Virtual Islands
Submersion, Empathy, and Identity in Virtual Reality

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ABSTRACT

Virtual Islands, Submersion, Empathy, and Identity in Virtual Reality

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This project explores the novel possibilities of representation offered by VR, and the tension between the promise of VR-as-empathy-machine and VR as another form of media relying on limitation or stereotype. As an artist-researcher, I engage with various Black thinkers and artists to reimagine how my iterative research-creation artwork can foster constructive dialogue around the re-inscription of Blackness and whiteness within immersive installations and VR worlds. With VR's potential omnipresence in mind, the thesis' theoretical component advocates for an approach to VR that builds on concepts and practices proposed by established theorists and working artists across the realm of contemporary art and popular culture, in regard to Black representation, feminist representation, and submersion - water as a historical space - through the lens of Black futurity and Caribbean hybridity within a postcolonial context. My positionality as a French Jamaican, visibly white and of non-visible mixed heritage, informs this project's artistic component. My artwork initially sought to interpret these theoretical lessons by designing a VR experience where Black and white subjects are represented in relation through performance. Moreover, these same thinkers and artists led me to continue interrogating how a white-passing artist can create VR art that is able to address issues of race and gender, and that transcends their white privilege. By shifting my approach to focus on the experiential aspects of submersion, I propose a call toward a mode of inclusive, collaborative VR creation, exploring the technology's potential while remaining watchful when undertaking the portrayal and enactment of distinct identities through VR mediums.

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Introduction

> And my mind run again on … how race mediates all our exchanges, how there are some things we can say and others we cannot say. And always, the most important things are the things we cannot say.
>
> —Kei Miller (2018)

In May 2018, Jamaican writer Kei Miller published an essay[1] that sparked heated conversations within Caribbean cultural circles internationally around the politics of belonging to the region as a Caribbean writer. By recounting his personal interactions with several white Caribbean women writers, Miller highlights the fact that however complex the multiple intersections of identity can be in a Caribbean context, whiteness remains the most advantageous, locally and internationally. Miller also explores how race, gender, and the insularity of Caribbean life set the stage for dialogue and exchange around these intersections, but each person's embodied experience should be considered carefully when claiming how they relate their work to the Caribbean context, especially in the case of those who can live outside of the Caribbean, travelling back and forth from "North" to "South." I read Miller's essay through the lens of my experience of being a white Caribbean woman who is also French. Miller's words, and the reaction they sparked, were a reminder to think and act mindfully when it comes to the intended outcomes of my doctoral research-creation project, conceived in allyship with Caribbean people, Black people, and people of colour. But I am aware that allyship and the results of this project are not things to which I can lay claim, especially in the context of a project in which I discuss my own whiteness.

Prior to the creation of my doctoral artwork in Montreal, Quebec, I explored Caribbean perspectives on the visual representations of cultural hybridity through the lens of my positionality as a white French-Jamaican artist with mixed heritage. Born but not raised in Jamaica, leaving England to live in Jamaica (between 2011 and 2014) allowed me to explore the relationship between contemporary life in an independent postcolonial nation, the legacies of plantation slavery and colonialism in the Caribbean, and how these are addressed through art

[1] Kei Miller, "The White Women and the Language of Bees," *PREE*, April 13, 2018, https://preelit.com/2018/04/13/the-white-women-and-the-language-of-bees/.

history and contemporary visual art. During that time, my alter ego *whitey*, which I created in 2011, began to appear in my performance-based artworks as a means of situating how the white female body is read as a source of oppression across historical and contemporary contexts of anti-Black racism in the Caribbean while functioning in a patriarchal system. *whitey*, who figured in my photographs, videos, and performances prior to my move to Montreal in 2014, would appear either alone or with other subjects. One of us would wear a white mask, against a backdrop of the evocative landscapes and seascapes of Jamaica, Trinidad, and Cuba.

Figure 1.1 (left): *whitey, discovery bay*, photographic print on banner, 84 x 59 inches, 2014.
Figure 1.2 (right): *Beauty Beach, Ernestine and me*, photographic prints on paper (series), 84 x 59 inches, 2012.

I created this alter-ego to engage the following questions: is the white female body read as a source of oppression yet also one that is oppressed today? What is my position as a contemporary white female artist when addressing these themes through my work? The use of a white mask allowed me to distance myself from associations with women who participated in and profited from slavery, while aiming to enable viewers to project their own perspectives and trouble the conversation about white womanhood in the Caribbean today. *whitey* and the aesthetics of the white mask also enabled me to point—through my immersive multimedia installations—to the construction of whiteness in contemporary Caribbean life and to the layered histories associated with feminine characters in Caribbean myth and legend. Living and studying in Canada since 2014, I have reconfigured how *whitey* functions in my immersive worlds. This eventually led to the formulation of the following research questions:

How can a white-passing artist create VR art that is able to address issues of race and gender and that transcends their white privilege?

How can I establish intersectional and feminist models from which to build upon in VR mediums by studying works by Black artists working with performance and immersive mediums?

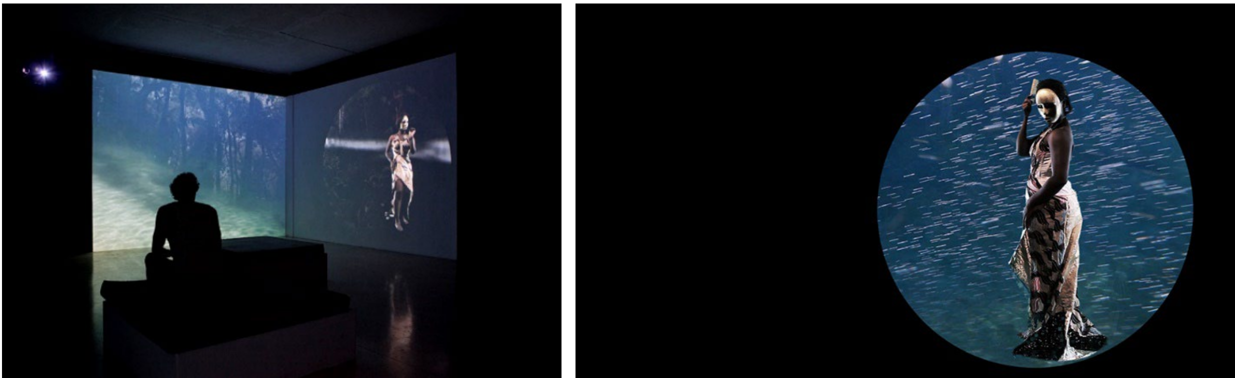

Figure 1.3: *chapter 1: Riva Mumma*, four-channel video installation, 2013. Featured in the exhibition *new roots*, National Gallery of Jamaica, 2013.
Figure 1.4: *chapter 1: Riva Mumma, video still 1*, print on metallic paper, 12 x 6.75 inches, 2013.

VR, Empathy, and Caribbean Contexts

The creation of virtual reality (VR) experiences employs both cinematic and 3D technologies, which draw from film and television models and video game models[2] respectively. What characterizes the VR technological experience is the medium's potential to immerse VR viewers within a simulation often designed to give them a sense of being there in a first-person perspective and to allow them a new way to take on roles, particularly when there is an interactive component. Notions of presence, virtual presence, and VR storytelling are often

[2] By this I refer to the creation of virtual characters and virtual worlds using 3D technology and game engine applications (such as Unity 3D and Unreal Engine) conceived to design video games, which includes creating user interactions, world building, and co-creation. These applications can also handle photographs, video, and animation created externally, bringing them into a central virtual platform that can output games and other formats such as VR experiences.

described by those working in the VR field as key components to the success of a VR experience. By *virtual presence*, I refer to the perceptual illusion of presence, or the VR user's ability to feel that they are in the virtual simulation. By *VR storytelling*, I refer to two common approaches: first, one in which the viewer can watch a scene that is played out in the space around them, meaning they are immersed in the scene but not necessarily an active participant; and second, one in which the viewer's perspective is the same as the camera's, often used when there are interactive components, borrowing from videogame models. As Shari Frilot, American filmmaker, and chief curator at the Sundance Film Festival's New Frontier[3] program, explains: "There's not going to be just one way of telling a story. … There's going to be different artists working in different media figuring out different ways to architect in this space. It's still in a very nascent stage, storytelling in this new medium."[4] Similarly, I understand the notion of VR storytelling as varying with each VR experience's intentions.

Whom VR is for, what VR is about, and whom VR is created by are the questions which led me to trouble the social and cultural contexts in which VR operates, especially since access to VR in the Caribbean, the region where my enquiry began, is limited.

Empathy and perspective taking in VR are research areas at Stanford's Virtual Human Interaction Lab (VHIL),[5] a leading institutional space examining VR in its many forms, including experiences that focus on VR storytelling. On VHIL's website, *empathy* is defined "as the ability to share and understand the feelings of another" and *perspective taking* as "the ability to understand another's point of view." VR's "unique affordance," the website further states, is that "it allows users to walk a virtual mile in the shoes of another."[6] When it comes to fostering empathy, one of the things that distinguishes VR from other mediums is VR storytelling's engagement with embodiment, since it places viewers in a virtual simulation that surrounds their field of view.

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[3] New Frontier is a programming section at the Sundance Film Festival that began in 2007. It combines film, performance, new media, and technology, and has been widely recognized for its innovation.
[4] Shari Frilot, quoted in Kim Voynar, "Future Tense: Sifting through the Patterns of VR Storytelling at Sundance," *IndieWire*, February 1, 2016, https://www.indiewire.com/features/craft/future-tense-sifting-through-the-patterns-of-vr-storytelling-at-sundance-28389/.
[5] American communications scholar Jeremy Bailenson started the "Virtual Human Interaction Lab" at Stanford University in 2003. The Lab has created several VR projects exploring the potential for increasing empathy in users by tackling biases such as racism, ageism, and humans' extractive relationship with animals, plants, and underwater ecosystems.
[6] "Empathy and Perspective Taking," Virtual Human Interaction Lab, Stanford University, last modified August 13, 2020, https://stanfordvr.com/projects/2020/empathy-and-perspective-taking/.

In 2014, Facebook founder and owner Mark Zuckerberg tested a selection of VHIL's VR simulations, including what Lab director Jeremy Bailenson refers to as "the plank." Here, the virtual platform upon which the VR user is standing seems to move away from them such that they find themselves standing on a small shelf about thirty feet in the air, connected by a narrow plank to another platform about fifteen feet away.[7] Other VR simulations tested by Zuckerberg included flying through a city, chopping down a tree, and looking into a mirror and seeing his own avatar.[8] In March 2014, one month after Zuckerberg's visit to VHIL, Facebook purchased VR startup Oculus for USD $3 billion, which eventually led to the creation, in 2020, of VR's most popular headset to date: the Oculus Quest 2. I mention this event as it was pivotal in shaping VR's increased accessibility, as opposed to the medium's emergence in a similar form in the early 1990s, which, as Canadian writer Kyle Fowle remarks, was a failure in terms of audience and reach: "At the time, pop culture depicted VR as a glorious vision of the future, but the rudimentary technology had no way of realizing this."[9] Echoing Fowle's perspective, the discrepancy between the type of VR experiences available to the public and the fictional cutting-edge VR systems featured in Hollywood films was too broad to sustain enough enthusiasm for mass adoption at that time.

Working with this medium as an artist since 2015—relatively early on in its recent evolution—activated my interest in researching aspects of VR's technological and scientific contexts more than other mediums that I had already worked with: photography, film, and video installation. This formed part of my reason for applying to a PhD program, since one of my concerns was that VR would potentially operate on a universalizing basis that is implicitly Eurocentric or North America-centric and white. In 2016, my view was that if we were to learn from the history of audiovisual mediums, VR technologies might offer new ways to explore how we see the world and represent each other in it; but with this potential came the risk that systemic racism, misogyny, and Western hegemony would continue to operate here and impact audiences in new ways.

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[7] Jeremy Bailenson, "Walking the plank into virtual reality," *Chatauquan Daily*, August 1, 2018, https://chqdaily.com/2018/08/walking-the-plank-into-virtual-reality/.
[8] Tomislav Bezmalinovic, "Cody Woputz gave Mark Zuckerberg a VR demo in 2014 – and learned something valuable," *MIXED*, July 5 2022, https://mixed-news.com/en/cody-woputz-gave-mark-zuckerberg-a-vr-demo-in-2014-and-learned-something-valuable-about-the-technology-in-the-process/.
[9] Kyle Fowle, "A Look Back at the Doomed Virtual Reality Boom of the 90s," *Kill Screen*, January 28, 2015, https://killscreen.com/previously/articles/failure-launch/.

As a Caribbean-European artist now living in Canada, this led to my PhD proposal: to explore how Caribbean thinkers conceptualize the self as neither singular nor universal, but as hybrid and relational while remaining specific. I argue that these viewpoints offer vital alternatives to Western perspectives on identity and representation, which became the default across popular technologies of representation and storytelling: film, television and, more recently, videogames. The notion of *VR empathy* came to my attention at the start of my enquiry, since it was being used across all the areas in which VR was developing, whereupon referring to VR as a tool for empathy became the status quo. I found this idea challenging and strived to explore it alongside my research and creation in VR.

I don't speculate on when and how VR will become pervasive in the Caribbean, but I claim that VR has the potential to amplify the politics of representation within media and visual cultures globally. My project questions how VR empathy, today designed primarily in North America and Europe, operates in relation to colonial frameworks connected through what British postcolonial scholar Paul Gilroy calls the "Black Atlantic," a notion developed in his book *The Black Atlantic: Modernity and Double Consciousness*.[10]

My doctoral artwork began as an exploration in co-creating immersive worlds that explore Caribbean futures using virtual reality by representing subjects in relation through performance. Barbadian scholar, poet, and historian Kamau Brathwaite's notion of *tidalectics* provided the initial conceptual anchor for further ideas related to submersion and the exploration of water as a historical space, in dialogue with Martinican scholar and philosopher Édouard Glissant's concepts of *relation* and *le droit à l'opacité* (the right to opacity) and Gilroy's *The Black Atlantic*. Central themes in my research-creation project include water and the representation of hybrid identities through the concepts of *tidalectics*, *relation*, and *opacité* via *creolization* (per Glissant), which I engage with in the following pages.

Since I am both visibly white and of non-visible mixed heritage, my positionality influences how I conduct both my creation and my research. What I refer to in my work as "Caribbean Futures" is an engagement with Caribbean perspectives on cultural identity explored through the field of view available in VR goggles, including the interactive features available in VR mediums, while creating an immersive installation. My starting point was to design a VR

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[10] Paul Gilroy, *The Black Atlantic: Modernity and Double Consciousness* (Cambridge, MA: Harvard University Press, 1993).

experience in a watery space where Black and white subjects appeared on three different virtual islands.

With *tidalectics*, Brathwaite explores the metaphorical power of water through the voice.[11] His poetry and prose are concerned with the re-inscription of an oral culture that has been stolen or submerged by colonial projects and continues to influence how Caribbean oral cultures and histories are read within the Western canon. To counter the Western influence of the Hegelian dialectic (thesis, antithesis, synthesis), which he perceives as antithetical to a Caribbean cultural space, Brathwaite proposes a tidal poetics, or *tidalectics*, for which the constant ebb and flow of the tides around Caribbean islands are constitutive to the philosophical framework around Caribbean identities. As a visual artist working with time-based media and immersive technologies, I do not engage with Caribbean poetry or oral cultures directly, but I gesture at Brathwaite's *tidalectics* first and foremost by making water the central element of my work and by representing tidal waves in my VR worlds, which surround the VR user's field of view.

