in the guise of entertainment."[86]

Rather than giving up on the boring paralyzing effects of stuplimity, Shinkle reframes the repetition in terms of Mihaly Csikszentmihalyi's concept of "flow." She argues that flow usefully parallels Kant's concept of beauty in that it "assists, from the side of the senses, in the formation of empirical concepts for the understanding."[87] But flow goes beyond Kant's beauty, which has pleasure as its goal and instead leverages the structures of the mind to help facilitate sublime experiences. According to Shinkle, a flow state:

> describes a state of total physical and psychic immersion in a task. Flow states occur in activities that offer clear goals and immediate feedback, and that present challenges without introducing undue frustration. In a flow state, the individual is fully focused on what they are doing – distractions are ignored, and the sense of time is distorted. The task at hand becomes autotelic – an end and a source of pleasure in itself – the fear of failure is reduced, and self-consciousness vanishes.[88]

In other words, this state of flow immerses human subjectivity beyond the point of recognition.[89] Csikszentmihalyi writes that in this flow state, "we might even feel that we have stepped out of the boundaries of the ego and have become part, at least temporarily, of a larger entity."[90]

However, Shinkle is careful to point out that neither the "flow" nor the “stuplime” is the digital sublime, as she conceives it, but, rather, necessary elements for the digital sublime to be experienced. As flow takes part in the digital sublime, it critically results in a sensation of the self as lost in the sensory overload of digital software. Shinkle acknowledges that flow directs us to the ways that "technology itself" is no longer "the direct source of the affective charge."

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[86] Shinkle, 101.
[87] Shinkle, 113. The concept of flow has echoes of James’ “pure experience” from *Pluralistic Universe,* 338.
[88] Shinkle, 101.
[89] While the Kantian subject recognizes itself.
[90] Csikszentmihalyi, *Flow*, 95.

Instead, flow is phenomenological, an "effect of the *gameplay experience*."[91] It is not the object (videogames) that produce the sublime, but our subjective relationship to them. She, therefore, sees the digital sublime not as arising from a user being awed by the video game technology itself, the moving of the joystick, the pressing of buttons, advanced display technologies, but by the user's experience of playing the game, performing actions and receiving dynamic sensorial feedback. The stuplime is the banal pleasure that results from achieving flow states where the player's physical and psychic immersion in the video game is achieved by the overwhelming sensorial inputs gameplay produces. However, unlike previous notions of the sublime, the "stuplime affect makes no claims for spiritual transcendence or ironic distance, relying instead on a paralytic tedium."[92] The stuplime relies on flow states to help hide the awe-inspiring complexity of code and technological sophistication. Ultimately, neither affective state confronts the human with the limits of their own subjective rationality.

iii. Videogames and Failure Events

To find a sublime that is both digital and more closely connected to the subjective reflection and judgment of Kant's sublime, Shinkle looks to those moments when digital technology fails. Foregrounding the negative and inhibiting aspects of the Kantian dynamical sublime, Shinkle identifies its repulsive dimension with digital "crashes, random memory corruption and irrecoverable hardware failure – [which are] catastrophic in character." These failure events are like natural failures - catastrophes like avalanches and storms (observed from a position of relative physical safety). Shinkle argues that like natural failures, digital failures have "serious consequences for the subject."[93] These consequences involve the subject entering a state

[91] Shinkle, "Videogames and the Digital Sublime." Emphasis mine. Here, Shinkle is using "phenomenology" in the more popular sense of "subjective experience" rather than its classic philosophical lineage.
[92] Shinkle, 100.
[93] Shinkle, 102.

of sublime affect in which subjectivity is dissolved, leaving nothing but a confrontation with the power of reason itself. The sublime dissolution of the technologically-enabled-self caused by the failure event "is both catastrophic and utterly banal: marked by a profound sense of rupture and loss, and situated in the mundane reality of the consumer everyday."[94]

Shinkle writes that failure events result from player engagement with a video game that has, until that point, been working properly. Engagement with a properly functioning interface "'humanizes' the technology." The working video game acts "as an extension of the body and enabling the technology to function as an affirmation of reason."[95] Here, the interface works not merely analogous to, but as an extension of, the cognitive structures of our mind.[96] The interface mediates the world of the game to us, lulling the player into a sense of copresence (or telepresence), being in two places at once. But the failure event is always possible, and once the failure occurs, the player realizes they are not actually "one" with the machine. As Shinkle puts it, after a failure event, the technology appears as:

> an inexpressive intelligence, a pure, depersonalized power, a technological other. Failure events introduce a sense of the incommensurability of the technology with the subject's own powers of reason, and the jarring affect they give rise to is a visceral response that elides reason – it is an estimation of magnitude through intuition, a subjective rather than an objective determination.[97]

In the failure event, technology gets depersonalized, and since the player was associated so closely with the game via the "humanizing" interface, the player experiences "the envelope of perceptual experience" ruptures, and the player's subjectivity becomes "disabled and dispersed."[98]

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[94] Shinkle, 104.
[95] Shinkle, 102.
[96] James might argue that the subject is co-conscious with the interface.
[97] Shinkle, 102.
[98] Shinkle, 103.

Though failure events are always possible when using digital technologies like VR and video games, according to Shinkle, their most profound consequences rupture the affective experience of flow in which the subject is fully submerged and time dissolves. And it is these two experiences together, flow and failure, Shinkle argues, that parallel Kant's mathematical and dynamical sublime - *mathematical* "in the sense of the extent of code," and *dynamical* in the "sense of the dissolution of the technologically enabled self in the face of a 'higher power.'"[99] Together they leave the user overwhelmed by the utterly inhuman and mathematically "monstrous" digital-virtual element of the video game experience. The player witnesses the limits of their own subjectivity and is in awe of reason itself, capable of comprehending the true power of digital software, and their subjectivity is recouped.

There is a major flaw with Shinkle's account, however. She seems to be implicitly suggesting a digital dualistic distinction. She writes that in video gaming, there is a type of technologically-enabled self, separate and distinct from a self that does not interact with the game. She seems aware of this problem and gestures to Katherine Hayles' notion of the "posthuman" in order to collapse boundaries and highlight the "seamless bond between the technology and user."[100] Yet, she nevertheless reinscribes notions of this harder dualism between player and the game mediated by the interface. She writes:

> We exist in reduced form in the gameworld: our senses dulled, our choices and actions limited, and we are bound to the terms of engagement of the interface as a visual system and a material artifact. In exchange, the game offers a different reality, one of spectacular scenography, enhanced abilities, and more or less eternal life. The job of the interface is to maintain this alternative reality by supporting a perceptually coherent gameworld.[101]

[99] Shinkle, 103–4.
[100] Shinkle, 103.
[101] Ibid.

This harder dualism is necessary for her to make grander claims about the affective capacity of video games. For there to be a rupturing of subjectivity within the digital sublime, it requires a radical and monstrous other capable of instigating a type of ineffability, or "introverted" sublime "incapable of presentation to the senses."[102] In perpetuating digital dualism and exaggerating what games are capable of, Shinkle buys into the gimmicky aspects of VR.[103]

VIII. Conclusion

While the aesthetic categories of gimmick and sublime are good for detailing certain aesthetic properties of VR machines and games, they misrepresent the affective capacities of the medium. Making aesthetic judgments about VR as either gimmick or sublime ultimately commits the same fallacy of the digital dualists: it either takes the experiences of VR too seriously or not seriously enough. The problem with the language of the sublime, especially as it moves out of its Kantian form and into the language of the "religious imagination," is that it is too "transcendental," presuming there exists an outside from which we are somehow separate. Even the human mind's recognition of its limitations in the face of nature still consists in the *relationship* between the natural event and the comparatively fragile human body, and its cognitive biology that only evolved to reckon small numbers and easily traversable distances.

The formulations of the sublime mentioned above, especially the digital sublime, assume problematic dualisms, including digital dualism. However, in investigating the powers of VR, I insist that we have to consider the human *in relation to machine*, rather than as in any way separate from it. Or, we need to think VR transversally, as mentioned in the introduction, as separate but not distinct. While a move towards aesthetics gets at the human *experience of this*

[102] Ibid.
[103] In one particular way, Shinkle seems to follow the problem of the immersive fallacy as developed by Salen and Zimmerman, *Rules of Play*, 450-456.

relation, both the aesthetic categories of sublime and gimmick are too reductive. As mentioned above, the gimmick, for its part, is overly concerned with the false vs. real distinction that has sidetracked VR theory to date because, as Ngai says, gimmick's "concern about fraudulence becomes essential to its ontology,"[104] and thus essential to notions of the sublime and religious experience.

In my work as a manager of a VR Lab and a video games course instructor introducing VR to students for the first time, I find that no one ever asks "how is the machine doing this?!" This is because the immediacy of the experience does not raise that question; users simply accept the experience VR generates. Experientially, then, it is clear that the crux of VR is not about the false/real binary.[105] This is precisely because VR depends on what we can term *collapsed distance*. Therefore, the affective capacity of VR is about the binary pair of *space and time*, not whether it is real or illusory. In VR, a user reacts to something that can be either near or distant in *time*, but which is always profoundly immediate in *space*. Thus, instead of the VR user experiencing any kind of transcendence because of reason, or a recognition of the power of their own cognitive structures, they achieve it by *immersing sympathetically* on account of the intuitive perceptual faculties with which humans are endowed as explained in Chapter 2.[106]

When encountering VR as an aesthetic object, it is not enough to have the experience of observing; to experience the affecognitive capacity of VR, one must engage the sense of one's whole being, for a time, with the sensorial effects of the machine. VR is more akin to interactive theatre than other art forms like painting or film despite its close association with the latter,

[104] Ngai, 94.
[105] People suspend critical judgment and distance in the midst of a VRX, much like the suspension of disbelief in theatre and film.
[106] The same moves are at play in a James Turrell art installation as it plays with light and technology. Hylton, "How James Turrell Knocked the Art World Off Its Feet."

which was investigated more deeply in chapter two. Therefore, it is neither one's capacity for reason, nor one's cognitive structures that deserve awe and wonder, but the ontological fact that a person can be changed and yet persist. That one can become something different and still survive. That difference does not kill you—the sublime Kantian survival in the face of raw magnitude and power.

CONCLUSION

On the Uses of VR's Transversal Virtuality

This dissertation examined the embodied experiences of VR in light of the religious modalities that inform VR as a field of subject formation, spatially and temporally. In it, I have made the case that the *virtual* of VR, like experiences deemed "religious" catalyzes connections to oneself and one's lived reality that *feel* (and can be acted upon as) true and ethically crucial. To make this case, I showed the religious imagination at play in the discourse of VR and how it shapes and shifts what is understood by the virtual and why it needs to change. In short, what the discourse of VR calls "virtual worlds" are "actual worlds." These worlds are digital, accessible in the present, and a part of our material reality, they are digitally *actual* and only sometimes digitally *virtual*. Thus, calling VR "virtual" in this spatial regard is imprecise. I show that this imprecision is a result of digital dualism. Digital dualism contributes to a false sense of subjective singularity, hard ontological distinctions between digital and non-digital worlds, and ultimately mischaracterizes how we experience the spatial and temporal connections to our body in digital-virtual worlds.

To deconstruct digital dualism, I relied upon the Deleuzo-Bergsonian notion of the virtual, according to which the virtual should be understood as the past bearing down on the present, rather than as digitally constructed spaces. This transversal conceptualization of the virtual brings to the "V" of VR a much grander capacity of the virtual compared to digital dualism's narrow rendering of virtuality within the frame of "falsification and illusion." This more capacious notion of the virtual allows me to do two things. First, I make the critical

distinction that whatever virtual reality is doing, it is *not* creating new ontological worlds, but it does allow for new experiences *of* the virtual (time) in digital worlds. It sensorializes the virtual in a way that other media have not. Second, I expose the religious embodied capacities that VR is taking advantage of, specifically, the fabulative move of recognizing the agency of our digital-virtual images and connecting that to the visio-tactile image of our own bodies, in what I call the sympathetic-crystal-image, or the intuition-image.

With this conceptual apparatus in hand, we can also see that the prominent debate in VR discourse over the "false" and the "real," or the "virtual world" and the "real world" causes us to lose sight of the affective capacities of this technology. Gail Hamner has argued forcefully that "affective technologies of mediation depend on users directly seeing or sensing mediated content and accelerating its distribution by reacting to it."[1] In order to properly track this process, we have to understand that others (human or not) literally live in a "different" world in which movements produce different stimulation and are interpreted as different sensations, thus producing different meanings and responses. This is the significance of understanding the digital plasticity of bodies, images, subjectivity, and the complex transactional relationality between human bodies and digital technology. Of course, the fact that technology affects us is no surprise; but the question of *how* and *to what effect* specific technologies - especially emerging ones - affect different people in different contexts is a live one. Importantly, technologies like VR "that crystallize time may … help us to more clearly perceive the power-signs at work" in our contemporary age," argues philosopher Maurizio Lazzaratto.[2] For instance, as Hamner has observed, these technologies "actively sustain" processes of group division, like political polarization and racial hierarchies, such as the way that anti-Black racism is currently being

[1] Hamber, "Theorizing Religion and the Public Sphere," 1023.
[2] Lazzarato, *Videophilosophy*, 50.

sustained by affective technologies that "re-occasio[n] the implicit structure of white supremacy."[3] Technology is never neutral, and VR may "help us to creatively reconfigure" power-signs in order to "construct new …modes of being in the world," or they might become "more 'monstrous'" ones, as Lazzarato cautions.[4]

It has been my contention that we *can* turn the capacities of VR toward new modes of becoming in the world that are increasingly just, but that is no guarantee. For instance, VR can be put to the service of resisting the hegemony of the megacorporations seeking to capitalize on VR's affects. The capacities of VR "could be joined together with other dispositives (economic, social, political) and other techniques … for the better in making the bifurcations and experimentation of subjectivity possible."[5] Because politics, like culture, is ordinary, small gestures, even small encounters with digital/textual worlds, can lead to shifts in thinking and practice. Thus, using concepts from philosophy, aesthetics, and the study of religion, I argued for rethinking our subjective experiences of VR in ways that present our embodiment as a porous multiplicity of images, capable of dynamic change (though not *necessarily* positive) in our encounters with VR experiences. VR creates situations that call for new fabulative instances, and in doing so, brings forth new images, subjectivities, and virtualities. For Deleuze, "the fabulating function— does not consist in imagining or projecting an ego. Rather, it attains these visions, it raises itself to these becomings and powers."[6] In such ethical projects, the fact that VR "can

[3] Hamner, "Theorizing Religion and the Public Sphere," 1023.
[4] Which include those for "for the worse (creating a market, becoming a tourist, consumer and communicator of subjectivity and thus contributing to its uniformization)." Lazzarato, *Videophilosophy*, 50.
[5] Lazzarato, *Videophilosophy*, 50.
[6] Deleuze, *Essays Critical and Clinical*, 3.

allow text, animation, video, computer graphic and other media to become … interactive" means that it can also become "improvisational, in beautiful and challenging new ways."[7]

My hope is that this project makes clear that part of the reason we have yet to mitigate the negative effects of the virtualization of life is because we have not yet recognized the actuality of that virtuality. Thus, I have emphasized that my theory of VR's virtuality collapses the distance between VR and non-VR experiences, the reality of VR, and the virtual within reality. This theory observes no hard distinction between the human and technology, the person and the "digital world," and between the "user" and the VR experience. Deleuze has been useful in this because he provided a model of distinction without separability.[8] Using his thought, what I hope to have shown is that there is no difference of *kind* between the spectator and the screen, between the user and the program, but a difference in *degree*. When using a VRX, the user is "fused" with the technology. They are no longer a mere "spectator who watches (and listens to)." They are, instead, new hybrids; assemblages between flesh and silicon, between the analog and the digital, between the energetic firing of neurons in the brain and the zapping electrodes of the computer simulated images, between flesh and pixels.

Many strategies that worked for lives of minimal virtuality do not work for the ever-complicating digital-virtual worlds of today (though some, assuredly, still do!). And since this technology will only become more ubiquitous, I suggest we begin to approach it with the same sober mentality of other mind-altering techniques. This means taking seriously VR's ritualistic processes, world building faculties, and capacity for the manipulation of the self. When encountering VR as an aesthetic object it is not enough to merely observe; to experience the

[7] Harrell, "How An Artist-Scientist Conjurer Thinks, Works and Lives | Imagination, Computation, and Expression Laboratory."
[8] I am far from the first to observe this. For example, see: Rushton, "Deleuzian Spectatorship."

affecognitive capacity of VR, one must engage the sense of one's whole being, for a time, with the sensorial effects of the machine.

Ultimately, I hope this dissertation contributes a new theory of virtuality to the project of reshaping conceptions of subjectivity in the 21st century. Drawing from Bergson's ontology of matter and memory, it hone's a conception of human subjectivity that is affectively exemplified in the player-experience of virtual reality technology. In VR a player can feel the past (her matter and memory) bearing down on the present in ways that exceed linguistic capture. Moreover, this sometimes-powerful affective experience of being in and out of one's body is an experience of difference and of sublimity that often matches the discourses of religious experience and can open to ethical consequences. The specific task of doing away with digital dualism reinforces the general social scientific task of blurring hard ontological distinctions upheld by problematic binary dualisms. All humans inhabit various virtual realities throughout their day-to-day experiences, yet we tend to experience them as singular. Rather than dismissing some as more "real" than others, we need to learn to accept the multiplicity of our experience. In doing so, perhaps we can even begin to appreciate and participate in the differences of these worlds, as well as their difference from the virtual worlds of others.

BIBLIOGRAPHY

Introduction

Alphen, Ernst van. *Caught by History: Holocaust Effects in Contemporary Art, Literature, and Theory*. Stanford: Stanford University Press, 1997.

Al-Azami, Salman. *Religion in the Media: A Linguistic Analysis*. Palgrave Macmillan, 2016.

Artaud, Antonin. *The Theater and Its Double*. Translated by Mary Caroline Richards. New York: Grove Press, 1994.

BeAnotherLab. "The Machine to Be Another." The Machine to be Another. Accessed November 3, 2018. http://www.themachinetobeanother.org.

Bergson, Henri. *Creative Evolution*. Authorized Translation by Arthur Mitchell. Macmillan, 1928.

———. *The Creative Mind: An Introduction to Metaphysics*. Mineola, N.Y: Dover Publications, 2010.

———. *The Two Sources of Morality and Religion.* Reprint edition. Westport, Conn: Praeger, 1975.

Biocca, Frank, and Mark R. Levy, eds. *Communication in the Age of Virtual Reality*. 1 edition. Hillsdale, N.J: Routledge, 1995.

Bolter, Jay David, and Richard Grusin. *Remediation: Understanding New Media*. Reprint edition. Cambridge, Mass.: The MIT Press, 2000.

Braiterman, Zachary. *The Shape of Revelation: Aesthetics and Modern Jewish Thought*. 1st edition. Stanford, Calif: Stanford University Press, 2007.

Burke, Edmund. *A Philosophical Enquiry Into The Origin Of Our Ideas Of The Sublime And Beautiful*. Sagwan Press, 2015.

Campbell, Heidi. *When Religion Meets New Media*. 1 edition. London ; New York: Routledge, 2010.

Campbell, Heidi A., ed. *Digital Religion: Understanding Religious Practice in New Media Worlds*. 1 edition. Abingdon, Oxon ; New York: Routledge, 2012.

Campbell, Heidi A., and Gregory P. Grieve, eds. *Playing with Religion in Digital Games*. Bloomington, IN: Indiana University Press, 2014.

Caputo, John D. *On Religion*. 1st edition. London ; New York: Routledge, 2001.

Carr, Nicholas. *The Shallows: What the Internet Is Doing to Our Brains*. New York: W. W. Norton & Company, 2011.

Cocke, John, and Harwood G. Kolsky. "The Virtual Memory in the STRETCH Computer." In *Papers Presented at the December 1-3, 1959, Eastern Joint IRE-AIEE-ACM Computer Conference*, 82–93. IRE-AIEE-ACM '59 (Eastern). Boston, Massachusetts: Association for Computing Machinery, 1959.

Coole, Diana, and Samantha Frost, eds. *New Materialisms: Ontology, Agency, and Politics*. Durham NC ; London: Duke University Press Books, 2010.

Crecente, Brian. "VR's Quintessential Innovators." Polygon, October 26, 2016. https://www.polygon.com/features/2016/10/26/13411364/heilig-fisher-marks-de-la-pena-laurel-vr-bio.

Detweiler, Craig, ed. *Halos and Avatars: Playing Video Games with God*. 1 edition. Louisville, Ky: Westminster John Knox Press, 2010.

"Digital Ontology and Example." In *The Force of the Virtual: Deleuze, Science, and Philosophy*, 1st edition. Minneapolis: Univ Of Minnesota Press, 2010.