Édouard Glissant's *relation* builds on other concepts he championed, such as *rhizomatic identity*,[12] whereby the multiple identities in each individual are extended through relations with others in a manner similar to how a rhizomatic plant's roots grow around and intertwine with other roots. Further, Glissant's idea of *creolization* is based on his notion of *Antillanité*, or the recognition of a distinct Caribbean identity that acknowledges both the region's Black heritage and the diversity of other heritages and cultures that compose the region's population, which together lead to the creation of a Creole individual. But Glissant uses the word *creolization*, rather than *creoleness*, to emphasize the continuous process of this mixture: "Creolization is hybridization with an added value which is unpredictability."[13] The "right to opacity" (*le droit à*

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[11] Kamau Brathwaite is known for his innovative approaches and poetic interventions in postcolonial discourse, such as proposing the notion of "nation language." See: Edward Kamau Brathwaite, *History of the Voice: The Development of Nation Language in Anglophone Caribbean Poetry* (London: New Beacon Books, 1984): 5–6.) He expressed his distinctive vision of a hybrid Caribbean identity through published texts and live performances. Braithwaite's later works engaged with unconventional fonts and page layouts, applying what he described as "videolectics" and "Sycorax video-style." Nicholas Laughlin, "Notes on Videolectics," May 2007, http://caribbeanreviewofbooks.com/crb-archive/12-may-2007/notes-on-videolectics/. These concepts consider digital word processing software as a creative tool with the potential for re-transcription of oral culture, but in a more authentic way than when using standard typography.

[12] Édouard Glissant borrows from Deleuze and Guattari's concept of the "rhizome" to expose the complexity of the Creole identity. "Rhizomatic thought is the principle behind what I call the Poetics of Relation, in which each and every identity is extended through a relationship with the Other." Édouard Glissant, quoted in Charly Verstraet, "Glissant, Edouard," Postcolonial Studies @ Emory, Spring 2014, https://scholarblogs.emory.edu/postcolonialstudies/2015/11/04/edouard-glissant/.

[13] Édouard Glissant, quoted in Verstraet, "Glissant, Edouard."

l'opacité) constitutes an important part of his poetics of relation and "is often understood as a form of postcolonial resistance against domination."[14] As Canadian curators Mark V. Campbell and Pamela Edmonds observe,[15] in Glissant's *Philosophie de la relation* (2009),[16] Glissant defines opacity as the right to be misunderstood or to not have to be understood on other's terms.

> He [Glissant] defined it as an intentional positioning against certain expectations of transparency within a racialized relationality. Glissant sought to defend a sense of inscrutability relative to Caribbean culture and identity, which he defined as diverse, partial, creolized—its unknowability conveying a cross-cultural poetics transcending categories of identifiable difference. … Glissant's "demand [for] the right to opacity" has been and continues to be a generative topic for artists and thinkers across fields ranging from surveillance studies to Caribbean philosophy.[17]

Reading from Glissant, I would suggest that opacity implies a right of refusal against transparency, especially in the case of an identity that is considered different from or other to the majority. In the case of the Caribbean, this creates space for the many intersections of identity both across the region and among Caribbean communities living abroad. Opacity allows all these intersections to coexist within a Caribbean and a global community while maintaining their unique identity, rendered complex by colonial legacies. In my artwork, I interpret opacity artistically as the merging together, through digital manipulation, of subjects and water in the visual frame of the VR experience.

Positionality and Methods

After the not-guilty verdict in the case of the murder of Trayvon Martin, a seventeen-year-old African-American man shot dead in 2013 by a civilian neighbourhood watch leader who thought he looked suspicious, African-American writer Jessie-Lane Metz examined certain problematic aspects of allyship in the context of anti-Black racism in the United States.[18] Metz speaks to how

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[14] H. Adlai Murdoch, quoted in Andrea Gremels, "Opacité/Opacity (Édouard Glissant)," Keywords in Transcultural English Studies, n.d., http://www.transcultural-english-studies.de/opacite-opacity-edouard-glissant/.
[15] Mark V. Campbell and Pamela Edmonds, "A Note from the Editors," *MICE*, issue 4 (July 2018), https://micemagazine.ca/issue-four/note-editors.
[16] Edouard Glissant, *Philosophie de la Relation* (Paris: Éditions Gallimard, 2009).
[17] Campbell and Edmonds, "Note from the Editors."
[18] Jessie-Lane Metz, "Ally-Phobia: On the Trayvon Martin Ruling, White Feminism, and the Worst of Best Intentions," *The Toast*, July 24, 2013, https://the-toast.net/2013/07/24/ally-phobia-the-worst-of-best-intentions/.

the work of some well-intentioned white feminists[19] and other white female writers is "appropriative" and can "reinforce oppression in racialized communities."[20] The author takes no issue with white writers who examine their privilege but rather with how they do so. When the work of white writers re-centres whiteness and either does not benefit Black people or even exposes them to further racism, Metz argues that "Allies need to do this work on their own." Productive allyship, for her, is "about centering and discussing racism, with Black people leading the conversation."[21]

During my first year as an INDI. Doctoral student, my research-creation process built on the experience of creating my first VR artwork *Jonkonnu/Gens Inconnus* (2015-2017)[22] and the single channel video *from many sides* (2015-2016).[23] The later, a commission which gave my work exposure on the global art scene, led me to examine my white privilege in relation to gaining recognition as a French-Jamaican artist, and to consider how my arts practice, including the presence of my white female body in artworks, could function within the remit of exploring Caribbean futurity. Whilst white Caribbean identities embody the legacies of violence perpetrated by white people during and after the slave trade, whiteness nonetheless remains a part of the diversity of Caribbean identities and thus is bound to questions of making better futures. As a white French Jamaican with nonvisible mixed heritage, my work has sought to address issues of privilege—for example, in early iterations, through the creation of artworks featuring my alter-ego *whitey*.

Yet, completing my graduate study in Canada, and inspired by scholarship, thinking and visual arts from the Caribbean, my understanding of identity and representation within the VR landscape grew more complex. As I complete my Ph.D., my research-creation project engages

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[19] Metz refers to white feminist author Peggy McIntosh's 1989 article "White Privilege: Unpacking the Invisible Knapsack" as representing "so much of the failures of white feminism." Ibid.
[20] Ibid.
[21] Ibid.
[22] This work was exhibited in three public spaces across Montréal during Montreal's Art Souterrain 2017 and in a shipping container by the sea during the 2017 edition of the Screen City Biennial, Stavanger, Norway, both experiences prompting me to continue exploring the affordances of presenting my VR experiences within a physical, multimedia installation.
[23] I was commissioned to create a single screen video by the Davidoff Art Initiative or DAI. Thanks to the nature of the commission, the work was shown at Art Basel Hong-Kong, Basel, and Miami in 2016. This commission also gave me the chance to work with award winning Dominican director Ivan Herrera as a Director of Photography who created high-definition video footage within the rural Dominican setting we selected to evoke the Jamaican and Haitian mythical characters Riva Mumma and Mami Wata, and the Cuban and Dominican Orishas Oshun and Yemaya, which I propose as being connected to submerged histories.

with Caribbean history and futurity through a conceptual exploration of water as a historical space foregrounding the notion of Caribbean identity as hybrid and relational. This conceptual exploration through VR proposes water as a generative space, in which I cojoin approaches for the representation of hybrid identities within and beyond Caribbean cultural contexts. My project proposes that world building in XR is a part of Caribbean futurity that is inclusive of all Caribbean identities, whilst acknowledging the specificity of my white Caribbean identity.

I work with research-creation methods to discuss my positionality in relation to my project's research question: how can a white-passing artist create VR art that is able to address issues of race and gender, and that transcends their white privilege? Since my artwork engages with how race and gender are produced by politics and reflected though the politics of representation, I read from perspectives on race by Black writers as well as from critical whiteness scholarship, as outlined in the following section.

With my research-creation project conceived in allyship, the methods I employed have evolved throughout the creative process and are informed by my research, my life experiences, and the social, cultural, and political context of living in Montreal, Canada. Analyzing the work of Black creators is one of my primary research methods. My intention is to centre Black perspectives and point toward how these perspectives challenge institutional racism and foster interdisciplinary learning spaces for Black and mixed audiences. My primary creation method was to work iteratively and in collaboration with different artists and technologists, while creating different forms of submerged, immersive worlds. Alongside my creative process, I studied the following artworks: *APEX* (2013) by Arthur Jafa, *Vertigo Sea* (2015) by John Akomfrah, and *Typhoon Coming On* (2018) by Sondra Perry, exploring their powerful political statements through the lens of Black Atlantic histories. This process also includes the removal of a visible Caribbean landscape from the work, the decision not to feature Black subjects in the work if not in direct collaboration, and not asking for further contributions from Black or Caribbean collaborators after 2020. The embodied experience of Blackness is not something I can speak to, and working with my alter-ego, *whitey*, always risks re-centering whiteness; as such, research-creation has allowed me to explore what I can say about hybrid identity and how relevant it is to do this through immersive world-building. Kei Miller's essay helped me to realize that my artwork would remain an exploration of *what I can say* visually when referring to Glissant's *opacité* and Brathwaite's tidalectics through VR creation. Whether or not such an

approach to allyship is pertinent is not for me to judge, but the intention was to complete my project in full before engaging in further co-creation with Black and Caribbean collaborators.

Through the notion of VR empathy, I explore the tension between the promise of VR as a tool "for good,"[24] offering users new ways of seeing others and themselves, and VR as another form of media relying on limitation or stereotype. Reading from scholarship centered on Black performance and feminism, I argue for the pertinence of reading Beyoncé's audiovisual album *Lemonade* (2016) and her documentary film *Homecoming: A film by Beyoncé* (2019), as well as Adrian Piper's works *Catalysis III* (1970) and *Cornered* (1988), which I see as historical precedents to aspects of the feminist praxis present in Beyoncé's films and as innovative works establishing intersectional feminist models from which to build on using VR mediums. I study how Beyoncé's large-scale performances centre the lived experiences of historically underrepresented communities and how Adrian Piper's performance-based artworks explore race and gender while implicating her viewer directly. Reading from Black scholarship on Black futurity and collective creation as strategies to build inclusive futures within VR, I propose that the VR artist who employs such approaches ask their viewers to consider both the content and the context of their performances, as well as the viewer's positionality in relation to these.

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[24] "VR for Good focuses on narratives that examine the treatment of people belonging to any race, religion, gender, and sexual identity, and aims to use these stories to promote connection, empathy and equality." "VR for Good | Virtual Reality Storytelling Focused on Social Impact," Meta, n.d., accessed October 2, 2020, https://about.meta.com/community/vr-for-good/. This version of the webpage is archived here: http://web.archive.org/web/20221002162644/https://about.meta.com/community/vr-for-good/.

Key Problematics for This Study

VR / XR

The current implications of VR empathy and the affordances of 360 video storytelling in VR form the focus of my study. These concerns build on VR's earlier histories, some of which are less often highlighted within the extended reality (or XR, a *portemanteau* term that includes VR, AR, and other immersive formats) community's current preoccupations. The "Art and Virtual Environments" project, supported by the Banff Centre for Arts and Creativity (then the Banff Centre for the Arts) in the period 1991–94,[25] pioneered the use of VR, among other technologies, from an experimental standpoint. These early adopters of 3D graphics and interactive technologies within the arts saw the potential for VR as a powerful creative space, despite its (then) scarcity and exclusivity of access for general audiences. Working with large teams of experts in new media platforms, project director Douglas McLeod was aware that most of the completed projects would only "happen" once and would be experienced mainly by their creators. At that time, therefore, unless you were in the new media milieux, you might never see or hear anything about VR's potential as a creative tool—a situation in stark contrast to that of today, when many artists across multiple disciplines are encouraged to engage with digital tools, a phenomenon that the COVID-19 pandemic cast a spotlight on. Yet, for McLeod and the artists working at Banff, what remained urgent was the significance of a critical, artistic experimentation with the medium as a counterweight to corporate and military perspectives. Within the same period, Canadian new media pioneer Char Davies created her seminal work *Osmose* (1995),[26] a VR experience requiring the "immersant"[27] to use her breath as a navigation tool within an aquatic virtual environment. The immersant then becomes a part of the installation: on one screen, viewers who are not in the VR experience can see the immersant, while, on the other screen, the non-immersed viewers can see what she is seeing, in real time. Davies's aim with *Osmose* is for the immersant to sense unity with nature, as in a sacred space,

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[25] "The Media Arts program receives $500,000 in federal funding to explore virtual reality as an art form." See: "History of Banff Centre for Arts and Creativity," n.d., https://www.banffcentre.ca/history.
[26] See: http://www.immersence.com/osmose/.
[27] *Immersant* is Char Davies's preferred term, i.e., in lieu of *user*, in her VR experience.

and achieve an "osmosis": a dissolution and osmotic interpenetration of dualist categories—subject/object, figure/ground, interior self/exterior world. This is achieved by subverting the mainstream media applications of 3D imagery, as Davies was also concerned with VR's sociocultural context, specifically its military implications.[28]

Recent industry-produced market research identifies VR consumption, production growth, and consumer access as being highest in North America, Western Europe, and China,[29] a situation also reflected in recent reports produced by Canadian commercial and government-funded organizations XN Quebec and Habo,[30] and Quebec Canada XR[31] on the state of the art for current and future immersive experience production. Both reports suggest that XR remains an emerging market in the commercial sense, since most audiences that the authors identify as current and potential XR users remain unfamiliar with the scope of the medium's offerings. This means that XR producers must continue to expend time and energy informing venues and distributors about the conditions required to present XR projects, due to a lack of standardized practices and XR hardware options.

In a 2022 report titled "Extended Reality (XR) Ethics and Diversity, Inclusion, and accessibility," a working group of the non-profit Institute of Electrical and Electronics Engineers (IEEE)[32] explores ethics-related topics "to support the development, design, and deployment of XR applications in terms of diversity, inclusion and accessibility," aiming to "contribute to industry conceptualization of socio-technological issues, highlight concreted recommendations, and lay the groundwork for future technical-standardization activities."[33] As well as addressing some of the challenges around producing XR for people with disabilities, another of the

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[28] Char Davies, interviewed by Carol Gigliotti, "Reverie, Osmose and Ephemère," *n.paradoxa* 9 (2002): 66. Available at: http://www.immersence.com/publications/2002/2002-CGigliotti.html.

[29] "The International Virtual Reality Market: Who's in the Lead?", Summa Linguae Technologies, last updated March 8, 2017, https://summalinguae.com/language-technology/international-virtual-reality-market/; "Virtual reality (VR) – statistics & facts" (Technology & Telecommunications, Hardware), Statista, last updated June 8, 2023, https://www.statista.com/topics/2532/virtual-reality-vr/#topicOverview.

[30] "Étude sur le potentiel des expériences immersives pour les principaux marchés Américains et Européens," L'Effet Québec, n.d., https://effetquebec.ca/etude-experiences-immersives/. The full report is available here: https://drive.google.com/file/d/1w24ARhwBSbJuhcu8m6AOUOE56Nlt9AX1/view.