Eliade, Mircea. *The Sacred and The Profane: The Nature of Religion*. Translated by Willard R. Trask. San Diego: Harcourt Brace Jovanovich, 1987.

Engelke, Matthew. "Religion and the Turn: A Review Essay." *American Ethnologist* 37, no. 2 (2010): 371–79.

Freud, Sigmund, Christopher Hitchens, and Peter Gay. *Civilization and Its Discontents*. Edited by James Strachey. Reprint edition. New York: W. W. Norton & Company, 2010.

Galloway, Alexander R. *The Interface Effect*. 1 edition. Cambridge, UK ; Malden, MA: Polity, 2012.

Geraci, Robert M. *Virtually Sacred: Myth and Meaning in World of Warcraft and Second Life*. 1 edition. New York: Oxford University Press, 2014.

Grau, Oliver. *Virtual Art: From Illusion to Immersion*. Cambridge, Mass.: The MIT Press, 2004.

Grieve, Gregory Price. *Cyber Zen: Imagining Authentic Buddhist Identity, Community, and Practices in the Virtual World of Second Life*. 1 edition. London New York: Routledge, 2016.

Grosz, Elizabeth. *Becoming Undone: Darwinian Reflections on Life, Politics, and Art*. Duke University Press, 2011.

———. *The Nick of Time: Politics, Evolution, and the Untimely*. Duke University Press, 2004.

Haans, Antal, and Wijnand A. IJsselsteijn. "Embodiment and Telepresence: Toward a Comprehensive Theoretical Framework☆." *Interacting with Computers* 24, no. 4 (July 1, 2012): 211–18. https://doi.org/10.1016/j.intcom.2012.04.010.

Hansen, Mark B. N. *New Philosophy for New Media*. 1st edition thus edition. Cambridge, Mass.: The MIT Press, 2006.

Heim, Michael. *The Metaphysics of Virtual Reality*. 1st edition. New York: OUP, 1994.

Heineman, David S. “Porting Game Studies Research to Virtual Reality.” *New Media & Society* 18, no. 11 (December 1, 2016): 2793–99.

Hillis, Ken. *Digital Sensations: Space, Identity, and Embodiment in Virtual Reality*. First edition. Minneaplis: Univ Of Minnesota Press, 1999.

Hjarvard, Stig. “Mediatization and the Changing Authority of Religion.” *Media, Culture & Society* 38, no. 1 (January 1, 2016): 8–17.

Højsgaard, Morten T., and Margit Warburg. *Religion and Cyberspace*. Psychology Press, 2005.

Hoover, Stewart, and Lynn Schofield Clark, eds. *Practicing Religion in the Age of the Media*. Illustrated edition. New York: Columbia University Press, 2002.

HTC Vive’s “Welcome to a New Reality” Trailer. HTC, n.d.

Hylton, Wil S. “How James Turrell Knocked the Art World Off Its Feet.” *The New York Times*, June 13, 2013, sec. Magazine. https://www.nytimes.com/2013/06/16/magazine/how-james-turrell-knocked-the-art-world-off-its-feet.html.

Jarvis, Liam. “The Ethics of Mislocalized Selfhood: Proprioceptive Drifting towards the Virtual Other.” *Performance Research*, On Proximity, 22, no. 3 (2017): 30–37.

Lanier, Jaron. *Dawn of the New Everything: Encounters with Reality and Virtual Reality*. 1st Edition edition. New York: Henry Holt and Co., 2017.

———. Virtual Reality: An Interview with Jaron Lanier, Originally published in Whole Earth Review. Interview by Adam Heilbrun and Barbara Stack. Whole Earth Review, 1988. http://www.jaronlanier.com/vrint.html.

———. *You Are Not a Gadget: A Manifesto*. Reprint edition. New York: Vintage, 2011.

Leibovitz, Liel. *God in the Machine: Video Games as Spiritual Pursuit*. First edition. West Conshohocken, Pennsylvania: Templeton Press, 2015.

Manovich, Lev, Roger F. Malina PhD, and Sean Cubitt. *The Language of New Media*. Reprint edition. Cambridge, Mass.: The MIT Press, 2002.

Martin, Garrett. "Tetris Effect Is Beautiful, Powerful, and Afraid to Get Truly Psychedelic." *Paste Magazine*, November 25, 2018. https://www.pastemagazine.com/articles/2018/11/tetris-effect-is-beautiful-powerful-and-afraid-to.html.

Massumi, Brian. *Parables for the Virtual: Movement, Affect, Sensation*. First Edition edition. Durham, NC: Duke University Press Books, 2002.

McGinn, Bernard. *The Foundations of Mysticism: Origins to the Fifth Century*. New York: The Crossroad Publishing Company, 2004.

Mullen, Grayson, and Nicolas Davidenko. "Time Compression in Virtual Reality." *Timing & Time Perception* 1, no. aop (May 3, 2021): 1–16.

"New IBM OS Announcement – Shrope." Accessed January 26, 2020. https://shrope.com/new-ibm-os-announcement.

Ngai, Sianne. Gimmicks Might Be the Key to Understanding Capitalism. Interview by Jennifer Wilson, June 11, 2020. https://www.thenation.com/article/culture/sianne-ngai-theory-of-gimmick-interview/.

———. *Our Aesthetic Categories: Zany, Cute, Interesting*. Reprint edition. Cambridge, Massachusetts London, England: Harvard University Press, 2015.

———. *Theory of the Gimmick: Aesthetic Judgment and Capitalist Form*. Cambridge, Massachusetts: Belknap Press: An Imprint of Harvard University Press, 2020.

Nye, David E. *American Technological Sublime*. Cambridge, Mass: MIT Press, 1994.

Proust, Marcel. Remembrance of Things Past. Tr. C. K. Scott Moncrieff and Terence

Kilmartin. 3 vols. New York: Vintage, 1981.

Rieger, Joerg, and Edward Waggoner, eds. *Religious Experience and New Materialism: Movement Matters*. 1st ed. 2015 edition. Basingstoke, Hampshire: Palgrave Macmillan, 2015.

Robinson, Martin. "Twitter Direct Message to Jordan Loewen," September 3, 2019.

Ryan, Marie-Laure. *Narrative as Virtual Reality 2: Revisiting Immersion and Interactivity in Literature and Electronic Media*. JHU Press, 2015.

Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Console-Ing Passions. Durham: Duke University Press, 2000.

Shields, Rob. *The Virtual*. 1 edition. London ; New York: Routledge, 2002.

Shinkle, Eugénie. "Videogames and the Digital Sublime." In *Digital Cultures and the Politics of Emotion*, edited by Athina Karatzogianni and Adi Kuntsman, 94–108. Palgrave Macmillan UK, 2012. https://doi.org/10.1057/9780230391345_6.

Steinicke, Frank. *Being Really Virtual: Immersive Natives and the Future of Virtual Reality*. Springer International Publishing, 2016.

Stępień, Tomasz. "The Understanding of Symbols and Their Role in the Ascent of the Soul to God in Pseudo-Dionysius the Areopagite and Nicholas of Cusa." *Roczniki Filozoficzne / Annales de Philosophie / Annals of Philosophy* 63, no. 2 (2015): 85–103.

Sterling, Bruce. "Augmented Reality: 'The Ultimate Display' by Ivan Sutherland, 1965." *Wired*. Accessed April 21, 2021. https://www.wired.com/2009/09/augmented-reality-the-ultimate-display-by-ivan-sutherland-1965/.

Taves, Ann. “Mystical and Other Alterations in Sense of Self: An Expanded Framework for Studying Nonordinary Experiences.” *Perspectives on Psychological Science* 15, no. 3 (May 1, 2020): 669–90.

———. *Religious Experience Reconsidered: A Building-Block Approach to the Study of Religion and Other Special Things*. Princeton, NJ: Princeton University Press, 2009.

Taylor, Mark C. *Rewiring the Real: In Conversation with William Gaddis, Richard Powers, Mark Danielewski, and Don DeLillo*. Illustrated edition. New York: Columbia University Press, 2013.

Thrift, Nigel. *Knowing Capitalism*. 1st edition. London: SAGE Publications Ltd, 2005.

Wagner, Rachel. *Godwired: Religion, Ritual and Virtual Reality*. Routledge, 2011.

Weber, Samuel. *Religion and Media*. Edited by Hent de Vries. 1 edition. Stanford, Calif: Stanford University Press, 2002.

Chapter 1

Bansal, Ambika, Séamas Weech, and Michael Barnett-Cowan. “Movement-Contingent Time Flow in Virtual Reality Causes Temporal Recalibration.” *Scientific Reports* 9 (March 13, 2019): 4378.

Bergson, Henri. *The Creative Mind: An Introduction to Metaphysics*. Mineola, N.Y: Dover Publications, 2010.

“Billionaires See VR as a Way to Avoid Radical Social Change.” *Wired*. Accessed February 15, 2021. https://www.wired.com/story/billionaires-use-vr-avoid-social-change/.

Biocca, Frank. “The Cyborg’s Dilemma: Progressive Embodiment in Virtual Environments [1].” *Journal of Computer-Mediated Communication* 3, no. 2 (1997): 0–0.

Boler, Megan. “Hypes, Hopes and Actualities: New Digital Cartesianism and Bodies in Cyberspace.” *New Media & Society* 9, no. 1 (February 1, 2007): 139–68.

Braiterman, Zachary. *The Shape of Revelation: Aesthetics and Modern Jewish Thought*. 1st edition. Stanford, Calif: Stanford University Press, 2007.

Brenda Laurel, Rachel Strickland, Rob Tow. “Placeholder: Landscape and Narrative In Virtual Environments.” *ACM Computer Graphics Quarterly* 28, no. 2 (1994).

Burkeman, Oliver. “The Guardian Profile: Jaron Lanier.” *The Guardian*, December 29, 2001, sec. Technology. https://www.theguardian.com/technology/2001/dec/29/games.academicexperts.

Caputo, John D. *On Religion*. 1st edition. London ; New York: Routledge, 2001.

Carr, Nicholas. “Digital Dualism Denialism.” *RoughType* (blog), February 27, 2013. http://www.roughtype.com/?p=2090.

Carr, Nicholas G. *The Shallows: How the Internet Is Changing the Way We Think, Read and Remember*. 47469th edition. London: Atlantic, 2011.

Cebolla, AusiaS, RociO Herrero, Sara Ventura, Marta Miragall, Miguel Bellosta-Batalla, Roberto Llorens, Rosa Ma Bantilde. “Putting Oneself in the Body of Others: A Pilot Study on the Efficacy of an Embodied Virtual Reality System to Generate Self-Compassion.” *Frontiers in Psychology*, July 2, 2019, NA-NA.

Clarke, Bruce, and Mark B. N. Hansen, eds. *Emergence and Embodiment: New Essays on Second-Order Systems Theory*. Durham: Duke University Press Books, 2009.

Cocke, John, and Harwood G. Kolsky. “The Virtual Memory in the STRETCH Computer.” In *Papers Presented at the December 1-3, 1959, Eastern Joint IRE-AIEE-ACM Computer*

Conference, 82–93. IRE-AIEE-ACM '59 (Eastern). Boston, Massachusetts: Association for Computing Machinery, 1959.

Coole, Diana, and Samantha Frost, eds. *New Materialisms: Ontology, Agency, and Politics*. Durham NC ; London: Duke University Press Books, 2010.

Crecente, Brian. "VR's Quintessential Innovators." Polygon, October 26, 2016. https://www.polygon.com/features/2016/10/26/13411364/heilig-fisher-marks-de-la-pena-laurel-vr-bio.

Czitrom, Daniel J. *Media and the American Mind: From Morse to McLuhan*. 1st edition. Chapel Hill: The University of North Carolina Press, 1982.

Davis, Jenny. "Diagnosing the IRL Fetish." *Cyborgology* (blog), January 16, 2013. https://thesocietypages.org/cyborgology/2013/01/16/diagnosing-the-irl-fetish/.

DeLanda, Manuel. *Intensive Science and Virtual Philosophy*. Revised ed. edition. London ; New York: Bloomsbury Academic, 2013.

Descartes, René. *Meditations on First Philosophy: With Selections from the Objections and Replies*. Translated by John Cottingham. 2nd edition. Cambridge, United kingdom ; New York: Cambridge University Press, 2017.

EchoDeltaMoon, Edie. "The Church of Digital Dualism." digitaldualism. Accessed April 28, 2021. http://digitaldualism.org/index.html#header7-3.

Eglash, R. "The Cybernetics of Cetacea." *Investigations on Cetacea* 16 (1984): 150–98.

Eliade, Mircea. *The Sacred and The Profane: The Nature of Religion*. Translated by Willard R. Trask. San Diego: Harcourt Brace Jovanovich, 1987.

Finn, Ed. *What Algorithms Want: Imagination in the Age of Computing*. Cambridge, MA, USA: MIT Press, 2017.

Freedberg, David. *The Power of Images: Studies in the History and Theory of Response*. 1st edition. Chicago, Ill.: University of Chicago Press, 1991.

Gagliardi, Chiara, this link will open in a new window Link to external site, Anna Carla Turconi, Emilia Biffi, Cristina Maghini, Alessia Marelli, Ambra Cesareo, Eleonora Diella, and Daniele Panzeri. "Immersive Virtual Reality to Improve Walking Abilities in Cerebral Palsy: A Pilot Study." *Annals of Biomedical Engineering* 46, no. 9 (September 2018): 1376–84.

Gane, Nicholas. "When We Have Never Been Human, What Is to Be Done?" *Theory, Culture & Society* 23, no. 7–8 (December 1, 2006): 135–58.

Hamner, Gail. "A Word That Moves Me: Affect." Blog. Affecognitive. Accessed September 12, 2020. https://affecognitive.wordpress.com/.

Haraway, Donna. *Simians, Cyborgs, and Women: The Reinvention of Nature*. 1st edition. New York: Routledge, 1990.

Harrell, D. Fox. *Phantasmal Media: An Approach to Imagination, Computation, and Expression*. Illustrated edition. Cambridge, Massachusetts: The MIT Press, 2013.

Hartogsohn, Ido. "Digital Minds Blog: Technomysticism – A Manifesto." *Digital Minds Blog* (blog), January 28, 2008. https://digitalmindsblog.blogspot.com/2008/01/technomysticism-manifesto.html.

Heim, Michael. *Virtual Realism*. Oxford: Oxford University Press, 2000.

Helland, Chris. "Religion Online/Online Religion and Virtual Communitas." In *Religion on the Internet: Research Prospects and Promises*. London: Elsevier Science, 2000.

Howard, Philip N., and Malcolm R. Parks. "Social Media and Political Change: Capacity, Constraint, and Consequence." *Journal of Communication* 62, no. 2 (2012).

"HTC Vive Trailer." Ad. *HTC*, 2015.

Ihde, Don. *Technology and the Lifeworld: From Garden to Earth*. Bloomington: Indiana University Press, 1990.

Grand Canyon Visitor Center. "IMAX Experience | Visitor." Accessed April 8, 2021. https://explorethecanyon.com/imax-theater/imax-experience/.

Jakobsen, Janet R., and Ann Pellegrini. *Love the Sin: Sexual Regulation and the Limits of Religious Tolerance*. Illustrated edition. NYU Press, 2003.

James, Robin. "Is 'Digital Dualism' Really 'Digital Ideal Theory'?" *Cyborgology* (blog), October 17, 2013. https://thesocietypages.org/cyborgology/2013/10/17/is-digital-dualism-really-digital-ideal-theory/.

Jaron Lanier Can Hear the Digital Future. Accessed May 24, 2020. https://video-alexanderstreet-com.libezproxy2.syr.edu/watch/jaron-lanier-can-hear-the-digital-future.

Jurgenson, Nathan. "Digital Dualism versus Augmented Reality." *Cyborgology* (blog), February 24, 2011. https://thesocietypages.org/cyborgology/2011/02/24/digital-dualism-versus-augmented-reality/.

———. "Responding to Carr's Digital Dualism." *Cyborgology* (blog), March 1, 2013. https://thesocietypages.org/cyborgology/2013/03/01/responding-to-carrs-digital-dualism/.

Kafka, Peter. "Our Information Ecosystem Is Broken and Dangerous. 'It's Going to Get Worse,' Says Obama." Vox, November 16, 2020. https://www.vox.com/recode/2020/11/16/21570072/obama-internet-threat-democracy-facebook-fox-atlantic.

Kalawsky, Roy S. *The Science of Virtual Reality and Virtual Environments: A Technical, Scientific and Engineering Reference on Virtual Environments*. Wokingham, England ; Reading, Mass: Addison-Wesley, 1993.

Katz, Steven T., ed. *Mysticism and Philosophical Analysis*. New York: Oxford University Press, 1978.

Kelly, Kevin. "An Interview With Jaron Lanier." *Whole Earth Review*, no. Fall (1989). https://kk.org/mt-files/writings/virtual_lanier.pdf.

Kirkpatrick, Graeme. *Aesthetic Theory and the Video Game*. 1st edition. Manchester ; New York : New York: Manchester University Press, 2011.

Knox, Francesca Bugliani, and David Lonsdale. *Poetry and the Religious Imagination: The Power of the Word*. 1st edition. Farnham, Surrey, England ; Burlington, VT, USA: Routledge, 2016.

Kosslyn, Stephen M., William L. Thompson, and Giorgio Ganis. *The Case for Mental Imagery*. Oxford Psychology Series. New York: Oxford University Press, 2006.

Kulwin, Noah. "Jaron Lanier Q&A: 'We Won, and We Turned Into Assholes.'" Intelligencer, April 17, 2018. https://nymag.com/intelligencer/2018/04/jaron-lanier-interview-on-what-went-wrong-with-the-internet.html.

Lanier, Jaron. *Dawn of the New Everything: Encounters with Reality and Virtual Reality*. First edition. New York: Henry Holt and Co., 2017.

———. "Jaron Lanier's Bio." Accessed May 17, 2020. http://www.jaronlanier.com/general.html.

———. "Jaron Lanier's Bio." Accessed March 13, 2021. http://www.jaronlanier.com/general.html.

———. “Jaron’s World: Computer Evolution.” Discover Magazine. Accessed May 24, 2020. https://www.discovermagazine.com/technology/jarons-world-computer-evolution.

———. “Jaron’s World: Peace through God.” Blog. Discover Magazine, 2007. https://www.discovermagazine.com/mind/jarons-world-peace-through-god.

———. “Opinion | The First Church of Robotics.” *The New York Times*, August 9, 2010, sec. Opinion. https://www.nytimes.com/2010/08/09/opinion/09lanier.html.

———. “The Complexity Ceiling.” In *The Next Fifty Years: Science in the First Half of the Twenty-First Century*, 1st edition. New York: Vintage, 2002.

———. The Rise and Fall and Rise of Virtual Reality. Webpage, 2018. http://www.theverge.com/a/virtual-reality.

———. “Virtual Reality.” *Whole Earth*, 1999.

———. Virtual Reality: An Interview with Jaron Lanier, Originally published in Whole Earth Review. Interview by Adam Heilbrun and Barbara Stack. Whole Earth Review, 1988. http://www.jaronlanier.com/vrint.html.

———. *Who Owns the Future?* Simon & Schuster, 2013.

———. *You Are Not a Gadget*. Reprint edition. Vintage, 2009.

Laurel, Brenda. “Adlin Inc | UX Pioneers.” Accessed May 19, 2019. http://adlininc.com/uxpioneers/interviews/brenda-laurel/.

———. *Computers as Theatre*. 2 edition. Upper Saddle River, NJ: Addison-Wesley Professional, 2013.

———. “Designed Animism.” In *(Re)Searching The Digital Bauhaus*, edited by Thomas Binder, Jonas Löwgren, and Lone Malmborg, 251–74. Human-Computer Interaction Series. London: Springer, 2009.

———. “Keynote.” Accessed March 7, 2020. https://womentalkdesign.com/talks/brenda-laurel-keynote/.

———, ed. *The Art of Human-Computer Interface Design*. 1 edition. Reading, Mass: Addison-Wesley Professional, 1990.

———. “The Ethos of Computing - ACM Keynote 1997.” ResearchGate. Accessed March 7, 2020. https://www.researchgate.net/publication/280949155_The_Ethos_of_Computing_-_ACM_Keynote_1997?channel=doi&linkId=55ce654608aee19936fc5b92&showFulltext=true.

———. “Tools for Knowing, Judging, and Taking Action in the 21st Century.” Tauzero. Accessed March 7, 2020. http://www.tauzero.com/Brenda_Laurel/Recent_Talks/ToolsForKnowing.html.

Laurel, Brenda Kay. “Toward the Design of a Computer-Based Interactive Fantasy System.” The Ohio State University, 1986.

Lazzarato, Maurizio. *Videophilosophy: The Perception of Time in Post-Fordism*. Translated by Jay Hetrick. New York: Columbia University Press, 2019.

Long, Bruce. “ISR Is Still a Digital Ontology.” *Erkenntnis* 85, no. 3 (June 2020): 649–64.