[31] Sandra Rodriguez, "Crafting a Market for Independent XR: Challenges and Opportunities for Distribution, Circulation and Discoverability," 2022, https://xnquebec.co/pdf/Etude_Distribution_XR.pdf.

[32] The IEEE describes itself as "the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity." "About the Activity," IEEE Global Initiative on Ethics of Extended Reality, n.d., https://standards.ieee.org/industry-connections/ethics-extended-reality/.

[33] Dylan Fox and Isabel Guenette Thornton, "Extended Reality (XR) Ethics and Diversity, Inclusion, and Accessibility," IEEE Global Initiative on Ethics of Extended Reality (XR) Report, 2022, p. 5, https://standards.ieee.org/wp-content/uploads/2022/04/Ethics_Diversity_Inclusion_Accessibility.pdf.

"challenges of XR equity" identified here is the problem of "predatory inclusion," whereby consumers are encouraged to produce content for free and share it in XR social spaces, a practice that ultimately benefits the corporations that control the XR hardware and online spaces. The report's attention to predatory inclusion points toward the correlations between what American political science scholar Cedric Robinson's calls "racial capitalism," a concept he developed within a Black Marxist framework,[34] and the phenomenon of *platform capitalism*, which American sociologist and cultural critic Tressie McMillan Cottom brings into dialogue with racial capitalism as a necessary intersection to highlight the racialized nature of "Internet technologies."[35] As McMillan Cottom observes, "Internet technologies are now a totalizing sociopolitical regime and should be central to the study of race and racism."[36]

Although XR mediums are enmeshed with "Internet technologies," I have focused on studying interdisciplinary approaches to VR. While I am aware of the necessary discussions around the politics and sociocultural impacts of working with XR as outlined in the edited book "Collective Wisdom,"[37] my research highlights the findings of the 2020 report "Making a New Reality," authored by new media experts Kamal Sinclair and Jessica Clark.[38] Sinclair and Clark engage with a range of immersive experiences, including those employing 3D software and 360 video, to situate the state of inclusion and representation in American immersive media production to suggest best practices moving forward. A major theme explored by the authors is the tendency among VR creators to design experiences about "others" or vulnerable groups that suggest empathy without questioning the medium's implicit racial bias in favour of whiteness. For the authors, this "avoids challenging whiteness and the structural privilege that comes with it."[39] Sinclair and Clark provide resources and practical solutions from experts and interviewees on how to foster change for current and future immersive media creation. In "A Toolkit for

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[34] Cedric J. Robinson, *Black Marxism: The Making of the Black Radical Tradition* (London: Zed Press, 1983).
[35] Tressie McMillan Cottom, "Where Platform Capitalism and Racial Capitalism Meet: The Sociology of Race and Racism in the Digital Society," *Sociology of Race and Ethnicity* 6, no. 4 (2020): 441–49, https://doi.org/10.1177/2332649220949473.
[36] Ibid., 441.
[37] Katerina Cizek and William Uricchio, *Collective Wisdom* (Cambridge, MA: MIT Press, 2022).
[38] Kamal Sinclair and Jessica Clark, *Making A New Reality: A Toolkit for Inclusive Media Futures*, ed. Carrie McLaren, August 2020, https://makinganewreality.org/. Also available here in PDF format: http://dotconnectorstudio.com/wp-content/uploads/2020/10/MNR-Final-Web.pdf. Sinclair and Clark's articles feature people who are creating inclusive, diverse, and hybrid stories and characters using immersive media. The report is based on interviews by media professionals, who offer a detailed list of methods for promoting greater inclusion in fields of immersive media creation, production, and distribution, such as VR.
[39] Sonya Childress, quoted in Sinclair and Clark, *Making a New Reality*, 47.

Change," the report's third and final section, they outline the three types of change they perceive as necessary: personal, institutional, and systemic. An example of personal change is to "use the amplification strategy," referring to the conscious choice to highlight works by women, people of colour, LGBTQ+ people, and persons with disabilities to give them a better chance to be recognized in their field and ensure that they receive the continued support of their peers and others who may provide further opportunities. Echoing the report's concern around VR empathy, which tends to centre whiteness, the authors' critical engagements offer an interdisciplinary toolkit for established and upcoming immersive media creators, exposing the medium's potential pitfalls: "Immersive media aims to transport your mind and body into another world that feels real, engaging all human senses, essentially comprising an alternative experience of reality in a digitally coded environment."[40] In contrast to American VR producer and entrepreneur Chris Milk's assertion that VR is "the ultimate empathy machine"[41] and can place viewers in the scene as if they were there in person, Sinclair and Clark describe how immersive mediums operate, emphasizing these technologies' simulation of reality as "another world that feels real." The authors also explain that immersive media and VR exert psychological impacts upon viewers different from those of film and television, and describe how they are experienced differently, sometimes physically so: "One of the differences between film and immersive media is that film is external to the body, and the other [VR] seeks to trick the mind into thinking it is an internalized experience, more like a memory than a stimulus."[42] Sinclair and Clark underline the fact that "these new approaches on humans (are) not well-understood yet." This point is critical for VR empathy because, if the technology is not well understood and the effects of the medium are still being evaluated, viewers should assess any emotional reactions to VR texts with caution.

Alongside this report's findings, American media scholars Lisa Nakamura[43] and Ruha Benjamin[44] warn readers to consider the relative novelty of VR as a medium, in response to voices such as Milks' that propose it as an empathy machine. Being aware of the work of Canadian-American psychologist Paul Bloom[45] on the limits of empathy when considered as an

[40] Sinclair and Clark, *Making a New Reality*, 12.
[41] Chris Milk, "How virtual reality can create the ultimate empathy machine," TED2015, March 2015, https://www.ted.com/talks/chris_milk_how_virtual_reality_can_create_the_ultimate_empathy_machine.
[42] Sinclair and Clark, *Making a New Reality*, 12.
[43] Lisa Nakamura, "Feeling good about feeling bad: virtuous virtual reality and the automation of racial empathy," *Journal of Visual Culture* 19, no. 1 (2020): 47–64.
[44] Ruha Benjamin, *Race after Technology: Abolitionist Tools for the New Jim Code* (Medford, MA: Polity, 2019).
[45] Paul Bloom, *Against Empathy: The Case for Rational Compassion* (New York: Ecco, 2016).

emotional response to another person's situation, and although American, British, and Australian scholars Janet Murray (2019),[46] Henry Farmer (2020),[47] and Grant Bollmer and Katherine Guinness (2020)[48] specifically question the notion of VR empathy in useful ways, my study focuses on the work of Nakamura and Benjamin, which emphasize the correlation between VR empathy and institutionalized racism.

Whiteness and Postcoloniality

In his book *White Sight*,[49] American British visual culture theorist and activist Nicholas Mirzoeff engages in a "tactical mapping" of what he refers to as "white sight" and "white reality," and how to "strike against them" by proposing alternatives to "white sight's erased, patriarchal, racializing, violent reality." For him, this "strike against whiteness now seeks to make the transition into a decolonized and decolonizing future" by deconstructing or "un-building"[50] white reality as he understands it. Mirzoeff acknowledges that his proposal builds on previous works also invested in addressing how whiteness is constructed and perpetuated through visual cultures, such as English film scholar Richard Dyer's book *White*.[51]

Dyer studies whiteness in film and other visual media to identify how they shape audiences' perceptions of white and non-white bodies. He invites readers to consider "white racial imagery" to debunk the association with whiteness as normative in contrast to other racial identities: "As long as race is something only applied to non-white peoples, as long as white people are not racially seen and named, they/we function as a human norm. Other people are raced, we are just people."[52] For Dyer, "whiteness needs to be made strange," which can allow

[46] Janet H. Murray, "Not a Film and Not an Empathy Machine: How necessary failures will help VR designers invent new storyforms," *Medium*, March 27, 2019, https://immerse.news/not-a-film-and-not-an-empathy-machine-48b63b0eda93.
[47] Harry Farmer, "A Broken Empathy Machine?", *Medium*, June 3, 2020, https://immerse.news/a-broken-empathy-machine-can-virtual-reality-increase-pro-social-behaviour-and-reduce-prejudice-cbcefb30525b.
[48] Grant Bollmer and Katherine Guinness, "Empathy and Nausea: Virtual Reality and Jordan Wolfson's Real Violence," *Journal of Visual Culture* 19, no. 1 (April 2020): 28–46, https://doi.org/10.1177/1470412920906261.
[49] Nicholas Mirzoeff, *White Sight* (Cambridge, MA: MIT Press, 2023).
[50] Ibid., 1–4.
[51] Richard Dyer, *White* (1997; repr., London: Routledge, 2013).
[52] Ibid., 1.

white people to "see themselves as white"[53] and to understand how whiteness, as it is reproduced in visual cultures, reinforces the association between itself and a default human condition.

Considering the legacy of American legal and race theorist Kimberlé Crenshaw's notion of intersectionality, which draws from legal scholarship and Black feminist studies,[54] American Studies and Black Studies scholar George Lipsitz writes about the use of colourblindness and "race neutrality" to support white privilege within Western academic spaces and disciplines. For Lipsitz, since these notions are biased in favour of white privilege, similarly in Western legal systems, "the migration of concepts across the disciplines has played a fundamental role in creating epistemic whiteness."[55] I read this in dialogue with Lipsitz's notion of the "white spatial imaginary,"[56] which Mirzoeff refers to as influential to his proposal to "strike against whiteness."[57]

American performance studies scholar Tavia Amolo Ochieng' Nyong'o explores the cultural practices that brought blackness and whiteness together in the nineteenth- and twentieth-century United States. Through the notion of an American "national Thing,"[58] Ochieng' Nyong'o articulates the tension of what he describes as a desire to progress, thrive, and reach toward an egalitarian democracy: "This faith in a national transcendence of race is actually quite venerable, not just the effect of recent pre- and postmillennial effusions,"[59] within a state of continued racial divisiveness that constantly reinvents itself. In contrast to discourses around the arrival of a post-racial society, Ochieng' Nyong'o questions whether racial hybridity can offer a future beyond racial difference in America's particular context.

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[53] Ibid., 10.
[54] Crenshaw coined the term *intersectionality* while examining court cases against Black women, to describe the triple challenge faced by Black women in America: institutionalized anti-Black racism, systemic bias against women, and a combined bias against Black women. Here I am reading from Crenshaw's study of three court cases against Black women. "Because the intersectional experience is greater than the sum of racism and sexism, any analysis that does not take intersectionality into account cannot sufficiently address the particular manner in which Black women are subordinated." Kimberlé Crenshaw, "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics," University of Chicago Legal Forum, issue 1, article 8 (1989), 140.
[55] George Lipsitz, "The Sounds of Silence: How Race Neutrality Preserves White Supremacy," in *Seeing Race Again: Countering Colorblindness across the Disciplines*, ed. Kimberlé Crenshaw et al., 23–51 (Oakland: University of California Press, 2019), 46, https://doi.org/10.1525/9780520972148-003.
[56] George Lipsitz, "The Racialization of Space and the Spatialization of Race: Theorizing the Hidden Architecture of Landscape," *Landscape Journal* 26, no. 1 (2007): 10–23, https://www.jstor.org/stable/43323751.
[57] Mirzoeff, *White Sight*, 14.
[58] Tavia Amolo Ochieng' Nyong'o, *The Amalgamation Waltz: Race, Performance and the Ruses of Memory* (Minneapolis: University of Minnesota Press, 2009), 7.
[59] Ochieng' Nyong'o, *Amalgamation Waltz*, 9.

Studying the intersection of whiteness and embodiment, British feminist Sara Ahmed formulates a “phenomenology of whiteness”[60] wherein she identifies how and why whiteness continues to operate as a default for bodies, but also for the spaces in which bodies operate, within Western discourses. Ahmed observes that “a phenomenology of whiteness helps us to notice institutional habits.” She underscores the problematic nature of whiteness as it shifts from being a cultural construct to an embodied experience, which discriminates by claiming its advantage simply as a given. By pointing to whiteness as phenomenological, Ahmed proposes that “such an approach to whiteness can allow us to keep open the force of critique.”[61] As she elaborates:

> A phenomenology of whiteness … brings what is behind to the surface in a certain way. … Bodies stand out when they are out of place. Such standing re-confirms the whiteness of the space. Whiteness is an effect of what coheres rather that the origin of coherence. The effect of repetition is not then simply about a body count: it is not simply a matter of how many bodies are ‘in’. Rather, what is repeated is a very style of embodiment, a way of inhabiting space, which claims space *by the accumulation of gestures of “sinking” into that space*. If whiteness allows bodies to move with comfort through space, and to inhabit the world as if it were home, then those bodies take up more space. Such bodies are shaped by motility, *and may even take the shape of that motility*.[62]

Ahmed also refers to the performativity of anti-racism and how white people can intend to be anti-racist but act in ways that are not actually anti-racist: “In other words, the task for white people would be to stay implicated in what they critique, but in turning towards their role and responsibility in these histories of racism, as histories of this present, to turn away from themselves and towards others.”[63] For her, productive allyship involves being aware of the potential pitfalls of its own performativity and remaining focused on supporting those who experience racism. In an earlier work, Ahmed explores the notion of “stranger fetishism and post-coloniality,”[64] in which she connects intersectional feminism and postcolonial theory,[65] articulating the correlation between the legacy of colonialism and its impact on both a

[60] Sara Ahmed, “A Phenomenology of Whiteness,” *Feminist Theory* 8, no. 2 (2007): 149–68.
[61] Ibid., 165.
[62] Ibid., 159.
[63] Sara Ahmed, “The Nonperformativity of Antiracism,” *Meridians* 7, no. 1 (2006): 104–26, https://doi.org/10.2979/mer.2006.7.1.104.
[64] Sara Ahmed, *Strange Encounters: Embodied Others in Post-Coloniality* (London: Routledge, 2000).
[65] Ibid.

sociocultural construct of otherness and an embodied experience of otherness. I am reading her notions of "the stranger," "strange encounters," and "stranger fetishism and post-coloniality" alongside the context of institutionalized slavery in the Americas, where white privilege was foundational to the creation of the Unites States. Regarding the "fetish," I read Ahmed's use of the term in relation to Indian-British critical theorist Homi K. Bhabha's notions that both stereotyping and fetishism were used by Western countries to control colonized subjects.[66]. Ahmed analyzes "strange encounters" within the "failed historicization of post-coloniality."[67] In this context, the *stranger* is someone who lives in a Western country but whose heritage is from a country that was colonized by the West, and *post-coloniality* refers to the independence of non-Western countries from European governments during the twentieth century.

In his film *The Stuart Hall Project*,[68] British director John Akomfrah chronicles the legacy of Hall's discerning vision on postcolonial realities, which instigated the birth of cultural studies as a recognized academic discipline. Jamaican-born and British-educated, Hall, who saw identity "as a 'production,' which is never complete, always in process, and always constituted within, not outside, representation,"[69] understood that most recently independent (postcolonial) peoples were striving to be free in order "not to be unequal."[70] These profound shifts of the twentieth century were not, in his eyes, a transitional phase toward a more settled period, but marked the fact that "we are culturally in a state of permanent revolution." Hall does not believe in a "crisis of race"; rather, he posits a "vice of color" as a lens through which we can consider post-colonial crises, which are punctuated by race.

Barbadian visual artist Joscelyn Gardner explores the legacies of colonialism in the Caribbean by highlighting the ambiguous positionality of white women, such as herself, in the region. Her proposal for a discourse of "(white) postcolonial Creole feminism"[71] builds on the

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[66] For American feminist writer Amelia Jones, Bhabha is one of the "post-colonial theorists of fetishism and fetishistic structures of representation and the binarizing nature of the theories through which fetishism became foregrounded as the key mode of objectification of the bodies of others." Amelia Jones, *Seeing Differently: A History and Theory of Identification and the Visual Arts* (London: Routledge, 2012), 75.
[67] Ahmed, *Strange Encounters*, 11.
[68] "The Stuart Hall Project," dir. by John Akomfrah, London: British Film Institute, 2013. See also the IMDb record: https://www.imdb.com/title/tt2578290/.
[69] Stuart Hall, *Cultural Identity and Diaspora* (London: Laurence & Wishart, 1990).
[70] Ibid., 392.
[71] Gardner's parenthesis. Joscelyn Gardner, "Re-Presenting Creole Identity: Theorizing a (White) Postcolonial Creole Feminism," in *White Skin, Black Kin: "Speaking the Unspeakable"* (exhibition catalogue), January 1, 2004, p. 2, https://www.academia.edu/69450999/.

notion of the "white Creole woman," which, according to her definition, aligns with my own positionality:

> By tracing how gender relations in the Caribbean have been constructed and experienced through colonialism and patriarchy by Creole women, I aim to negotiate an (alter)*native* overlapping cultural space for the former "colonizing female subject" (the white Creole woman) within a discourse which I shall propose as a "(white) postcolonial Creole feminism."[72]

Although Gardner acknowledges "the contradictions implicit in such a split subject position (the "privileged" colonizing subject with the marginalized/oppressed female subject)," her proposal highlights the complexity and the unique intersections present within different postcolonial contexts. Her notion was influential to the creation of my alter-ego *whitey*.

Intersectional Feminism / Black Performance / Feminist Performance

> Feminism would not exist as a theoretical endeavour without the political struggles for women's empowerment that have emerged in all regions of the world. … Demonstrating that embodiment is profoundly political is one of the most distinctive contributions of feminist scholarship.[73]

Although feminist theorists have established different theoretical fields, I consider feminism through the lens of interdisciplinarity, as "a multifaceted, multisited project."[74] I study feminist theory in dialogue with Black scholarship, focussing on twentieth- and twenty-first-century scholars, artists, and activists whose work is concerned with intersectionality, the politics of embodiment, performance, popular culture, and working in community.

When Africana scholar and sociologist Tricia Rose discusses Donna Haraway's "Cyborg Manifesto" with Mark Dery,[75] she situates the pertinence of Haraway's proposal within the context in which a feminine/feminist cyborg can emerge, and what that tells us about the

[72] Ibid., 2 (Gardner's parenthesis).
[73] Lisa Disch and Mary Hawkesworth, eds., *The Oxford Handbook of Feminist Theory* (Oxford: Oxford University Press, 2015), 1, https://doi.org/10.1093/oxfordhb/9780199328581.001.0001.
[74] Ibid., 1.
[75] Mark Dery, "Black to the Future: Interviews with Samuel Delany, Greg Tate, and Tricia Rose," in *Flame Wars: The Discourse of Cyberculture*, ed. Mark Dery, 179–222 (Durham, NC: Duke University Press, 1994), https://doi.org/10.1215/9780822396765-010.

patriarchal cultural construct in which that proposal was formulated: "The question is not cyborg possibilities in and of themselves, but how the cyborg has been constructed by patriarchal discourse and how it might be reinvented."[76] For Rose, a critical, feminist "cyborg as an imaginary" must include female perspectives that see value and usefulness in how the technology itself is imagined: "Again, I refuse to blame the technology: it's about how we imagine its usefulness, and what we value. If we don't value the ways in which women create, it doesn't really matter what we do or not invent."[77]

Contemporary Caribbean writers highlight the affordances of digital media in the context of the region's contemporary cultural discourses: Barbadian feminist Tonya Haynes in "Mapping Caribbean Cyberfeminisms,"[78] Cuban writer and activist Sandra Abd'Allah-Álvarez Ramírez in "Practices of resistance and cyberfeminism in Cuba,"[79] and many others through platforms such as the Caribbean Digital, a project led by Caribbean scholars Alex Gil, Kaiama L. Glover, and Kelly Baker Josephs,[80] and edited books such as *The Digital Black Atlantic* (2021).[81] Aspects of this scholarship trouble the notion of intersectionality alongside feminism and colonial legacies, through decolonial frameworks. This echoes the work of Greek political theorist Anna Carastathis,[82] who "consider[s] to what extent intersectionality is compatible with the project of a decolonial feminism." Although for her the two phenomena remain distinct from each other, Carastathis aims to explore the "kinds of theoretical and political work a decolonial-intersectional feminist coalition can do."[83]

In the context of post-feminism, American feminist scholar Kimberly Springer[84] elucidates how intersectionality can be employed in ways that can impact Black women

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[76] Ibid., 217.
[77] Ibid.
[78] Tonya Haynes, "Mapping Caribbean Cyberfeminisms," *sx archipelagos*, issue 1 (2016): 1–18, https://hcommons.org/deposits/item/hc:30953/
[79] Sandra Abd'Allah-Álvarez Ramírez, "Practices of resistance and cyberfeminism in Cuba," in *Practices of Resistance in the Caribbean*, ed. Wiebke Beushausen, 215–26 (London: Routledge, 2018), https://www.taylorfrancis.com/chapters/edit/10.4324/9781315222721-12/practices-resistance-cyberfeminism-cuba-sandra-abd-allah-%C3%A1lvarez-ram%C3%ADrez?context=ubx.]
[80] See: https://thecaribbeandigital.org/.
[81] Roopika Risam and Kelly Baker Josephs, eds., *The Digital Black Atlantic* (Minneapolis: University of Minnesota Press, 2021), https://www.upress.umn.edu/book-division/books/the-digital-black-atlantic.
[82] Anna Carastathis, *Intersectionality: Origins, Contestations, Horizons* (Lincoln: University of Nebraska Press, 2016), https://www.nebraskapress.unl.edu/nebraska/9780803285552/.
[83] Ibid., 201.
[84] Kimberly Springer, "Divas, Evil Black Bitches, and Bitter Black Women: African American Women in Postfeminist and Post-Civil Rights Popular Culture," in *Interrogating Postfeminism: Gender and the Politics of Popular Culture*, ed. Yvonne Tasker and Diane Negra (Durham, NC: Duke University Press, 2007), 251.

negatively. For her, "postfeminism seems to erase any progress towards racial inclusion that feminism has made since the 1980s" and does so by making racial difference "a commodity" in a conservative cultural climate, wherein feminist language has been incorporated into public dialogue but "authentic feminist struggles" are sidelined. This reinforces harmful stereotypes through which Black women are portrayed in the media. I also read the term *post-feminism*[85] through the definitions formulated by British feminist Angela McRobbie[86] and American art historian Amelia Jones.[87]

In her book *Choreographing Empathy*,[88] American dancer and dance scholar Susan Leigh Foster explores how the history of Western dance and choreography reveals the development of an inherent racism in the dancing body, whereby the non-white body is expected to perform "natural" and "spontaneous" movements or else be accused of being "derivative." Meanwhile, white dancers and choreographers have been quick to appropriate dance movements and techniques from other cultures. She concludes her study by pointing toward the uses of digital technologies for mediating dance and performances. For her, this shift in how we perceive physicality is something to which we ought to pay close attention:

> Now, at the beginning of the twenty-first century, physicality has been over overhauled yet again into a cyborgian synthesis of digital and physical matter. Transferring effortlessly between live and virtual worlds, inhabiting monochromatic landscapes that have sprouted up the world over to facilitate global exchange, individuals acquire accoutrements of identity by sculpting and accessorizing their appearance.[89]

Japanese-American and African-American visual artist Saya Woolfalk uses science fiction and fantasy to reimagine the world in multiple dimensions, and is known for her multimedia explorations of hybridity, science, race, and sex through visual and collaborative

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[85] McRobbie's perspective is that feminism changes and fluctuates with time and that the notion of "post-feminism" emerged in the 1990s as a reaction to a cultural context in which certain feminist demands around the representation of women were seemingly perceived as a given, and younger women and men were less able to identify with earlier feminist claims and assertions. For Jones, the term was coined as a reaction to frustration within the art world over the term "feminist" and to academic conversations around the subject and a lack of dialogue with mainstream culture. Jones makes the connection between this and the influence exerted by Judith Butler's *Gender Trouble* (1990) on the reading of gender in relation to identity in the 1990s cultural establishment.
[86] Angela McRobbie, *The Aftermath of Feminism: Gender, Culture and Social Change* (Los Angeles: SAGE, 2009).
[87] Amelia Jones, *Seeing Differently: A History and Theory of Identification and the Visual Arts* (London: Routledge, 2012), especially ch. 4 "Multiculturalism, Intersectionality, and "Post-Identity" and ch. 2 "Art as a Binary Proposition; Identity as a Binary Proposition Exemplar: The Binaries of Self and other in/as Art."
[88] Susan Leigh Foster, *Choreographing Empathy: Kinesthesia in Performance* (London: Routledge, 2011).
[89] Foster, *Choreographing Empathy*, 178.

performance-based artworks. Woolfalk has created the world of the "Empathics,"[90] a fictional race of women who are able to alter their genetic make-up and fuse with plants. With each body of work, Woolfalk continues to build the narrative of these women's lives and questions the utopian possibilities of cultural hybridity, offering ambiguous rather than didactic proposals.

For African-American studies, dance, and theatre studies scholar Thomas DeFrantz,

> Black dance and black performance aren't trying to stand in for themselves, or represent their manner; they are doing/demonstrating/making/enlivening. Right now. The dance will not be denied; let the dance do for itself. Resist focusing on an aspect and try to feel the whole of it. The whole of it makes the moment important and remarkable. The dance of black performance is action.[91]

As DeFrantz observes, Black performance and Black audiences' engagement with Black performance is "complex and multi-layered." In his performance "I Am Black (you have to be willing to not know)" (2017),[92] he emphasizes the value of Black performances created as collective experiences within "Black spaces" such as Historically Black Colleges and Universities (HBCUs),[93] allowing both the performers and the audience to escape the scrutiny of the white gaze, something he sees as a necessary form of relief from "white fatigue":[94]

> And sometimes we see blackwork as a black collective, and it's an entirely different story. This is rarely experimental work like what might be shown in American Realness … because these are not black places or even temporarily black spaces. Those experiences emerge at the HBCUs and are probably created by smaller groups of artists

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[90] Woolfalk's *The Empathics* were first on view in her first solo show at the Montclair Art Museum in the fall of 2012 (see: http://www.sayawoolfalk.com/montclair-art-museum). Later, a video animation was included in the exhibition *The Shadows Took Shape*, at the Studio Museum in Harlem (November 2013–March 2014). Since then, Woolfalk's practice has developed substantially, and included a showcase, in June 2016, of her larger *ChimaTEK* project as part of the monthly Times Square presentation series "Midnight Moment."

[91] Thomas F. DeFrantz, "I Am Black (you have to be willing to not know)," *Theater* 47, no. 2 (2017): 13.

[92] Ibid.

[93] In her book *Women, Race and Class*, American activist Angela Davis looks at intersections of gender, race, and class in the United States, from the era of slavery and reparations to the contemporary moment. After abolition and during the Reconstruction era, Davis highlights how both negative and positive relations between Black and white women in the movement coexisted. She stresses the contradictions in the concurrent exploitation practised by white women—including feminists—of their Black female domestic servants, in contrast to the shared struggle for better access to education wherein Black and white women collaborated. In the South, says Davis, this led to the creation of the public school system and of HBCUs: "Fisk University, Hampton Institute and several other Black colleges and universities had been established in the post-Civil War South … and these were the building blocks for the South's first public school system, which would benefit Black and white children alike." Angela Davis, *Women, Race & Class* (New York: Random House, 1981), 60.

[94] DeFrantz, "I Am Black," 14.

> you've never heard of and will never know, who make work and burnish it and share it and charge the air and remind us to reset our sense of shared possibility and how our temporary shared sensibilities matter.[95]

Reading from DeFrantz's views on the enduring presence of anti-Black racism, on how "white privilege and white power and white hegemony and white racism are so strong, are so ever-present," and on the possibilities he envisions for Black performances within "Black spaces," I study how African-American singer Beyoncé takes a different approach in her films *Lemonade* (2016) and *Homecoming* (2019), in which Black performances are intended for Black and mixed audiences. Although she did not attend one herself, HBCUs are celebrated throughout *Homecoming*, which, according to her mother, Tina Lawson, was motivated by the artist's intention to make HBCU culture mainstream and "cool," to "bridge the gap"[96] between Blacks and whites in America.

I cojoin Beyoncé and Adrian Piper's work together, albeit the first artist functions in the realm of popular culture and mass appeal, and the later artist is a key figure of the conceptual art avant-garde. Purposely considering their works together within feminist media histories can allow for a richer, intersectional understanding and critique of representation politics within contemporary VR experiences. Specifically, I propose that Adrian Piper's radical propositions in *Catalysis III* (1970) and *Cornered* (1988), which implicate the viewer's body, engage with feminism, and Black performance, and address white art audiences directly, makes these works as pertinent today as when they were created. Additionally, in contrast to Beyoncé's large, mixed audiences, Piper's audiences are principally located within the realm of contemporary art and art history. I present this as a useful juxtaposition of practices operating at different scales, in relation to the various scales at which VR experiences can operate, from niche, avant-garde artistic VR to Meta and Apple's global userbase. Taken together, these artists suggest an alternative historical throughline for submersive experiences operating at popular and avant-garde scales but always with a critical approach to visioning bodies.

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[95] Ibid., 15.

[96] "She said I have worked very hard to get to the point where I have a true voice and at this point in my life and my career I have a responsibility to do what's best for the world and not what is most popular. … She said that her hope is that after the show young people would research this culture and see how cool it is, and young people black and white would listen to 'LIFT EVERY VOICE AND SING' and see how amazing the words are for us all and bridge the gap." Tina Lawson (@mstinaknowles), "She said I have worked very hard," Instagram photo caption, April 16, 2018, https://www.instagram.com/p/Bho-WDiBzpV/.

I study visual cultural production engaging with performance and feminism as feminist performance,[97] a term that American performance studies scholar Peggy Phelan has theorized. My discussion of performance acknowledges the innovative contributions of American philosopher Judith Butler's notion of performativity in relation to gender, since Butler claims that sex and gender are socially constructed, and that gender is performative.[98] Whilst Butler's performativity is foundational since it pushes against hegemonic identities and refuses essentialism, my focus here is on Phelan's feminist performance. Describing performance as "representation without reproduction,"[99] and making the claim that "performance's only life is in the present,"[100] Phelan takes up the political potential of performance to push against the concretization of identity categories. For Phelan, feminism puts a lens squarely on questions of equity and justice, while performance, an always incomplete, in-process activity, which highlights the fluidity and instability of the terms we use, acting as a motor for critique and agency. Whereas many have noted the life of performance in fact can linger and engage different temporalities, I note here that with the rise of digital media and VR technology the present has taken on new meanings. Yet taken together Butler and Phelan's work on the performative suggests how play, difference, release, and respite may arrive for bodies shaped and shaping at the intersection of culture and agency.