Marcuse, Herbert, and Douglas Kellner. *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society, 2nd Edition*. 2nd edition. Boston: Beacon Press, 1991.

Menga, Mark L. “Digital Dualism: The Invisible Soul Made Visible through Digitally Animated Humans in American Cinema.” Ph.D., Regent University, 2005.

Mills, Charles. “‘Ideal Theory’ as Ideology.” In *Moral Psychology: Feminist Ethics and Social Theory*. Lanham, Md: Rowman & Littlefield Publishers, 2004.

Mosurinjohn, Sharday. “Dark Mirroring: The Satanic Temple’s Queer Material Religion.” *Journal of Material Rreligions*, 2022.

Murray, Janet H. *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Updated ed. edition. Cambridge, Massachusetts: The MIT Press, 2017.

“New IBM OS Announcement – Shrope.” Accessed January 26, 2020. https://shrope.com/new-ibm-os-announcement.

Newport, Cal. *Deep Work*. 1st edition. New York: Grand Central Publishing, 2016.

Noble, Safiya Umoja. *Algorithms of Oppression: How Search Engines Reinforce Racism*. Illustrated edition. New York: NYU Press, 2018.

Noll, Richard, Jeanne Achterberg, Erika Bourguignon, Leonard George, Michael Harner, Lauri Honko, Åke Hultkrantz, et al. “Mental Imagery Cultivation as a Cultural Phenomenon: The Role of Visions in Shamanism [and Comments and Reply].” *Current Anthropology* 26, no. 4 (1985): 443–61.

Nye, David E. *American Technological Sublime*. First Edition. Cambridge, Mass: The MIT Press, 1994.

“Origin of the Term Meatspace?” Accessed March 13, 2021. http://ask.metafilter.com/15851/Origin-of-the-term-meatspace.

Pages, The Society. “About Cyborgology.” *Cyborgology* (blog), September 20, 2010. https://thesocietypages.org/cyborgology/about/.

Penley, Constance, and Andrew Ross. *Technoculture*. First edition. Minneapolis: Univ Of Minnesota Press, 1991.

Plato. *The Republic*. Translated by Benjamin Jowett. The Project Guttenberg EBook of The Republic, by Plato, 2019.

Rubenstein, Mary-Jane. *Worlds Without End: The Many Lives of the Multiverse*. Reprint edition. New York Chichester: Columbia University Press, 2015.

Samuel, Sigal. “It’s Hard to Be a Moral Person. Technology Is Making It Harder.” Vox, July 27, 2021. https://www.vox.com/the-highlight/22585287/technology-smartphones-gmail-attention-morality.

Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Console-Ing Passions. Durham: Duke University Press, 2000.

“Searching ‘Digital Dualism’ in Google Books Ngram Viewer.” Accessed February 14, 2021. https://books.google.com/ngrams/graph?content=Digital+Dualism&year_start=1800&year_end=2019&corpus=26&smoothing=3&direct_url=t1%3B%2CDigital%20Dualism%3B%2Cc0#t1%3B%2CDigital%20Dualism%3B%2Cc1.

Segal, Robert A. *Religion of the Semites: The Fundamental Institutions*. 2nd edition. New Brunswick, N.J: Routledge, 2002.

Shinal, John. “Mark Zuckerberg Takes on Critics Who Say Virtual Reality Is Anti-Social.” CNBC, October 12, 2017. https://www.cnbc.com/2017/10/12/facebook-still-betting-big-that-future-of-vr-will-be-social.html.

Staiger, Janet. “The Politics of Film Canons.” *Cinema Journal* 24, no. 3 (1985): 4–23.

Sterling, Bruce. “Augmented Reality: ‘The Ultimate Display’ by Ivan Sutherland, 1965.” *Wired*. Accessed April 21, 2021. https://www.wired.com/2009/09/augmented-reality-the-ultimate-display-by-ivan-sutherland-1965/.

Steuer, Jonathan. “Defining Virtual Reality: Dimensions Determining Telepresence.” *Journal of Communication* 42, no. 4 (1992): 73–93.

Stolow, Jeremy, ed. *Deus in Machina: Religion, Technology, and the Things in Between*. 1 edition. New York: Fordham University Press, 2012.

Strickland, Rachel. *BE THERE HERE*. Video, 1991. https://vimeo.com/27346162.

Supp-Montgomorie, Jenna. *When the Medium Was the Mission*. NYU Press, 2021. https://nyupress.org/9781479801497/when-the-medium-was-the-mission.

Taves, Ann. "Mystical and Other Alterations in Sense of Self: An Expanded Framework for Studying Nonordinary Experiences." *Perspectives on Psychological Science* 15, no. 3 (May 1, 2020): 669–90.

Thrift, Nigel. *Knowing Capitalism*. 1st edition. London: SAGE Publications Ltd, 2005.

Times, The Financial. "Jaron Lanier on Fighting Big Tech's 'Manipulation Engine.'" *Financial Times* (blog), July 10, 2018. https://medium.com/financial-times/jaron-lanier-on-fighting-big-techs-manipulation-engine-90186dd9934c.

Tracy, David. *The Analogical Imagination : Christian Theology and the Culture of Pluralism*. New York : Crossroad, 1981. http://archive.org/details/analogicalimagin00davi.

Turkle, Sherry. *Alone Together: Why We Expect More from Technology and Less from Each Other*. 1st edition. New York: Basic Books, 2011.

———. *Life on the Screen*. Simon & Schuster, 2011.

———. *The Second Self, Twentieth Anniversary Edition: Computers and the Human Spirit*. The MIT Press, 2005.

Underhill, Evelyn. *Mysticism*. CreateSpace Independent Publishing Platform, 2011.

Varela, Francisco J., Evan Thompson, Eleanor Rosch, and Jon Kabat-Zinn. *The Embodied Mind: Cognitive Science and Human Experience*. Revised edition. Cambridge, Massachusetts ; London England: The MIT Press, 2017.

Wagner, Rachel. “A Sense of Presence: Mediating an American Apocalypse.” *Religions* 12, no. 1 (2021): 59.

Wales, Jimmy. “The Virtual Curmudgeon.” *The Economist*, 2010.

Witte, Marleen de. “The Electric Touch Machine: Miracle Scam Body, Technology, and the (Dis)Authentication of the Pentecostal Supernatural.” In *Deus in Machina: Religion, Technology, and the Things in Between*, 1 edition. New York: Fordham University Press, 2012.

Chapter 2

Anderson, Pamela Sue. “Bergsonian Intuition: A Metaphysics of Mystical Life.” *Philosophical Topics* 43, no. 1 (2015): 239–51.

Asprem, Egil. “Explaining the Esoteric Imagination: Towards a Theory of Kataphatic Practice.” *Aries* 17, no. 1 (January 1, 2017): 17–50.

Bergson, Henri. *Creative Evolution*. Authorized Translation by Arthur Mitchell. Macmillan, 1928.

———. *Matter and Memory*. Translated by N. M. Paul and W. S. Palmer. Reissue edition. New York: Zone Books, 1990.

———. *Time and Free Will: An Essay on the Immediate Data of Consciousness*. Mineola, N.Y: Dover Publications, 2001.

Bergson, Henri, and J. Alexander Gunn. *The Creative Mind*. Translated by Mabelle L. Andison. Read & Co. Books, 2020.

Bergson, Henri Louis. *The Two Sources of Morality and Religion.* Reprint edition. Westport, Conn: Praeger, 1975.

"Bergson, Senghor, and the Philosophical Foundations of Négritude: Intellect, Intuition, and Knowledge." In *Beyond Bergson: Examining Race and Colonialism through the Writings of Henri Bergson*. Albany: SUNY Press, 2019.

Bogue, Ronald. *Deleuze's Way: Essays in Transverse Ethics and Aesthetics*. 1st edition. Routledge, 2016.

Braidotti, Rosi. *Metamorphoses: Towards a Materialist Theory of Becoming*. 1st Edition. Cambridge, UK ; Malden, MA: Polity, 2002.

Connolly, William E. *A World of Becoming*. Durham, NC: Duke University Press Books, 2011.

Deleuze, Gilles. *Bergsonism*. Translated by Hugh Tomlinson and Barbara Habberjam. Reissue Edition. New York: Zone Books, 1990.

———. *Cinema 1: The Movement-Image*. 1 edition. Minneapolis: Univ Of Minnesota Press, 1986.

———. *Cinema 2: The Time-Image*. 1 edition. Minneapolis: Univ Of Minnesota Press, 1989.

———. *Essays Critical and Clinical*. 1st Edition. Minneapolis: University of Minnesota Press, 1997.

———. *Negotiations, 1972-1990*. Columbia University Press, 1995.

———. *Two Regimes of Madness: Texts and Interviews 1975–1995*. Edited by David Lapoujade. Translated by Ames Hodges and Mike Taormina. New York : Cambridge, Mass: Semiotext, 2007.

———. "What Can a Body Do?" In *Expressionism in Philosophy: Spinoza*, translated by Martin Joughin, 1st edition. New York : Cambridge, Mass: Zone Books, 1992.

Deleuze, Gilles, and Claire Parnet. *Dialogues*. Translated by Hugh Tomlinson and Barbara Habberjam. New York: Columbia University Press, 1987.

———. *Dialogues II*. Translated by Hugh Tomlinson and Barbara Habberjam. Revised edition. New York: Columbia University Press, 2007.

Dolgopolski, Sergey. *The Open Past: Subjectivity and Remembering in the Talmud*. 1st edition. New York: Fordham University Press, 2012.

Douglass, Paul. "Bergson and Cinema: Friends or Foes?" In *The New Bergson*, edited by John Mullarkey, 209–27. Manchester University Press, 1999.

Flaxman, Gregory. *The Brain Is the Screen: Deleuze and the Philosophy of Cinema*. U of Minnesota Press, 2000.

Galloway, Alexander R. *The Interface Effect*. 1st Edition. Cambridge, UK ; Malden, MA: Polity, 2012.

Gehrke, Lukas, Sezen Akman, Pedro Lopes, Albert Chen, Avinash Kumar Singh, Hsiang-Ting Chen, Chin-Teng Lin, and Klaus Gramann. "Detecting Visuo-Haptic Mismatches in Virtual Reality Using the Prediction Error Negativity of Event-Related Brain Potentials." In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, 1–11. CHI '19. New York, NY, USA: Association for Computing Machinery, 2019.

Germine, Mark. "The Holographic Principle of Mind and the Evolution of Consciousness." *World Futures* 64, no. 3 (May 14, 2008): 151–78.