American literary scholar Carrie Noland offers a critical clarification, in her work on agency, explores the dynamics of "embodied gesturing"[101] and their implications within social contexts. Noland argues that both movement and its significance are constantly shifting, influenced by social, cultural, and historical factors but equally by individual kinesthetics and physical accommodations and elaborations. For her, although physical gestures represent culturally significant actions, they can also drive innovation within cultural norms and practices. Building on Phelan and Butler's perspectives, I suggest that Noland's approach charts a useful

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[97] Peggy Phelan, *Unmarked: The Politics of Performance* (London: Routledge, 1996).

[98] Judith Butler reads from Searle's speech acts, Austin's description of the term performative, and Derrida's claim that the iterability of the performative is whence its power derives. Jaurieke Ton, "Judith Butler's Notion of Gender Performativity: To What Extent Does Gender Performativity Exclude a Stable Gender Identity?" (unpublished academic paper, n.p., 2018) https://studenttheses.uu.nl/bitstream/handle/20.500.12932/30880/JTTON_BScThesis_Judith_Butler_Gender_Performativity_FINAL.pdf?sequence=2.

[99] Phelan, *Unmarked*, 3.

[100] Phelan, *Unmarked*, 146.

[101] Carrie Noland, *Agency and Embodiment: Performing Gestures/Producing Culture* (Cambridge, MA: Harvard University Press, 2009).

middle ground which is pertinent when considering the affordances and the implications of performance, gesturing and embodiment in VR.

Beyoncé Feminism

According to quantitative research on the representation of women and Black people within film and television in the United States published by the Geena Davis Institute on Gender in Media, a U.S. non-profit organization that researches gender representation in media and advocates for equal representation of women, although there is still much work to do, the representation of women, women of colour, and Black women in Hollywood and popular American television has improved in recent years. One report authored by the Institute[102] focuses on representation in popular television from 2016 to 2020. According to this study, positive change is happening, with higher percentages of female characters receiving screen time and speaking time, and higher percentages of women and girls, and BIPOC[103] characters, as leads or co-leads. But the authors conclude that "the most popular programming on cable and television is still dominated by white male characters, especially at the lead/co-lead level."[104] In another report, McTaggart et al.[105] focus on the representation of Black women in Hollywood and identify two factors by which to measure progress: "the quantity of representation (how *often* a group is shown), and quality of representation (*how* they are portrayed when they do appear in content)." Although recent decades have shown positive changes on both fronts, the authors suggest that "more work remains to present Black women in fair and just ways."[106]

Beyoncé's engagement with feminism has brought the topic into a global, mainstream conversation, which I explore through my study of *Lemonade* (2016), her audiovisual album that challenges patriarchy and anti-Black police violence, and *Homecoming* (2019), her documentary film celebrating HBCU cultures by affirming Black excellence as intrinsic to mainstream American culture. Beyonce's decisions to pronounce herself a feminist and to advocate openly

[102] Geena Davis Institute on Gender in Media, "See Jane 2021: Looking Back and Moving Forward: The State of Representation in Popular Television from 2016 to 2020," research report, Los Angeles, 2021, https://seejane.org/research-informs-empowers/see-jane-2021-report/.
[103] Black, Indigenous, and people of colour.
[104] Geena Davis Institute, "See Jane 2021," 3.
[105] Ninochka McTaggart et al., "Representations of Black Women in Hollywood," research report, Geena Davis Institute on Gender in Media, Los Angeles, 2021.
[106] Ibid., 2.

for the #BlackLivesMatter movement in her single *Formation*, which launched her *Lemonade* album, have extended her work's reach beyond popular entertainment and attracted greater attention in academic scholarship and grey literature.[107] Although some explore the value of reading her work as feminist, other voices question how Beyoncé's work functions within American and global feminist movements given her position as a highly successful singer, performer, and entrepreneur. These contrasting opinions around the value of Beyoncé's work are what motivated my study of them, in relation to VR's predicted ubiquity.

The writers whose works I studied qualify Beyoncé's feminism with the following terms: *Beyoncé feminism*, used by Naila Kelata-Mae and Nathalie Weidhase;[108] *hip hop feminism*, by Weidhase;[109] and the *Black femme function*, by Omise'eke Natasha Tinsley.[110] Carol Vernalis and Zandria Robinson emphasize the album's celebration of Black female solidarity; and, for Ayana Dozier, *Lemonade* remixes the music video genre as a generative Black feminist cultural space. Aisha Harris and former First Lady Michelle Obama have applauded *Homecoming* for its educational value and the inspirational power of its historical references for future generations.

Canadian feminist, playwright, and actress Naila Kelata-Mae analyzes the artist's first visual album, *Beyoncé* (2013), as an important cultural text to include in the canon of twenty-first-century mainstream feminism, and uses the expression "Beyoncé feminism" to distinguish the artist's work from other feminist positionalities. Kelata-Mae suggests that ignoring

[107] I am reading from the following examples:
Black feminist scholar Nikki Lane shares a lesson plan on *Lemonade*, with a particular focus on the learning opportunities in Beyoncé's then latest audio-visual album. Nikki Lane, "She Slay, I Teach: A Lesson Plan: When Life Gives you Beyoncé, Teach with Lemonade," unpublished lesson plan, 2016, http://thedoctorlane.com/wp-content/uploads/2016/05/Lemonade_Lesson-Plan_Nikki-Lane.pdf.

Black activist LaSha tweets her "no filter" reaction to the voice of mainstream U.S. white culture, which does not understand the "hype" around the 2017 Grammy Awards ceremony where Beyoncé received neither of the two major awards for which she had been short-listed (Album of the Year and Record of the Year), losing them to British pop diva Adele and instead taking home the Grammy for Best Urban Contemporary Album in the R&B Field. LaSha, Kinfolk Kollective (@knflkkollective), "#grammys," X (Twitter), February 12, 2017, https://twitter.com/knflkkollective/status/830985138557313026.

In her lecture for the "Fresh Talk" speaker series presented by the National Museum of Women in the Arts, Jamia Wilson, executive director of the Women's Media Center, outlines why she considers Beyoncé to be a relevant cultural reference for contemporary young women, and particularly women of colour in the United States. Jamia Wilson, "Righting the Balance—What's Beyoncé Got to Do with It?," National Museum of Women in the Arts, December 4, 2015, YouTube video, 21:24, https://youtu.be/Xs8JPU_HZK4.

[108] Naila Keleta-Mae, "A Beyoncé Feminist," *Atlantis: Critical Studies in Gender, Culture & Social Justice* 38, no.1 (2017).

[109] Nathalie Weidhase, "'Beyoncé Feminism' and the Contestation of the Black Feminist Body," *Celebrity Studies* 6, no. 1 (2015): 128–31.

[110] Omise'eke Natasha Tinsley, *Beyonce in Formation: Remixing Black Feminism* (Austin: University of Texas Press, 2018), 170.

Beyoncé's discourse and her impact on popular culture "would be negligent for those of us invested in women's and gender studies to dismiss the album or its principal artist."[111] Nonetheless, the author presents two sides of the argument for considering Beyoncé a feminist: "At worst, Beyoncé's feminism is a vacuous rhetoric wielded to monetize feminism and affix it to the Beyoncé brand"; and, in contrast: "At best, her feminism is an extension of her astutely managed and highly successful career." For the author, Beyoncé's success is partly due to "her ability to perch perfectly on the fence when it comes to her political views." Kelata-Mae describes how Beyoncé's stance in this regard makes her approach pertinent to those engaging with feminism today, since "Beyoncé has managed to fuse misogyny and feminist rhetoric in popular and financially lucrative ways."[112] Indeed, Kelata-Mae questions Beyoncé's highly publicized declaration of feminism and how the artist quoted Nigerian feminist Chimamanda Ngozi Adichie[113] during her 2014 MTV Video Music Awards performance, and also notes the unconventional way in which Beyoncé shapes her own version of feminism in alignment with her commercial singing career, a cause for critique by other feminists.

Like Kelata-Mae, British media and communications scholar Nathalie Weidhase uses the term *Beyoncé feminism* to describe the artist's approach. Weidhase also engages with the notion of *hip hop feminism*, a term coined by Jamaican-American author and journalist Joan Morgan[114] and used by feminists who feel that Black feminism is not sufficiently equipped to consider the issues of women of the hip hop generation. Weidhase describes how Beyoncé's use of her "body as a site of contestation,"[115] in a historical context wherein Black women are dehumanized "on the grounds of their perceived hypersexuality," effectively challenges "the whiteness of mainstream feminism."[116] She argues that Annie Lennox's "dismissal of Beyoncé's feminism"[117]

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[111] Keleta-Mae, "A Beyoncé Feminist," 236.
[112] Ibid., 244–43.
[113] Chimamanda Ngozi Adichie is author of We Should All Be Feminists (New York: Fourth Estate, 2014).
[114] Joan Morgan, *When Chickenheads Come Home to Roost: A Hip-Hop Feminist Breaks It Down* (New York: Simon & Schuster, 2000).
[115] Weidhase, "'Beyoncé Feminism,'" 129.
[116] Ibid., 130.
[117] Weidhase explores the debate around Beyoncé's live performance at the 2014 MTV Video Music Awards, during which she declared herself a feminist, which prompted Scottish singer, feminist, and political activist Annie Lennox to describe Beyoncé's work as "'feminist lite.' L-I-T-E." In other words, for Lennox, Beyoncé's claim to feminism is superficial. Chris Azzopardi, "Q&A: Annie Lennox on Her Legacy, Why Beyonce Is 'Feminist Lite,'" *PrideSource*, September 25, 2014. Archived at: https://web.archive.org/web/20141003090346/http://www.pridesource.com/article.html?article=68228.

is indicative of a "lack of intersectional thinking in the current celebrity feminism discourses,"[118] which have been shaped mainly by white women celebrities. Instead, Weidhase locates Beyoncé "firmly in the discourse of hip-hop feminism … rather than mainstream celebrity feminism."[119]

In contrast to these views, bell hooks[120] described *Lemonade* as "fantasy feminism" in her 2016 blog post "Moving Beyond Pain."[121] Previously, during a public debate held at the New School in 2014, hooks had described a "part" of Beyoncé as "a terrorist especially in terms of the impact on young girls."[122] Throughout her 2016 post, hooks questions the validity of the *Lemonade* visual album as a vehicle for contemporary Black feminism. For her, Beyoncé glamourizes and profits from her version of feminism, which does not offer a real alternative to the status quo. Although hooks deemed the album's "fantasy feminism" not to be useful for achieving a future society in which Black women, and indeed all women, are able to transcend the dominant patriarchal structures that remain in place, she also criticizes certain aspects of *Lemonade* that many younger feminist writers find compelling and liberating. Two days after hooks published her post, Black feminist writers from the California-based blog *Feministing.com*[123] (inactive since 2020) published a group response in the form of ten articles that they described as "a cross generational conversation with brilliant feminists of color." In his contribution to this response, American writer Michael Arceneaux identifies an incoherence in hooks's encouragement of rap star Lil' Kim's hypersexual lyrics of the 1990s,[124] in contrast to her "continuous condemnation of feminity"[125] in the work of Beyoncé. As Arceneaux states: "Art is not intended to discuss [such] matters in absolutes," referring to Beyoncé's portrayal of pain and healing throughout *Lemonade*, and to her "ideas of feminism, the celebration of women,

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[118] Keleta-Mae, "A Beyoncé Feminist," 130.
[119] Weidhase, "'Beyoncé Feminism,'" 130.
[120] bell hooks has been at the heart of social, political, and cultural conversations on feminism. During the 1990s, she defended the sexually explicit lyrics of popular African-American female rapper Lil' Kim against criticism by other feminists.
[121] bell hooks, "Moving Beyond Pain," bell hooks Institute blog, May 9, 2016. Available at: https://www.scribd.com/document/399547974/Moving.
[122] bell hooks, "Eugene Lang College – Are You Still a Slave? Liberating the Black Female Body," The New School, New York, May 7, 2014, YouTube video, 39:00, https://youtu.be/rJk0hNROvzs.
[123] Lori Adelman, ed., "A Black Feminist Roundtable on bell hooks, Beyoncé, and 'Moving beyond pain,'" Feministing.com (blog), May 11, 2016, http://feministing.com/2016/05/11/a-feminist-roundtable-on-bell-hooks-beyonce-and-moving-beyond-pain/.
[124] For an overview of the controversy, see: "Famous Musicians: Lil' Kim," Biography.com, last updated June 21, 2019, https://www.biography.com/musicians/lil-kim.
[125] Michael Arceneaux, quoted in Adelman, "Black Feminist Round Table," 7.

and femininity in general."[126] Arceneaux's response to hooks's perspective, like those of the rest of the *Feministing.com* group, shows that younger Black feminist voices support Beyoncé's legitimacy as a feminist.

[126] Ibid., 2.

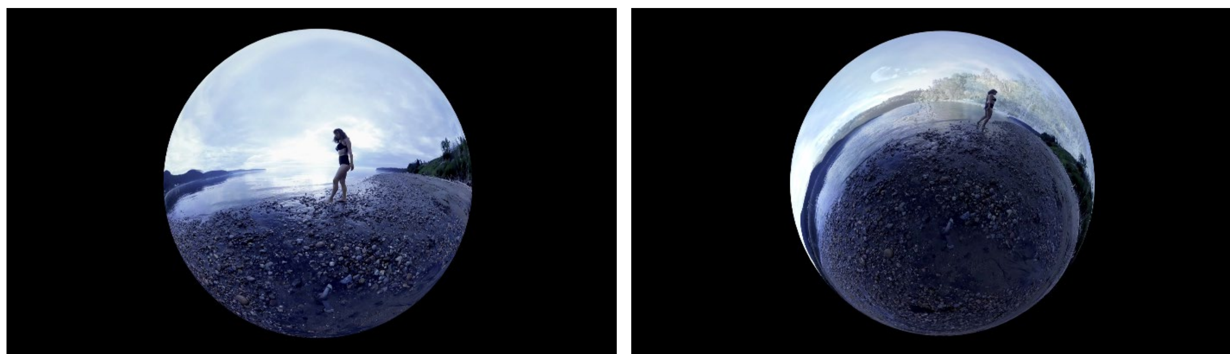
Part 1 – Submersion, Whiteness, and Hybrid Identity

The first part of my thesis maps the progress of my artistic practice and research at Concordia University, while referring to iterations of my artwork that were exhibited in art world settings. I describe my research-creation project's first iterations, titled *ISLAND* and *MYRa*, which I created between 2018 and 2020. Both use 360 video and 3D techniques, and feature visual representations of my body in performance, as well as other performance artists from the Caribbean and the United States, whose works tackle issues of race and cultural belonging. The theoretical context in which I began my project draws from Kamau Brathwaite's idea of *tidalectics*, Carmen Beatriz Llenin-Figueroa's reframing of Brathwaite's notion as *island tidalectics*, Édouard Glissant's notions of *relation* and *opacité*, and Paul Gilroy's *The Black Atlantic*. Drawing from these concepts, *ISLAND* explores how my collaborators' positionalities, as well as my own, function together within the same virtual space in VR. I describe the 360-video performance videos, created both as solo projects and in collaboration with African-American artist Ayana Evans, and the video shared by Martinican artist Henri Tauliaut (featuring a group performance in 360 video)[127] alongside the integration of these videos within the different versions of the *ISLAND* VR experience. I outline how *MYRa*, an offshoot from my main project, began as a single-channel video designed for an immersive gallery installation including a live performance and audience interaction; and how, in a subsequent version, titled *MYRa VR*, I reconfigured 360-video footage from the earlier iterations.

As I moved away from a preoccupation about my own positionality, my artistic methods shifted as I focused my research on Black Atlantic histories, reading from Gilroy's *The Black Atlantic*. This led to a deeper engagement with Black scholarship, studying immersive art installations by American and British contemporary artists Arthur Jafa, John Akomfrah, and Sondra Perry through the lens of Black Atlantic histories, which I refer to as *submerged histories*. Studying these artworks and the critical discourses around them, my research progressed toward an artistic enquiry through VR creation, reading from racial formations in the

[127] Tauliaut and I initially hoped to collaborate in person, but this was not feasible within the timeframe allotted for production of new material for integration into the VR experience.

context of the *Black Atlantic* to propose a dual experience of submersion—technological and historical—wherein the visual representation of the body extends into water.



Figures 1.5 and 1.6: *ISLAND* (version 1), 360-video (performance video stills from solo performance prior to VR integration), 2018.

During this time, I also read from American filmmaker Chris Milk, who in 2015 expressed his vision of VR filmmaking as "the ultimate empathy machine":

> I started thinking about, is there a way that I can use modern and developing technologies to tell stories in different ways and tell different kinds of stories that maybe I couldn't tell using the traditional tools of filmmaking that we've been using for 100 years? So I started experimenting, and what I was trying to do was to build the ultimate empathy machine.[128]

Since then, many voices have suggested that VR experiences entail news forms of storytelling, offering the viewer a turn to empathy that might be put to productive use, a potential based on the claim that VR audiences are more likely to act upon issues they have witnessed or reproduce actions they have taken in VR, in comparison to those who learn about the same topic through other media. This question of VR as an empathy machine framed my theoretical research around VR's tendency to operate on a universalizing basis that is implicitly Eurocentric or North America-centric and white, a contrast to Caribbean thinkers, who conceptualize the self as neither singular nor universal but rather as hybrid and relational, though still specific. Although I trouble the notion of empathy in VR in Part 2 of this thesis, my goal here is to illuminate the

[128] Chris Milk, "How virtual reality can create the ultimate empathy machine," TED2015, March 2015, https://www.ted.com/talks/chris_milk_how_virtual_reality_can_create_the_ultimate_empathy_machine?language=en.

possibilities presented in considering Caribbean perspectives on exploring the value of hybrid identities within a postcolonial context, in dialogue with VR and the new opportunities it offers for representing ourselves and others.

Returning to this part of the thesis, since representing water was central to the creation of each iteration of my project, I describe how my aesthetic and artistic choices point visually toward submerged histories, reading from Gilroy's notion of the Black Atlantic in dialogue with tidalectics and opacité. This led me to assess the usefulness of rendering the subjects in my work less discernable, drawing on Caribbean perspectives on the "right to opacity," to resist *facile* definitions of cultural identity, in a postcolonial context.

Last, I address the creation of the project's final iteration, titled *virtual ISLANDs* (2022), a departure from the previous versions, as I went back to representing a white subject, something that I can speak to. In *virtual ISLANDs*, I explored the 3D technique known as *volumetric capture*, with which I could film myself and others using cinematic tools that allowed me to render subjects into animated particle systems through the implementation of digital effects. Visually, this was a breakthrough moment in terms of being able to merge representations of subjects with virtual water more effectively. Featuring a choreographed performance and a gallery-based sound installation created with Canadian collaborators, this version invites viewers to reflect on their relationship with water via the distancing effect created between their virtual engagement with the performer's gestures and their own physicality within the gallery installation.

1.1 Virtual Islands: A Six-Year Research-Creation Process

After situating my pre-doctoral practice in relation to my doctoral artwork, the following sections address my research-creation project *virtual ISLANDs*, produced between 2018 and 2022.[129] From *ISLAND* (2018) to *virtual ISLANDs* (2022),[130] the different iterations explore submersion and relation through filmed performances and 3D visualizations of water, presented in a VR

[129] In this chapter, my engagement with the definitions and potentials of research-creation methods is primarily informed by the perspectives of Canadian scholars Nathalie Loveless (University of Alberta), Kim Sawchuk and Owen Chapman (Concordia University), and Louis-Claude Paquin in collaboration with Cynthia Noury (Université du Québec a Montréal).

[130] See the appendix at the end of this chapter for a list of exhibitions that featured my doctoral project.

experience within a multimedia installation. Throughout the project, I foreground the Atlantic Ocean, the Caribbean Sea, and what lies beneath them as a living archive that informs my artistic explorations around race and representation. I describe the creation process and the project's iterations in dialogue with my theoretical frameworks.

1.1.1 Addressing historical legacies of colonialism in the Caribbean: Representation of whiteness in my work – a forced reality check

Contemporary Caribbean writer Amanda Choo-Quan was born in Trinidad, a "majority-minority country" where, as she relates, "we still have a problem with Anti-Blackness,"[131] a problem that remains current across the Caribbean today. As someone who is white, French, and Jamaican born, but not raised in Jamaica,[132] returning to live there between 2011 and 2014 sharpened my awareness of the enduring legacies of colonialism in that country and across the region. I looked for ways to address, through my artistic practice, how these colonial legacies affected the politics of contemporary visual representation in Jamaica. Noticing an absence of representations of white women in Caribbean visual arts led me to investigate contemporary perspectives on the intersection of womanhood and whiteness, and to develop art projects featuring my alter-ego *whitey*. These artworks comprised an exploration that placed my positionality as a white Jamaican in dialogue with the visual aesthetics of what Barbadian-American art historian Krista Thompson refers to as the "Caribbean picturesque":

> Picturesqueness is thus framed not as part of the process of tropicalization—the making of the island like a tropical picture or the presentation of the market woman as picturesque—but as a quality the landscape and its people possessed in the past. In this reuse the history of photography in the production of place and disciplining of people is erased. The contrived touristic image reappears, wearing the invisible mask of history, as the past as it was, not the past as it was produced.[133]

Drawing from Thompson's concept, I created photographs and videos which considered the colonial legacies of framing Caribbean landscapes and people as belonging to a nostalgic past, an

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[131] Amanda Choo-Quan, "I Grew Up in a Majority-Minority Country. We Still Have a Problem with Anti-Blackness," *Harper's Bazaar*, April 2021.
[132] Raised in France, I moved to the UK to complete a BA and an MA in fine arts.
[133] Krista A. Thompson, *An Eye for the Tropics: Tourism, Photography, and Framing the Caribbean Picturesque* (Durham, NC: Duke University Press, 2006), 275.

iconography created by a tourist industry that reinvents the Caribbean as a space/place for pleasure and consumption, available to tourists and local inhabitants who can afford it.

While my pre-doctoral artworks addressed contemporary representations of whiteness[134] within Jamaican and Caribbean cultures—a topic that remains contentious—reading Canadian scholar Charmaine Nelson[135] in the course of my doctoral research made me aware of the deliberate omission of white women by colonial visual artists during the period of slavery. As Nelson explains: "Whiteness was one of the foundational concepts on which slavery and plantation monoculture was based."[136] Her analysis of the strategic omission of white women from paintings commissioned by slavery-era plantation owners allowed me to contextualize the presence or absence of *whitey* within my arts practice.

Relocating to Montreal from Jamaica in 2014, my work transformed and my alter-ego *whitey* no longer functioned in a meaningful way as I began to reorient my practice toward future collaborations with artists from different cultural spaces and creative backgrounds. During this transition, I discovered VR and created my first VR experience using research-creation methods in collaboration with Jamaica-based performers and artists. Now based in the geopolitical "North," I commenced studies in the Individualized (INDI) PhD program at Concordia. This transitional project led to my enquiry into VR as a tool with which to explore Caribbean futures, including performance-based practices, in my artwork. In this, Nelson's research was instrumental in permitting me to reframe the implications of representing a white female protagonist while exploring Caribbean futures, and at once acknowledge the historical, social, and cultural implications of *whitey* throughout the project's different versions.

1.1.2 Artistic intentions

My initial goal in this project was to explore Caribbean futures within an underwater VR experience featuring visual representations of Black and white subjects in exchange with one

[134] When I created and worked with my alter ego *whitey*, I was also reading from the notion of the "white creole woman," coined by contemporary white Barbadian artist Joscelyn Gardner.
[135] Charmaine Nelson, *Slavery, Geography and Empire in Nineteenth-Century Marine Landscapes of Montreal and Jamaica* (London: Routledge, Taylor & Francis, 2019). Nelson's research speaks to the ways in which white women were implicated in several aspects of the plantation's social space, and how this removal from visual art produced in the Caribbean during the period of slavery downplayed their presence and the roles they played on the plantation. Visually, this rendered them as other to a space within which they lived and worked. I read this as making the agency enjoyed by white women in the Caribbean less visible and therefore problematic.
[136] Nelson, *Slavery*, 296.

another, in relation. When I began creating *ISLAND* (2018), my conceptual anchors were Brathwaite's *tidalectics*, Llenin-Figueroa's refocusing of Brathwaite's notion as *island tidalectics*,[137] and Glissant's notion of *relation*, since, as noted by Simon Eales, both Brathwaite and Glissant used "the metaphor of the tide to reconceptualise Caribbean and North American colonial history."[138]

The cyclical quality of Brathwaite's tidalectics prompted me to draw from certain pre-doctoral works, in which I had explored identity in the contemporary Caribbean while keeping abreast of conversations in the Caribbean creative sphere. In my creative process, Brathwaite's tidalectics resonated with the question "what might a Caribbean future look like?"[139]—a question put, in 2015, by Trinidadian curator and writer Marsha Pearce. This informed the orientation of my PhD proposal and influenced my projects' different iterations. Together, these ideas prompted me to explore how I might evoke the region's "heavy water"[140] while engaging with its historical and symbolic role within a Caribbean postcolonial framework, something that Brathwaite, Pearce, Glissant, and Llenin-Figueroa help us to understand.

Conceptually and aesthetically, I imagine Caribbean futures underwater, yet with the inhabitants remaining in control of their environment. But my works do not depict the logistics of these speculative futures. Rather, from *ISLAND* (2018) to the latest version of the project, *virtual ISLANDs* (2022), my artwork proposes an evocative, open-ended reflection on water and the wake,[141] since direct references to the Caribbean have gradually left the frame in my work for one key reason: I have not travelled to the Caribbean since 2017, when I began the project, so

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[137] For Puerto-Rican scholar Carmen-Beatriz Llenin-Figueroa, tidalectics proposes an "alter/native historiography to linear models of colonial progress," which sees water as a site of memory, bringing both life and death, bridging the void(s) between land and culture within elliptic, non-linear histories. Carmen-Beatriz Llenin-Figueroa, "Imagined Islands: A Caribbean Tidalectics" (PhD diss., Duke University, 2012), 6.

[138] Simon Eales, "The Ocean's Tide: Parentheses in Kamau Brathwaite's and Nathaniel Mackey's Decolonial Poetics," *Cordite Poetry Review*, November 1, 2017, http://cordite.org.au/essays/the-oceans-tide/.

[139] I am reading from Pearce's prompts in her call for proposals for the Caribbean Futures Project: "What might a Caribbean future look like? What if, instead of nests connected by sea, the islands were reimagined as weightless mounds hovering in the sky, bonded by cumulus vapour, or as a wireless network of nodes in a digital cloud?" Marsha Pearce, "The Caribbean Futures Project" (open call for artists published through various online channels), Department of Creative and Festival Arts, University of the West Indies, Trinidad and Tobago, July 1, 2015.

[140] In her essay "Revisiting Tidalectics: Irma/José/Maria," American scholar Elizabeth DeLoughery refers to the "heavy water" in Atlantic cultures: "While saltwater is one of the densest liquids on earth, its narrative history makes it heavier." (Here, DeLoughery is quoting from French philosopher Gaston Bachelard's *Water and Dreams: An Essay on the Imagination of Matter* [1983]). Elizabeth DeLoughrey, "Revisiting Tidalectics: Irma/José/Maria." In *Tidalectics: Imagining an Oceanic Worldview through Art and Science*, ed. Stefanie Hessler, 93–101 (Boston: MIT Press, 2018).

[141] Here I am reading from Christina Elizabeth Sharpe's *In the Wake, On Blackness and Being* (Durham, NC: Duke University Press, 2016).

incorporating recordings created during a previous stage of my artistic career in an artwork produced in Canada could point toward tropes of the Caribbean *picturesque*—something that is the opposite of what I aim to evoke in my art.

Figure 1.7: *ISLAND: vitrine* (version 1), VR experience and two-channel video installation, 2018. Solo exhibition at TOPO, Montreal, 2018.

While *ISLAND* (2018) draws from tidalectics and Glissant's *relation*, in *MYRa VR*, the representation of my body blends further with the watery space: though connected, they are distinguishable from each other, and their irregular rhythm points to the tension in Glissant's proposal of a Caribbean identity "that is both multiple and singular."[142] In the final version, *virtual ISLANDs* (2022) (created through the support of Montreal technology startup Zu), I had the opportunity to work with cutting-edge technology for VR creation, something I had hoped for when deciding to pursue my PhD project in Canada. This informed my choice to return to the representation of a white, female subject, acknowledge my white privilege, and circle back to the

[142] Glissant, quoted in Manthia Diawara, "One World in Relation: Édouard Glissant in Conversation with Manthia Diawara," *Nka: Journal of Contemporary African Art*, no. 28 (March 1, 2011): 4–19, https://doi.org/10.1215/10757163-1266639.

initial preoccupation that led me to feature *whitey* in my work: to consider carefully the role that white women play in the cultural contexts they inhabit—in this case, VR creation in Canada.

When I began working with VR, I became aware of the medium's potential for storytelling and experiential world building, and the idea of VR as a tool for empathy as the status quo. One of my intentions is to challenge this notion. I do not refute the impact of VR's potential to propose lifelike simulations virtually, or the possibilities of what this may offer to viewers. Rather, in my artwork, I invite viewers to enter a VR world in which they do not "embody" a specific perspective; this I achieve by creating worlds that are purposely open-ended, in which the visuals blend into each other, prompting viewers to make their own associations.

Across the various VR worlds that I created in the course of my doctoral project, water is always imagined through the lens of Caribbean futures—even if I do not give viewers a clear indication of this. I recognize the flipside—that moving away from situating the artwork's framework clearly entails, here, a risk that the Caribbean and Black Atlantic contexts may not be understood. With each iteration, however, it became clearer that my project was conceived within a Caribbean cultural context, within which the watery histories I evoke are well known, such that pointing to them directly could risk reviving the trauma of the Middle Passage. I acknowledge the potential peril that an absence of clear references might leave some viewers unaware of the works' conceptual frameworks, but I decided this risk was worth taking.