Glowacki, David R., Mark D. Wonnacott, Rachel Freire, Becca R. Glowacki, Ella M. Gale, James E. Pike, Tiu de Haan, Mike Chatziapostolou, and Oussama Metatla. "Isness: Using Multi-Person VR to Design Peak Mystical-Type Experiences Comparable to

Psychedelics." *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems*, April 25, 2020, 1–8.

Grosz, Elizabeth. *Becoming Undone: Darwinian Reflections on Life, Politics, and Art*. Duke University Press, 2011.

———. *The Nick of Time: Politics, Evolution, and the Untimely*. Duke University Press, 2004.

———. *Time Travels: Feminism, Nature, Power*. Annotated Edition. Durham: Duke University Press Books, 2005.

Guerlac, Suzanne. *Thinking in Time: An Introduction to Henri Bergson*. 1st edition. Cornell University Press, 2017.

Hamilakis, Yannis. "Sensorial Assemblages: Affect, Memory and Temporality in Assemblage Thinking." *Cambridge Archaeological Journal; Cambridge* 27, no. 1 (February 2017): 169–82.

Hamner, M. Gail. "What Is 'Affecognitive'?" *Affecognitive* (blog), April 11, 2018. https://affecognitive.wordpress.com/2018/04/11/what-is-affecognitive/.

Hanson, Christopher. *Game Time: Understanding Temporality in Video Games*. Illustrated edition. Bloomington, Indiana: Indiana University Press, 2018.

Hayles, N. Katherine. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. 1 edition. Chicago, Ill: University of Chicago Press, 1999.

University of Chicago News. "How to Make Electrical Muscle Stimulation Feel Natural to Virtual Reality Users." Accessed September 22, 2020. https://news.uchicago.edu/story/how-make-electrical-muscle-stimulation-feel-natural-virtual-reality-users.

Karatzogianni, Athina, and Adi Kuntsman. *Digital Cultures and the Politics of Emotion: Feelings, Affect and Technological Change*. 2012th Edition. Basingstoke ; New York: Palgrave Macmillan, 2012.

Kratky, Andreas. "Metaphor and Storytelling in Interface Design for Virtual Reality." In *Universal Access in Human-Computer Interaction. Interaction Techniques and Environments*, edited by Margherita Antona and Constantine Stephanidis, 287–300. Lecture Notes in Computer Science. Cham: Springer International Publishing, 2016.

Lazzarato, Maurizio. "The Aesthetic Paradigm." In *Deleuze, Guattari and the Production of the New*, edited by Simon O'Sullivan and Stephen Zepke. London: Continuum, 2008.

———. *Videophilosophy: The Perception of Time in Post-Fordism*. Translated by Jay Hetrick. New York: Columbia University Press, 2019.

Lefebvre, Alexandre. "Bergson, Human Rights, and Joy." *Continental Philosophy Review* 50, no. 2 (June 2017): 201–23.

Lefebvre, Alexandre, and Melanie White. "Bergson on Durkheim: Society Sui Generis." *Journal of Classical Sociology* 10, no. 4 (November 1, 2010): 457–77.

Linstead, Stephen, and John Mullarkey. "Time, Creativity and Culture: Introducing Bergson." *Culture and Organization* 9, no. 1 (March 1, 2003): 3–13.

Marks, Laura U. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Illustrated Edition. Durham: Duke University Press Books, 2000.

McNamara, Patrick. "Bergson's 'Matter and Memory' and Modern Selectionist Theories of Memory." *Brain and Cognition* 30, no. 2 (March 1, 1996): 215–31.

McQueen, Sean. *Deleuze and Baudrillard: From Cyberpunk to Biopunk*. 1st edition. Place of publication not identified: Edinburgh University Press, 2017.

Moore, A. W. *The Evolution of Modern Metaphysics: Making Sense of Things*. 1st edition. Cambridge ; New York: Cambridge University Press, 2014.

Moulard-Leonard, Valentine. *Bergson-Deleuze Encounters: Transcendental Experience and the Thought of the Virtual*. SUNY Press, 2008.

Mullarkey, John. "Life, Movement and the Fabulation of the Event." *Theory, Culture & Society* 24, no. 6 (November 1, 2007): 53–70.

Packer, Jeremy, and Stephen B. Crofts Wiley. *Communication Matters: Materialist Approaches to Media, Mobility and Networks*. Routledge, 2013.

Pilkington, A. E. *Bergson and His Influence: A Reassessment*. Reissue edition. Cambridge: Cambridge University Press, 2012.

Pitts, Andrea J., and Mark William Westmoreland, eds. *Beyond Bergson: Examining Race and Colonialism through the Writings of Henri Bergson*. Albany: SUNY Press, 2019.

Randall, J., C. E. Bradley, F. V. van der Gronden, A. Galicia, M. H. Abobeih, M. Markham, D. J. Twitchen, F. Machado, N. Y. Yao, and T. H. Taminiau. "Observation of a Many-Body-Localized Discrete Time Crystal with a Programmable Spin-Based Quantum Simulator." *ArXiv:2107.00736 [Cond-Mat, Physics:Quant-Ph]*, July 1, 2021. http://arxiv.org/abs/2107.00736.

Rizzotto, Lucas. *I Built a REAL-LIFE Time Machine!* 🕐⚡, 2020. https://www.youtube.com/watch?v=aHyNYfFfXlg.

Robbins, Stephen E. "Bergson and the Holographic Theory of Mind." *Phenomenology and the Cognitive Sciences* 5, no. 3 (December 1, 2006): 365–94.

Rodowick, David Norman. *Gilles Deleuze's Time Machine*. Duke University Press, 1997.

Rushton, Richard. "Deleuzian Spectatorship." *Screen* 50, no. 1 (March 1, 2009): 45–53.

Sobchack, Vivian. *The Address of the Eye: A Phenomenology of Film Experience*. Princeton, NJ: Princeton University Press, 1991.

Chapter 3

Ackerman, Dan. *The Tetris Effect: The Game That Hypnotized the World*. 1st edition. New York: PublicAffairs, 2016.

Azari, Nina P. "Religious Experience as Thinking That Feels like Something: A Philosophical - Theological Reflection on Recent Neuroscientific Study of Religious Experience - ProQuest." Accessed January 18, 2021.

Azari, Nina P., and Dieter Birnbacher. "The Role of Cognition and Feeling in Religious Experience." *Zygon*® 39, no. 4 (2004): 901–18.

Bender, Courtney. *The New Metaphysicals: Spirituality and the American Religious Imagination*. University of Chicago Press, 2010.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Unknown edition. Durham: Duke University Press Books, 2010.

Bolter, Jay David, and Richard Grusin. *Remediation: Understanding New Media*. Reprint edition. Cambridge, Mass.: The MIT Press, 2000.

Bosman, Frank G. "The Sacred and the Digital. Critical Depictions of Religions in Digital Games." *Religions* 10, no. 2 (February 2019).

Braiterman, Zachary. *The Shape of Revelation: Aesthetics and Modern Jewish Thought*. 1st edition. Stanford, Calif: Stanford University Press, 2007.

Brown, Peter. "Tetris Reborn: The Mizuguchi Effect." *GameSpot*. Accessed December 2, 2020. https://www.gamespot.com/articles/tetris-reborn-the-mizuguchi-effect/1100-6462878/.

Brown, Steven D., and Ian Tucker. “Eff the Ineffable: Affect, Somatic Management, and Mental Health Service Users,” January 1, 2010.

Burris, Christopher T., and Elyse K. Redden. “No Other Gods Before Mario?: Game Preferences Among Atheistic and Religious Individuals.” *The International Journal for the Psychology of Religion* 22, no. 4 (October 1, 2012): 243–51.

Bynum, Caroline Walker. *Holy Feast and Holy Fast: The Religious Significance of Food to Medieval Women*. Revised edition. Berkeley: University of California Press, 1988.

Calvin, John. *Calvin Institutes Vol 1 and 2 Set: Calvin: Institutes of the Christian Religion*. Westminster John Knox Press, 1960.

Campbell, Heidi A., and Gregory P. Grieve, eds. *Playing with Religion in Digital Games*. Bloomington, IN: Indiana University Press, 2014.

Campbell, Heidi A., Rachel Wagner, Shanny Luft, Rabia Gregory, Gregory Price Grieve, and Xenia Zeiler. “Gaming Religionworlds: Why Religious Studies Should Pay Attention to Religion in Gaming.” *Journal of the American Academy of Religion* 84, no. 3 (September 1, 2016): 641–64.

Coeckelbergh, Mark. *New Romantic Cyborgs: Romanticism, Information Technology, and the End of the Machine*. Cambridge, MA, USA: MIT Press, 2017.

Corrigan, John. *Emptiness: Feeling Christian in America*. University of Chicago Press, 2015.

———, ed. *Feeling Religion*. Durham: Duke University Press Books, 2018.

Deigh, John. “William James and the Rise of the Scientific Study of Emotion.” *Emotion Review* 6, no. 1 (January 1, 2014): 4–12.

Donnellan, Jimmy. “Tetris Effect (PS4) REVIEW - Your Brain On Drugs.” *Cultured Vultures* (blog), November 19, 2018. https://culturedvultures.com/tetris-effect-review/.

Edwards, Jonathan. *A Treatise Concerning Religious Affections*. CreateSpace Independent Publishing Platform, 2017.

Foucault, Michel. *Technologies of the Self: A Seminar with Michel Foucault*. Edited by Luther H. Martin, Huck Gutman, and Patrick H. Hutton. 1st edition. Amherst: University of Massachusetts Press, 1988.

Frank, Adam. "Thinking Confusion:: On the Compositional Aspect of Affect." In *Transferential Poetics, from Poe to Warhol*, 24–46. Fordham University Press, 2015.

Gale, Richard M. "Mysticism and Philosophy." *The Journal of Philosophy* 57, no. 14 (1960): 471–81.

GameChurch. "GameChurch." Accessed January 13, 2021. https://gamechurch.com/.

Gertrude of Helfta. *Life and Revelations of St. Gertrude the Great*. TAN Books, 2013.

Gibson, James J. *The Ecological Approach to Visual Perception: Classic Edition*. 1st edition. New York London: Psychology Press, 2014.

Goodall, Adam. "Three Days of the I-Block: A Tetris 99 Diary." *The Spinoff* (blog), February 20, 2019. https://thespinoff.co.nz/games/20-02-2019/three-days-of-the-i-block-a-tetris-99-diary/.

Hamner, M. Gail. "Affect Theory as a Tool for Examining Religion Documentaries." In *Feeling Religion,* 93–116. Durham: Duke University Press Books, 2018.