1.1.3 Submersion, tidalectics and "extremely slow time"

My project explores Black Atlantic histories through the notion of submerged histories. This submersion, to which I refer to throughout my thesis, draws from Brathwaite's and Glissant's concepts as well as Gilroy's *The Black Atlantic*. In this context, I employ VR technology to bring submerged histories into dialogue with an understanding of submersion as a psychological reaction to being immersed through technology. Although my artwork is concerned with what may be called "aquatic VR"[143]—a term coined by French VR director Pierre Friquet (who has developed VR goggles for underwater use)—this reading of submersion, which some voices in

[143] Pierre Friquet, "ARTISTIC STATEMENT – Emersion Project," January 20, 2015, https://pierrefriquet.net/moving-forward/.

media studies relate to the physical experience of being underwater,[144] is secondary to the notion of submersion outlined in Gilroy's *The Black Atlantic*, or to what Canadian scholar Rinaldo Walcott, in dialogue with Brathwaite's tidalectics, refers to as the "Black Aquatic":

> Brathwaite marks the repetitive motion of Black life as tidalectics, both refusing the European orienting dialectics and simultaneously grounding the repetition in the Caribbean landscape and seascape. Tides and waves both bring in and take out elements from the shore to the sea, but, importantly, tides and waves leave elements behind as well, resulting in new and different formations.[145]

I propose that Walcott's reading of tidalectics resonates with links that Llenin-Figueroa and other scholars engaged with Caribbean literature[146] have drawn between Brathwaite's tidalectics and temporality, a connection that speaks directly to my artistic practice, working as I do in time-based media. As I was creating *ISLAND* (2018), Llenin-Figueroa's description of tidalectics was central to my artistic engagement with Brathwaite's concept, since she speaks to Caribbean themes that I could engage with through visual representation: "The concept … of tidalectics (a horizontal, back and forth movement without definitive point of origin or conclusion and whose rhythm is dictated by an extremely slow time) … makes the coast a problem for thought in the context of a project on insularity."[147] In addition, Llenin-Figueroa's approach to writing and reading is inspired by walking, which for her is an activity that forces us to adopt a slower rhythm and, thus, an expansion of our sensory perception. In creating my solo 360-video performances, I literally drew from Llenin-Figueroa's "rhythm [as] dictated by an extremely slow time," as I walked around the camera's field of view. Farther along, the integration of my

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[144] In her book *Hamlet on the Holodeck*, American digital media scholar Janet Murray describes immersion in reference to diving in a pool. Janet H. Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (New York: Free Press, 1997). For Canadian cognitive scientist Kimberly Voll, "understanding VR as something submersive is the easiest way to wrap your head around it." Speaking further on submersion in relation to VR, Voll makes a useful distinction between the immersive, "streamlined perception in which the non-core elements of an experience fade away from consciousness," versus a submersive experience understood as "any situation where we are perceptually surrounded." Kimberly Voll, "Virtual confusion: Immersion, submersion and presence," Tumblr, June 12, 2014, https://zanytomato.tumblr.com/post/88638888460/virtual-confusion-immersion-submersion-and.

[145] Rinaldo Walcott, "The Black Aquatic," *Liquid Blackness* 5, no. 1 (2021): 66, https://doi.org/10.1215/26923874-8932585.

[146] In her essay "Island Writing, Creole Cultures," DeLoughery approaches Brathwaite's notion of creolization through his use of the "chronotope of the sea, the ship and the landscape haunted by history"—devices used by other postcolonial writers to "theorize the events of time." Elizabeth DeLoughrey, "Island Writing, Creole Cultures," in *The Cambridge History of Postcolonial Literature*, 1st ed., vol. 2, ed. Ato Quayson, 802–32 (Cambridge, UK: Cambridge University Press, 2012), 822.

[147] Llenin-Figueroa, "Imagined Islands," 123.

360-video performances into the VR experience's landing space (a dark, watery lobby, the first thing seen by the viewer when putting on the headset) drew from Llenin-Figueroa's thematic approach and pushed my work toward categories of thought significant to Caribbean literatures: the ocean, the sea, the coast, and tropical light. Through technological experimentation in VR, I explored these thought categories as counterpoints to tropes surrounding the Caribbean tropical picturesque. These explorations also shaped both my effort to represent waves physically and metaphorically within the VR experience and my choices for presenting the VR headset within a multimedia installation.

Figure 1.8: *ISLAND* (version 1), VR experience for HTC Vive (game engine still 01), 2018.
Figure 1.9: *ISLAND* (version 1), VR experience for HTC Vive (game engine screen capture 438), 2018.

1.2 Creating the First Iterations

1.2.1 Bodies in relation / Caribbean futures in VR

When engaging with "creation-as-research"[148] in the first phase of creation, my question was: how might I create a VR experience evoking themes that Caribbean writers explore through the notion of a hybrid identity which, in the context of life in the postcolonial Caribbean, can be at once burdensome and liberating? This question informed my artistic exploration into new tools of representation designed for immersive mediums, new means to represent the body within realistic landscapes or imaginary spaces. Since both Brathwaite and Glissant are considered by some as "precursors to constructions of hybridity"[149] within and beyond the Caribbean, my

[148] Owen Chapman and Kim Sawchuk, "Creation-As-Research: Critical Making in Complex Environments," *RACAR: Revue d'Art Canadien/Canadian Art Review* 40, no. 1 (2015): 49–52, https://doi.org/10.7202/1032753ar.
[149] Raphael Dalleo, "Another 'Our America': Rooting a Caribbean Aesthetic in the Work of José Martí, Kamau Brathwaite and Édouard Glissant," *Anthurium: A Caribbean Studies Journal* 2, no. 2 (2004): 1.

process in producing the 360 videos for the first two versions of my VR experience drew from their approaches. In his essay *Poetics of Relation*,[150] Glissant focuses on *relation* in the Creole cultures of the Caribbean and advocates for an openness to unpredictability and the unknown. In this way, Glissant offers new possibilities for thinking through the self as interdependent, not entirely separable from those around us, yet not completely inhabiting the other—and, in fact, resisting that colonial impulse. When creating *ISLAND* (2018) and *MYRa VR*, I considered how Glissant's *relation* might help us to orient ourselves when entering a VR world, and how this embodied experience can "feel real"[151] through what is referred to as the *sense of presence* in VR, whereby, in contrast to other visual mediums, audiovisual cues trick our brains into believing we exist *within* the simulation.[152]

In considering the placement of different bodies and how their movements and gestures might function within my VR worlds, *ISLAND* (2018) also drew, in addition to Braithwaite, from other writers whose engagements with tidalectics affirmed the currency of this Caribbean concept's postcolonial and decolonial proposals.[153] These additional references were central to the first stage of my research, in which I considered VR creation through the lens of Caribbean futures in dialogue with the idea of the *decolonial*. Given that this term is used in various contexts, however, together with the fact that my project does not engage with it directly, I therefore chose to move away from it. Nonetheless, as my project was created in Canada, I was influenced by certain concepts around colonization and decolonization as articulated by Indigenous and American scholars and educators Eve Tuck and K. Wayne Yang. They underscore the fact that the various nations and communities affected by colonization must not be reduced to a common experience and that "decolonization is not accountable to settlers, or settler futurity. Decolonization is accountable to Indigenous sovereignty and futurity."[154] Like

[150] Édouard Glissant, *Poetics of Relation*, trans. Betsy Wing (Ann Arbor: University of Michigan Press, 1997).
[151] Sinclair and Clark, *Making a New Reality*, 12.
[152] When viewers wear VR goggles, they are surrounded by a 360-degree field of view. The aim is to make them feel as though they are at the centre of the virtual simulation unfolding around them.
[153] As Elizabeth DeLoughery observes: "Tidalectics are concerned with the fluidity of water as a shifting site of history," while recognizing violent histories of "transoceanic migration and transplantation." Tidalectics also promises to "imagine a regional relationship beyond the bifurcations of colonial, linguistic, and national boundaries." DeLoughery, *Revisiting Tidalectics*, 95. Australian poet Simon Eales suggests that Brathwaite's tidalectics has the potential to dismantle "colonial language" by offering an alternative to a "colonial tidal movement" and instead create a space for language that offers the "possibility of emancipation for the subject" and the creation of "new, laterally-generated identities." Eales, "Ocean's Tide," 4.
[154] Eve Tuck and K. Wayne Yang, "Decolonization is not a Metaphor," *Decolonization: Indigeneity, Education & Society* 1, no. 1 (2012): 35.

decolonization, Indigenous sovereignty in the Caribbean is a complex topic and beyond the scope of this thesis. But I do point to the fact that Tuck and Yang quote Martinican poet and revolutionary Aimé Césaire (1913–2008), who published his seminal "Discourse on Colonialism" in 1950. As Césaire explains: "The essential thing is to see clearly, to think clearly—that is, dangerously and to answer clearly the innocent first question: what, fundamentally, is colonization?"[155] Tuck and Yang offer an elucidation:

> Because colonialism is comprised of global and historical relations, Césaire's question must be considered globally and historically…. [His question] "What is colonization?" must be answered specifically…. Colonialism is marked by its specializations. In North America and other settings, settler sovereignty imposes sexuality, legality, raciality, language, religion and property in specific ways. Decolonization likewise must be thought through in these particularities.[156]

Reading from Tuck and Yang, my project acknowledges the importance of situating the contextual nature of each colonial situation when proposing decolonial methods.

1.2.2 Creating **ISLAND** *and* **MYRa**

In *ISLAND* (2018), comprising a VR experience and a two-screen video installation, I presented my concept of virtual islands in a series of three 360-video sequences featuring a silent performance lasting a few minutes. Putting on the VR headset, the viewer's experience begins in a dark, watery 3D place, which functions as a holding space for the 360 performances. Each of the three videos is contained within its own diamond shape, which moves across the 3D water like a buoy upon the sea. Programmed to remain within the VR viewer's line of sight, the shapes begin moving toward the viewer when the viewer gazes directly at one of them for several seconds.

I created my first virtual island by combining two solo 360 performances, which featured myself as I walked around empty coastal landscapes near Tadoussac, Quebec. I set the 360 camera at a low angle on a beach along the Saint Lawrence River. Walking slowly around the camera, I gradually disappear from sight. I repeated this action in Bude, in Cornwall, UK, with the low camera angle and slow walking pace. This time, I disappeared among the large rocks of

[155] Césaire, quoted in Tuck and Yang, "Decolonization is not a Metaphor," 21.
[156] Tuck and Yang, "Decolonization is not a Metaphor," 21.

the Atlantic coast. Through this action, I sought to explore how the representational qualities of VR can evoke the relation between subject and landscape.

The second 360-video performance (2017), created as a standalone work[157] for the VR experience in *ISLAND*, was the result of a collaboration with American multidisciplinary artist Ayana Evans.[158] In our performance, Evans wore her signature yellow and black catsuit, which she wears in all her *Operation Catsuit*[159] performances. She interacted with me, as *whitey*, silently, in an empty, white domestic space. We moved around each other and throughout the room, using exaggerated gestures in a series of encounters between our characters and the space's physical features: the floor, the windows, the door.

The third 360-video performance presented in the *ISLAND* VR experience features the work of Martinican multimedia artist and scholar Henri Tauliaut.[160] This 360-video performance was created by Tauliaut and his collaborators at "Laboperf Landarts," a creation laboratory that invites performers from diverse creative and cultural backgrounds to collaborate within Martinique's Savane des Pétrifications, a coastal area of beaches and headlands.[161] On this evocative sandy stretch, a group of masked characters walks slowly around the camera lens. The characters' stances, mismatched, evocative costumes, and gentle interactions invite viewers to consider what brought them together in such a location, evoking at once a lunar landscape and a tropical space. In including the performance in my VR world, I sought to foreground the subjects' collective affinities.

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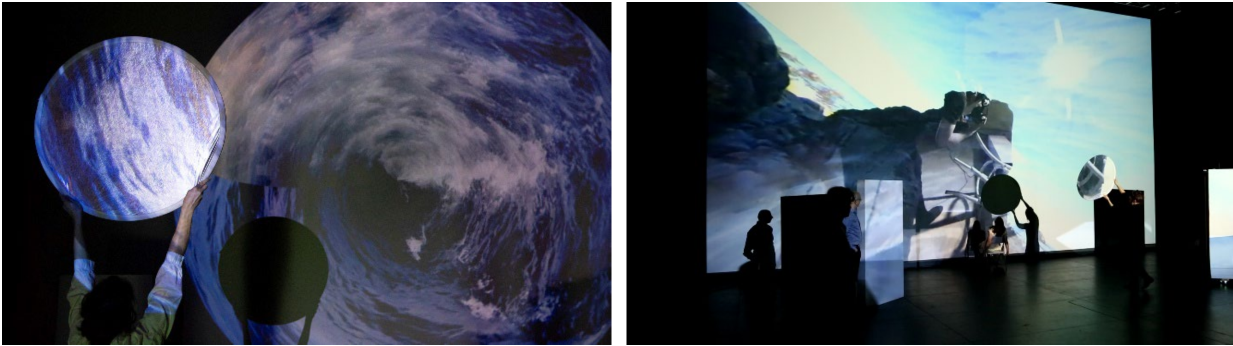
[157] The 360 video was exhibited at *Slick and Gritty: Performance is Alive*, Satellite Art Fair, Miami (2017).
[158] Ayana Evans is a New York-based artist who was raised in Chicago. Working primarily with solo and collaborative performance, Evans is best known for her ongoing performances/public interventions *Operation Catsuit* and *I Just Came Here to Find a Husband*. Her work focuses on dismantling hierarchies, classism, misogyny, and racism through interactive symbolic performances, such as asking a predominately white crowd to "catch [her] Black body" and via video works projected in public spaces. Evans and I met in 2013.
[159] Evans's *Operation Catsuit* interventions are documented here: https://www.ayanaevans.com/2nd-gallery.
[160] Martinican artist Henri Tauliaut is based in Martinique. For two decades, the artist-researcher has been interested in the relationship between art and science, directing his research in two key directions: interactive art and bio-art. His PhD thesis, completed in 2019, is titled: "Biological and digital arts in relation with the living in the work of contemporary artists of the Caribbean and the American continent." Tauliaut has exhibited and performed in the Caribbean, South and North America, France, Senegal, and China. In 2015, he represented Guadeloupe and France at the 12th Havana Biennial. Tauliaut collaborates with Martinican performer and choreographer Annabel Guérédrat. Since 2017, the two have co-directed Martinique's International Festival of Performing Arts (FIAP).
[161] Henri Tauliaut and Annabel Guérédrat, "Laboperf Landarts," Facebook, accessed September 6, 2017, https://www.facebook.com/laboperf.landarts.1.

Figure 1.10: *ISLAND* (version 1), remixed 360-video still, 2018. With collaborators Henri Tauliaut and Laboperf Landarts.

One of the starting points for *MYRa* (single-channel video, 2019) was my solo 360-video performance filmed at Tadoussac, which I combined with videos of moving water to evoke a fast, dynamic tidal rhythm. I wanted to create an immersive, watery visual plane that would function on a standard screen, as opposed to the 360-degree VR viewing experience that I created with *ISLAND*. This I achieved by using immersive tools in combination with standard videos, blending them together with editing software to produce a single-channel video work. *MYRa* then became a live installation for Concordia research group LeParc's public-facing "Embodied Interventions" event, held in May 2019. My proposal comprised a collective experience of immersion and invited the audience to playfully disrupt the room-scale video projection through actions such as holding a silver reflector against the projection beam or moving various props placed about the space. The props were all painted white, since any white surface placed in the area of the projector beam would interrupt the projection. Dressed in white clothes, Black Canadian performance artist Mathieu Lacroix and I moved slowly around the room, inviting visitors to join us in shifting the props about or simply interacting with us (our white outfits also cut out slices of the projected video).