———. *American Pragmatism: A Religious Genealogy*. 1st edition. Oxford ; New York: Oxford University Press, 2003.

———. "Theorizing Religion and the Public Sphere: Affect, Technology, Valuation." *Journal of the American Academy of Religion* 87, no. 4 (December 12, 2019): 1008–49.

———. “What Is ‘Affecognitive’?” *Affecognitive* (blog), April 11, 2018. https://affecognitive.wordpress.com/2018/04/11/what-is-affecognitive/.

Hansen, Chris. *Halos and Avatars: Playing Video Games with God*. Edited by Craig Detweiler. 1st edition. Louisville, Ky: Westminster John Knox Press, 2010.

Hillis, Ken. “Modes of Digital Identification: Virtual Technologies and Webcam Cultures.” In *New Media, Old Media*, 2nd edition. New York, NY: Routledge, 2015.

Holmes, Emily A., Ella L. James, Thomas Coode-Bate, and Catherine Deeprose. “Can Playing the Computer Game ‘Tetris’ Reduce the Build-Up of Flashbacks for Trauma? A Proposal from Cognitive Science.” *PLoS ONE* 4, no. 1 (January 7, 2009).

Hrabec, Ondřej, and Vladimír Chrz. “Flow Genres: The Varieties of Video Game Experience.” *International Journal of Gaming and Computer-Mediated Simulations (IJGCMS)* 7, no. 1 (2015): 1–19.

“Hydelic - Connected (Yours Forever) Lyrics - Google Search.” Accessed April 22, 2021. https://www.google.com/search?q=Hydelic+-+Connected+(Yours+Forever)+lyrics&rlz=1C1GCEA_enUS790US790&oq=hydelic&aqs=chrome.2.69i59l3j69i57j69i61j69i60l2.2556j0j7&sourceid=chrome&ie=UTF-8.

ScienceDaily. “Is Tetris Good For The Brain?” Accessed November 17, 2019. https://www.sciencedaily.com/releases/2009/09/090901082851.htm.

James, William. *A Pluralistic Universe: Hibbert Lectures at Manchester College on the Present Situation in Philosophy*. BiblioBazaar, 2006.

———. *The Varieties of Religious Experience: Centenary Edition*. 1 edition. London ; New York: Routledge, 2002.

———. *The Principles of Psychology, Vols. 1-2*. Cambridge, Mass: Harvard University Press, 1983.

Jay, Martin. *Songs of Experience: Modern American and European Variations on a Universal Theme*. University of California Press, 2005.

Jenkins, Henry. *Convergence Culture: Where Old and New Media Collide*. Revised edition. New York: NYU Press, 2008.

Kay, William K. "William James: A Re-Examination of The Varieties of Religious Experience." *Mental Health, Religion & Culture* 20, no. 4 (April 21, 2017): 299–310.

Knott, Kim. "Specialness and the Sacred: Ann Taves, Religious Experience Reconsidered." *Religion* 40, no. 4 (October 1, 2010): 305–7.

Kosky, Jeffrey L. *Arts of Wonder: Enchanting Secularity - Walter De Maria, Diller + Scofidio, James Turrell, Andy Goldsworthy*. 1st edition. University of Chicago Press, 2016.

Leonard, Bill. *A Sense of the Heart: Christian Religious Experience in the United States*. Abingdon Press, 2014.

Tetris Wiki. "List of Games." Accessed August 12, 2021. https://tetris.fandom.com/wiki/List_of_games.

Luhrmann, T. M. *When God Talks Back: Understanding the American Evangelical Relationship with God*. First Edition edition. New York: Knopf, 2012.

Martin, Craig, and Russell T. McCutcheon. *Religious Experience: A Reader*. 1st edition. Sheffield ; Bristol, CT: Routledge, 2014.

Martin, Garrett. "Tetris Effect Is Beautiful, Powerful, and Afraid to Get Truly Psychedelic." *Paste Magazine*, November 25, 2018.

https://www.pastemagazine.com/articles/2018/11/tetris-effect-is-beautiful-powerful-and-afraid-to.html.

McKeand, Kirk. "'I Spent My Everything. I Broke.' - Tetsuya Mizuguchi on Burnout and Creating the 'New-Wow.'" *VG247* (blog), April 16, 2019. https://www.vg247.com/2019/04/16/tetsuya-mizuguchi-burnout-creating-new-wow/.

Muller, F. Max. *Lectures On the Origin and Growth of Religion*. Ulan Press, 2012.

Nuenen, Tom van. "Procedural (E)Motion: Journey as Emerging Pilgrimage." *The Journal of Popular Culture* 49, no. 3 (2016): 466–91.

Oldenburg, Aaron. "Simulating Religious Faith," 2011.

Otto, R. *The Idea of the Holy*. Translated by John W. Harvey, n.d.

Pan, Ye, and Anthony Steed. "How Foot Tracking Matters: The Impact of an Animated Self-Avatar on Interaction, Embodiment and Presence in Shared Virtual Environments." *Frontiers in Robotics and AI* 6 (October 1, 2019).

Pasnau, Robert, ed. *The Cambridge History of Medieval Philosophy*. 1st edition. Cambridge, UK ; New York: Cambridge University Press, 2010.

Pinch, Trevor, and Karin Bijsterveld. *The Oxford Handbook of Sound Studies*. Oxford University Press, USA, 2012.

Prinz, Jesse J. *Gut Reactions: A Perceptual Theory of Emotion*. Oxford: Oxford University Press, 2006.

Proudfoot, Wayne. *Religious Experience*. University of California Press, 1988.

Raposo, Devin. "Hydelic on Creating Music for Tetris Effect, Their Creative Process, and More - Blog | Splice." Accessed April 22, 2021. https://splice.com/blog/hydelic-q-and-a/.

But Why Tho? A Geek Community. “REVIEW: ‘Tetris Effect’ Takes Puzzle Games to a New Level,” March 28, 2019. https://butwhythopodcast.com/2019/03/28/tetris-effect-review/.

Rieger, Joerg, and Edward Waggoner, eds. *Religious Experience and New Materialism: Movement Matters*. 1st ed. 2015 edition. Palgrave Macmillan, 2015.

Robinson, Martin. “Twitter Direct Message to Jordan Loewen,” September 3, 2019.

Rubin, Peter. “The Tetris Effect and Our Boundaryless Digital Future.” *Wired*. Accessed November 17, 2019. https://www.wired.com/story/tetris-effect-tetsuya-mizguchi-virtual-reality/.

Scheick, William J. *Design in Puritan American Literature*. First Edition. Lexington, Ky: Univ Pr of Kentucky, 1992.

Schell, Jesse. *The Art of Game Design: A Book of Lenses*. 1st edition. Amsterdam; Boston: CRC Press, 2008.

Schleiermacher, Friedrich. *Schleiermacher: On Religion: Speeches to Its Cultured Despisers*. Edited by Richard Crouter. Revised edition. Cambridge England; New York, NY, USA: Cambridge University Press, 1996.

Shinkle, Eugénie. “Videogames and the Digital Sublime.” In *Digital Cultures and the Politics of Emotion*, edited by Athina Karatzogianni and Adi Kuntsman, 94–108. Palgrave Macmillan UK, 2012.

Smart, Ninian. “Interpretation and Mystical Experience.” *Religious Studies* 1, no. 1 (October 1965): 75–87.

Smith, Huston. *Cleansing the Doors of Perception: The Religious Significance of Entheogenic Plants and Chemicals*. Tarcher Putnam, 2000.

Stahl, William A. *God and the Chip: Religion and the Culture of Technology*. Waterloo, Ont: Wilfrid Laurier University Press, 1999.

Steffen, Oliver, Peter F. Likarish, Brenda S. Gardemour Walter, Nathan Abrams, Xenia Zeiler, Jason Anthony, Vit Sisler, et al. *Playing with Religion in Digital Games*. Edited by Heidi A. Campbell and Gregory P. Grieve. Illustrated edition. Bloomington, IN: Indiana University Press, 2014.

Stępień, Tomasz. "The Understanding of Symbols and Their Role in the Ascent of the Soul to God in Pseudo-Dionysius the Areopagite and Nicholas of Cusa." *Roczniki Filozoficzne / Annales de Philosophie / Annals of Philosophy* 63, no. 2 (2015): 85–103.

Suckiel, Ellen Kappy. "The Authoritativeness of Mystical Experience: An Innovative Proposal from William James." *International Journal for Philosophy of Religion* 52 (2002): 175–89.

Taves, Ann. "Experience as Site of Contested Meaning and Value: The Attributional Dog and Its Special Tail." *Religion* 40, no. 4 (October 1, 2010): 317–23.

———. *Religious Experience Reconsidered: A Building-Block Approach to the Study of Religion and Other Special Things*. Princeton, NJ: Princeton University Press, 2009.

———. *Fits, Trances, and Visions: Experiencing Religion and Explaining Experience from Wesley to James.* Princeton University Press, 1999.

Taylor, Mark C. *Rewiring the Real: In Conversation with William Gaddis, Richard Powers, Mark Danielewski, and Don DeLillo*. Illustrated edition. New York: Columbia University Press, 2013.

TETRIS® EFFECT. "TETRIS® EFFECT." Accessed December 2, 2020. https://www.tetriseffect.game/.

TETRIS® EFFECT. “TETRIS® EFFECT CONNECTED,” July 17, 2020. https://www.tetriseffect.game/connected/.

VGChartz. “Tetris Effect for PlayStation 4 - Sales, Wiki, Release Dates, Review, Cheats, Walkthrough.” Accessed December 22, 2020. https://www.vgchartz.com.

Tetris Effect Is More Than An Evolution, It’s A Spiritual Experience. Video. Turtle Beach. Accessed November 16, 2019. https://www.youtube.com/watch?v=UrbyASkA-pE.

“Tetris Effect VR Preview – Irrational Passions.” Accessed November 16, 2019. http://irrationalpassions.com/tetris-effect-vr-preview/.

Valdes, Giancarlo. “‘Tetris Effect’s’ Development Was Anything but Zen-Like.” *Variety* (blog), March 21, 2019. https://variety.com/2019/gaming/features/tetris-effects-development-was-anything-but-zen-like-1203169014/.

Williams, Raymond. *Television: Technology and Cultural Form*. 3rd edition. London ; New York: Routledge, 2003.

Chapter 4

Allison, Henry E. Kant’s Theory Of Taste. 1st edition. Cambridge ; New York: Cambridge University Press, 2001.

Beiser, Frederick C. *Diotima’s Children: German Aesthetic Rationalism from Leibniz to Lessing*. 1st edition. Oxford: Oxford University Press, 2011.

Braiterman, Zachary. *The Shape of Revelation: Aesthetics and Modern Jewish Thought*. 1st edition. Stanford, Calif: Stanford University Press, 2007.

Burke, Edmund. *A Philosophical Enquiry Into The Origin Of Our Ideas Of The Sublime And Beautiful*. Sagwan Press, 2015.

Cifaldi, Frank. “Loose Lips: The Quotable History Of Nintendo’s Virtual Boy.” Accessed May 16, 2021. https://view/news/127127/Loose_Lips_The_Quotable_History_Of_Nintendos_Virtual_Boy.php.

Csikszentmihalyi, Mihaly. *Flow: The Psychology of Optimal Experience*. 1st edition. New York: Harper Perennial Modern Classics, 2008.

Derrida, Jacques. *The Truth in Painting*. Translated by Geoffrey Bennington and Ian McLeod. 1st edition. Chicago: University Of Chicago Press, 1987.

Doran, Robert. *The Theory of the Sublime from Longinus to Kant*. Place of publication not identified: Cambridge University Press, 2017.

Enderle, Rob. “The Promise of Google Glass: A Safer, More Convenient World.” IT Business Edge, April 2, 2013. https://www.itbusinessedge.com/mobile/the-promise-of-google-glass-a-safer-more-convenient-world/.

Heller, Lynne. *Sensuality, AR/VR, and the Virtual Sublime*. *Virtual Reality and Its Application in Education*. IntechOpen, 2020.

Hylton, Wil S. “How James Turrell Knocked the Art World Off Its Feet.” *The New York Times*, June 13, 2013, sec. Magazine. https://www.nytimes.com/2013/06/16/magazine/how-james-turrell-knocked-the-art-world-off-its-feet.html.

Kant, Immanuel. *Critique of the Power of Judgment*. Translated by Professor Paul Guyer and Eric Matthews. Revised ed. edition. Cambridge: Cambridge University Press, 2001.

Lyotard, Jean-Francois. *Lessons on the Analytic of the Sublime*. 1 edition. Stanford, Calif: Stanford University Press, 1994.

Martin, Garrett. “Tetris Effect Is Beautiful, Powerful, and Afraid to Get Truly Psychedelic.” *Paste Magazine*, November 25, 2018. https://www.pastemagazine.com/articles/2018/11/tetris-effect-is-beautiful-powerful-and-afraid-to.html.

Ngai, Sianne. Gimmicks Might Be the Key to Understanding Capitalism. Interview by Jennifer Wilson, June 11, 2020. https://www.thenation.com/article/culture/sianne-ngai-theory-of-gimmick-interview/.

———. *Our Aesthetic Categories: Zany, Cute, Interesting*. Reprint edition. Cambridge, Massachusetts London, England: Harvard University Press, 2015.

———. “Theory of the Gimmick.” *Critical Inquiry* 43, no. 2 (December 12, 2016): 466–505.

———. *Theory of the Gimmick: Aesthetic Judgment and Capitalist Form*. Cambridge, Massachusetts: Belknap Press: An Imprint of Harvard University Press, 2020.

———. *Ugly Feelings*. Cambridge, Mass.: Harvard University Press, 2007.

Nye, David E. *American Technological Sublime*. Cambridge, Mass: MIT Press, 1994.

———. *American Technological Sublime*. First Edition. Cambridge, Mass: The MIT Press, 1994.

Salen, Katie, and Eric Zimmerman. *Rules of Play: Game Design Fundamentals*. Cambridge, Mass: The MIT Press, 2003.

Shinkle, Eugénie. “Videogames and the Digital Sublime.” In *Digital Cultures and the Politics of Emotion*, edited by Athina Karatzogianni and Adi Kuntsman, 94–108. Palgrave Macmillan UK, 2012.

Stępień, Tomasz. “The Understanding of Symbols and Their Role in the Ascent of the Soul to God in Pseudo-Dionysius the Areopagite and Nicholas of Cusa.” *Roczniki Filozoficzne / Annales de Philosophie / Annals of Philosophy* 63, no. 2 (2015): 85–103.

Taylor, Mark C. *Rewiring the Real: In Conversation with William Gaddis, Richard Powers, Mark Danielewski, and Don DeLillo*. Illustrated edition. New York: Columbia University Press, 2013.

Conclusion

Deleuze, Gilles. *Cinema 2: The Time-Image*. 1 edition. Minneapolis: Univ Of Minnesota Press, 1989.

———. “What Can a Body Do?” In *Expressionism in Philosophy: Spinoza*, translated by Martin Joughin, 1st edition. New York : Cambridge, Mass: Zone Books, 1992.

Hamner, M. Gail. “Theorizing Religion and the Public Sphere: Affect, Technology, Valuation.” *Journal of the American Academy of Religion* 87, no. 4 (December 12, 2019): 1008–49.

Haraway, Donna. *Simians, Cyborgs, and Women: The Reinvention of Nature*. 1st edition. New York: Routledge, 1990.

Harrell, D. Fox. How An Artist-Scientist Conjurer Thinks, Works and Lives | Imagination, Computation, and Expression Laboratory. Interview by Anne Khaminwa. Accessed April 21, 2021. https://groups.csail.mit.edu/icelab/content/how-artist-scientist-conjurer-thinks-works-and-lives.

Lazzarato, Maurizio. *Videophilosophy: The Perception of Time in Post-Fordism*. Translated by Jay Hetrick. New York: Columbia University Press, 2019.

Rushton, Richard. “Deleuzian Spectatorship.” *Screen* 50, no. 1 (March 1, 2009): 45–53.

VITA

Biography
Jordan Brady Loewen
Born June 22nd 1987, Welland, Ontario, Canada

Education
PhD Religion – Syracuse University, Expected, May 2022
MPhil Religion – Syracuse University, 2018
MDiv -- Princeton Theological Seminary, 2015
BA – English and Film Studies, Ohio State University, 2011

Certifications
2020 Certificate in University Teaching, Syracuse University
2019 Certificate of Advanced Study in Conflict Management, Syracuse University

Academic Appointments
2021 AI, Ethics, and Data Justice Postdoctoral Fellow. Postdoctoral Fellowship in the Human Mobility Research Centre, Queen's University, Canada. Supervised by Dr. Amber S. Simpson (US $65,000).
2021 Part-Time Lecturer in Religion, University College, Syracuse University.

Grants
2022 Henry Luce Foundation. Advancing Public Knowledge on Race, Justice, and Religion in America. "Mapping the Doctrine of Discovery" with Arnold, P. (US $250,000).
2021 Next-Generation Humanities Doctoral Internship with the Indigenous Values Initiative in partnership with the American Indian Law Alliance. Syracuse University, College of Arts and Sciences (US $5000).
2021 National Center for Faculty Development & Diversity, WriteNow Access - Spring Program (US $500).
2020 "Virtual Onondaga Video Game Project." Syracuse Library Grant for Innovative Research. Syracuse University, Bird Library (US $1500).

Peer-Reviewed Journal Articles
2021 Loewen-Colón, J., Marklund, B., and Saridaki, M. "Revisiting Teaching and Games: mapping out ecosystems of learning," Gamevironments, University of Bremen.
2019 Loewen, J.B., "Death, Fabulation, and Virtual Reality Gaming," Gamevironments, No. 9, 202-221 University of Bremen.
2017 Loewen, J.B., "Metabolizing 'The Word': Exploring Cognition, Narratology, and the Embodiment of Scripture," The Journal of Scriptural Reasoning, Vol 16, No. 1, University of Virginia.
2015 Loewen, J.B., "On Being Made Stupid: Developing a Religious Ethic of Anti-Propaganda," The Journal for the Fellowship at Auschwitz for the Study of Professional Ethics.

Teaching Experience

Undergraduate

REL 108 – Religion and Its Critics
REL 320 – Religion and Video Gaming

Teaching Assistant

REL 103 – Religion and Sports (x2)
REL 106 – What is Belief
REL 120 – Introduction to the Study of Religion
REL 156 – Introduction to Christianity
REL 180 – Intro to Buddhism
REL 200 – Blacklivesmatter & Religion
REL 200 – Jewish Space and Place
REL 244 – Indigenous Religions
REL 270 – Religion Meaning and Knowledge
REL 326 – Religion and Film
REL 327 – Yoga: Ancient to Modern

Scholarships, Awards, and Fellowships

2015 - 2021 Teaching Assistant Fellowship Syracuse University (US $20,000).
2015 - 2020 The Future Professoriate Program, Syracuse University (US $500).
2014 Fellowship at Auschwitz for the Study of Professional Ethics.
2011 Latinx Space for Enrichment and Research (LASER), Scholarship for Excellence, The Ohio State University (US $1000).
2008 The Multicultural Award, The Ohio State University (US $500).
2005 - 2011 Freshman Foundation Program, The Ohio State University (US $5000).

Professional Membership

2017 – Present International Academy for the Study of Gaming and Religion
2017 - Present Religious Studies National Honor Society: Theta Alpha Kappa
2016 - Present Network for New Media, Religion and Digital Culture Studies
2013 - Present AAR: American Academy of Religion
2018 - 2019 Internet Creators Guild

Service to the Academy

2019 - present Extended Reality (XR) Working Group, Syracuse University.
2018 - 2021 Non-Scientist Member, Institutional Animal Care and Use Committee, Syracuse University Veteran's Affairs Medical Center.
2016 - 2021 Game Studies Graduate Organization, Syracuse University.
2020 Aberrations, Religion Graduate Conference, Syracuse University.
2018 - 2019 Undergraduate Representative, Religion Graduate Organization, Syracuse University.
2018 Flourish and Decay, Religion Graduate Conference, Syracuse University.
2017 - 2018 Co-President, Religion Graduate Organization, Syracuse University.
2016 Encountering the Unexpected, Graduate Conference, Syracuse University.

Selected Documentary and Media Work

2021 "The Gamer Eats," a food and travel documentary exploring video game developers and food culture in partnership with Handcraft Creative.
2021 "A Visual Essay in die Fröhliche Wissenschaft," published in the Nonreligion and Secularity Research Network.
2018 "The Powers of the False," a video essay exploring the philosophy of Gilles Deleuze.
2015 "The Farminary at Princeton Seminary," a documentary to advertise for a newly developed program at Princeton Theological Seminary.

Languages and Programming Languages

Python 3
Unity
Conversational Spanish
Academic reading level in German
Academic reading level in French.
Proficient in reading Biblical Hebrew and Koine Greek.