When presenting *MYRa* at "Embodied Interventions," my aim was to invite audiences to interact with my single-channel video work, projected inside Concordia's Black Box on a wall

fifteen metres high by seven metres wide. The presence of Lacroix and myself, as agents activating the work, proved a useful exploration; in producing several 360 videos for the VR experiences in *ISLAND*, in which performers move around the camera, the key takeaway was the importance of giving audiences clearer indications. Whereas *ISLAND* had been imagined as foregrounding the relation between water and identity in a Caribbean context, *MYRa* was conceived within both Canadian and Caribbean cultural and geographical contexts.



Figures 1.11 and 1.12: *MYRa*, video installation and live performance with Mathieu Lacroix, 2019. *Embodied Interventions*, Concordia University, 2019.

For the second version of the *ISLAND* VR experience (presented in the exhibition *Taking Care*, at Ars Electronica, 2018), I invited a third collaborator, British interdisciplinary creator David Corbett,[162] a white male artist whose work does not engage with race or representation. My interest in sharing the work created thus far with someone from another artistic field was motivated by a common interest in how working with new technologies in audiovisual creation can disrupt what we think we are seeing or hearing. I asked Corbett to create a new electronic soundscape, drawing from the gestures performed in my 360-video performances. Corbett's soundscapes were present throughout the second version of the VR experience, which now also featured his remixed audiovisual interpretations of the pre-existing content.

[162] Corbett employs computer programs to create generative, data-driven scores using the software MaxMSP, a visually oriented programming environment for audio and multimedia production.

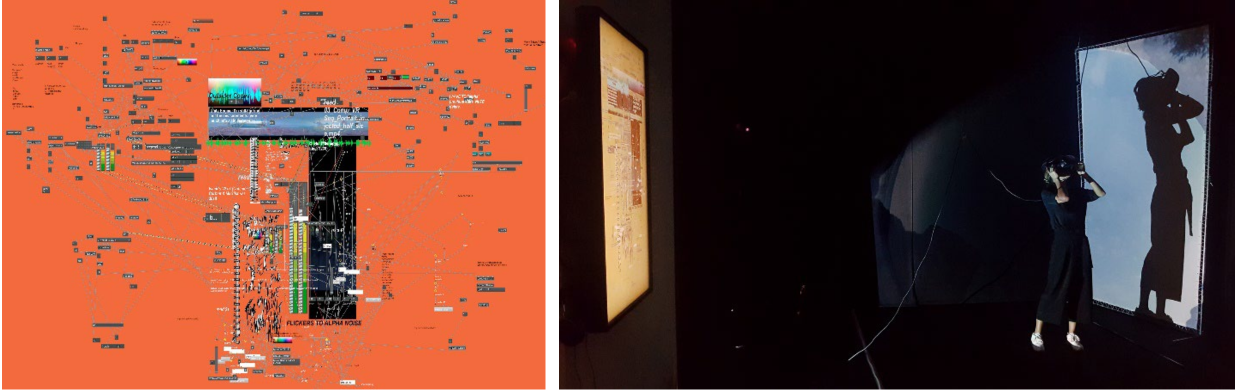


Figure 1.13: *ISLAND* (version 2), generative collage for VR engine and video installation (screen capture), 2018. Created with David K. Corbett.

Figure 1.14: *ISLAND* (version 2), VR experience and video installation, 2018. Presented at the exhibition *Taking Care*, Ars Electronica, Austria, 2018.

What creating these iterations, which combined VR with a physical installation, impressed upon me was the need for my project to propose intuitive encounters with the physical and virtual worlds I create, while also offering physical and virtual spaces that allow for different levels of engagement—from observation to active interaction—to remain accessible to art audiences. Additionally, each step in the creation process prompted me to question where and how Caribbean, Canadian, or European viewers would see themselves belonging in these virtual spaces, and what they might learn through the embodied experience of my VR worlds. These revelations motivated me to employ the display techniques, outlined throughout this part of the thesis, relating to the viewer's physical placement and experience of wearing the VR headset.

1.3 Submerged Histories

Reading from Paul Gilroy's *The Black Atlantic* as well as a generally deeper engagement with Black scholarship led me to study four artworks that engage with Black Atlantic histories, which I refer to as *submerged histories*: African-American artist and filmmaker Arthur Jafa's[163] film

[163] An artist, filmmaker, and cinematographer, and a co-founder of motion picture studio TNEG, Arthur Jafa was born in 1960 in Tupelo, Mississippi, and currently lives in Los Angeles. He has worked as a cinematographer for film directors Julie Dash, Spike Lee, and Stanley Kubrick, and produced music videos for artists Beyoncé, Solange, and Jay-Z. His film *Love is the Message, the Message is Death* (2016) provided him with a breakthrough on the art scene. Since then, he has been showing his films and multimedia installations at exhibitions and museums around Europe and the United States. His work is represented by Gavin Brown's Enterprise, in New York.

installation *APEX* (2013), African-American artist Sondra Perry's[164] multimedia installation *Typhoon coming on* (2018), British artist John Akomfrah's[165] three-screen video installation *Vertigo Sea* (2015), and British artist J. M. W. Turner's[166] painting *Slavers Throwing overboard the Dead and Dying – Typhon coming on* (1840), better known as *The Slave Ship*.

In this romantic maritime painting, Turner depicts a ship in the background, sailing through a turbulent sea of churning water and leaving scattered human forms floating in its wake. Turner may have been moved to paint *The Slave Ship* after reading about the slave ship *Zong* (more about this below) as described in Thomas Clarkson's *The History and Abolition of the Slave Trade*, published in 1839. The initial exhibition of Turner's painting in 1840 coincided with international abolitionist campaigns. As the piece changed hands in subsequent years, it was subject to a wide array of conflicting interpretations.

Throughout the gallery installation of Perry's *Typhoon coming on*—a direct reference to Turner's painting—the artist challenges the ongoing objectification of the bodies of Black people, using multimedia installation to complicate a variety of themes. In a 2018 review of *Typhoon coming on* (presented that year in London at the Serpentine Gallery), British art critic Hettie Judah highlights the artist's concern around who has a voice when discussing the historical trauma of slavery. For Perry, the Middle Passage remains central to her practice: "I'm always thinking about the Middle Passage, it's foundational for a lot of the things I'm concerned about."[167]

Vertigo Sea is a forty-eight-minute immersive, three-channel video installation created by British artist and filmmaker John Akomfrah in 2015. It is a meditation on humanity's

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[164] Born in 1986, Sondra Perry is an interdisciplinary artist who works in video, computer-based media, and performance. Perry explores themes of race, identity, family history, and technology. Her practice investigates "blackness, black femininity, African American heritage," and the representation of Black people throughout history, often with a focus on how blackness influences technology and image making.

[165] John Akomfrah is a Ghanaian-born (1957) British artist working in film and video installation. Drawing from documentary and montage film traditions, Akomfrah's work explores British colonial histories from multiple perspectives. His practice and presentation of Black Atlantic narratives in the art world aim to imagine different futures by looking at past and present political, cultural, and environmental contexts and their relationships to histories of colonization and imperialism.

[166] Joseph Mallord William Turner RA (1775–1851) was an English Romantic painter, printmaker, and watercolourist. He is known for his expressive colours, imaginative landscapes, and turbulent, often violent marine paintings. Turner left behind more than 550 oil paintings, 2,000 watercolours, and 30,000 works on paper. From 1840, he was championed by leading English art critic John Ruskin.

[167] Perry, quoted in Hettie Judah, "In Sondra Perry's New Show, Digital Tools Make Oppression Visible," *Garage* (*VICE* magazine), March 12, 2018, https://garage.vice.com/en_us/article/qvey8p/in-sondra-perrys-new-show-digital-tools-make-oppression-visible.

relationship with the sea and explores issues such as the history of slavery, migration, conflict, and ecological concerns like whale and polar bear hunting and nuclear testing. The work combines original footage from the Isle of Skye, the Faroe Islands, and the northern regions of Norway with archival material from the BBC's Natural History Unit. It also draws inspiration from two literary works: Melville's *Moby-Dick* and the poem "Whale Nation" by Heathcote Williams. *Vertigo Sea* premiered at the 56th Venice Biennale in 2015, curated by Okwui Enwezor.

Arthur Jafa's *APEX* is an eight-minute video comprised of hundreds of images from various sources, the majority of which represent Black lived experiences of violence and death—Black bodies in historically charged moments of pain, joy, or elation. It also includes extreme close-up images of nature, including underwater life forms; astral bodies in space; late twentieth-century and early twenty-first-century cultural icons, superheroes, and fantastic characters; and iconic fashion, art, and culture from the Americas, including the Caribbean.

Gilroy explores how the experiences of Black people living in Europe, North America, the Caribbean, and Africa are understood best within a Black Atlantic geographical and historical context, having been shaped by the transatlantic slave trade, European colonial projects and, later, by American imperialism, global independence movements, and post-colonial struggles. Gilroy's political and historical reframing of Western modernity places the experience of Black people at its centre rather than the periphery, thereby highlighting Black people's transatlantic experiences and connections. In a similar vein, Turner's, Perry's, and Akomfrah's works examine how visual representations of blackness are historically intertwined with the ebb-and-flow of financial value in the form of free labour, extracted throughout the history of colonization via the oppression of enslaved and marginalized people.

Three of these artworks engage with the physicality of water, all of them connected through submerged histories. Taken together—situating three contemporary media works alongside a historical painting—it is apparent that these artworks offer audiences several points of entry into how the legacies of the transatlantic slave trade have affected the representation of Black and Caribbean postcolonial identities in visual mediums. I studied these artworks as I produced the various iterations of my doctoral artworks, a process that led me to reassess how to work in allyship with Black people. This reassessment included questioning the presence of my body, that of a white woman of mixed descent, in an artwork engaging with Black Atlantic, or

submerged, histories. The contemporary artworks that I studied were created by more established artists and comprise powerful political statements; yet, although my project was created in a different context and operates on a different scale, I envision it as working toward similar goals.

My artwork engages with visual representations of coastal and underwater environments, and thus comprises a conceptual exploration of water as a historical space in a Caribbean postcolonial cultural context. Although I read from Afrofuturist perspectives and other proposals for Caribbean futures,[168] I aimed to conjoin different approaches to the representation of postcolonial identities by working in collaboration with artists Evans and Tauliaut, while experimenting with VR, a technology of representation with the potential to offer new modes of visualizing hybrid identities. While my research engages with submerged histories and the violence perpetrated at sea during the slave trade, my intention in my artworks is to propose water as a generative space, despite the weight and complexity of these histories. This prompted me to engage with Glissant's "right to opacity," in dialogue with Brathwaite's tidalectics, by merging visuals in new ways as my project progressed.

The VR experience in *ISLAND* (2018) proposed visual representations of Black and white subjects in relation with each other within a 360-degree field of vision, to generate approaches for visualizing such interactions in a VR artwork. Aware of how the Western pictorial tradition established that Black and white bodies are to be framed differently, my work reflects on how this differential framing affects these subjects' relations with one another and with the landscape in which they are located. Since two of these performances were created outside the Caribbean (in Quebec and Cornwall), the project was moving away from my initial conceptual framework. This development fuelled my desire to create a watery 3D world in the transient place of *ISLAND*'s VR landing space, which acts as a virtual bridge between the different cultural spaces evoked.

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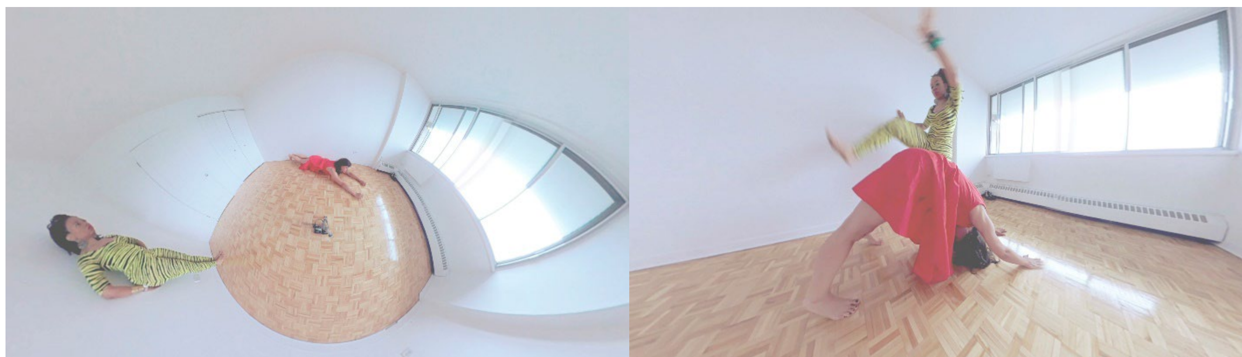
[168] I considered Marsha Pearce's question around Caribbean futurity in dialogue with American sociologist Mimi Sheller's notion of "island futuring and defuturing" with regard to the Caribbean's vulnerabilities to the effects, environmental and economical, of climate change. Building on the evocative potential that tidalectics and *relation* brought to my creative process for *ISLAND* and *MYRa*, the role played by water in the context of insularity, both in Pearce's proposal and the geopolitical context outlined by Sheller, led me to research how other artists were exploring water in a postcolonial context. Sheller explains how climate change is affecting the Caribbean, placing further strain on its economy and resources since it relies on tourist economies which are jeopardized by environmental precarity. Mimi Sheller, "Caribbean Futures in the Offshore Anthropocene: Debt, Disaster, and Duration," *Environment and Planning D: Society and Space* 36, no. 6 (2018): 974.

Figure 1.15: *ISLAND* (version 1), remixed 360-video still, 2018.

Though my solo performances were not conceived with my alter-ego *whitey* in mind, the presence of my white female body buildt upon what *whitey* represented in my pre-doctoral projects. As the creation of *ISLAND* progressed, being able to work with these early solo 360 performances allowed me to question how I might render my likeness less prominent, yet remain mindful of the original content and the context within which I created it. In the performance featuring Ayana Evans's *Operation Catsuit* persona and *whitey*, our gestures of encounter were based on cues derived from our respective practices as we explored how the Black and white female bodies are read differently within the same spaces and cultural contexts. Although Evans was receptive to how *whitey* operated in a Caribbean context, this 360 performance, created in Montreal, explored our reactions to each other's presences in a North American context and within a 360 field of vision. The piece acknowledges *whitey*'s disruptive presence, but is more about the relationship between our bodies in an empty white room. We asked viewers to consider how they would react to each of our characters if they were with us in the space. In the third and only Caribbean-based performance, Tauliaut and his collaborators also engage with the frame of the 360 video camera. As the performers move about the field of view, they invite us to consider what their characters represent, what their gestures of encounter could mean amid this group of Black and white bodies, performing on an island where plantation slavery ended in 1848 and which remains under French jurisdiction (Martinique has not become an independent nation).



Figures 1.16 and 1.17: Ayana Evans with Olivia Mc Gilchrist, *ISLAND*, 360-degree video (performance video stills 0102), 2018.

In the second and third versions of the *ISLAND* VR experience, I aimed to move away from the representational qualities of the 360 video lens and to point, instead, toward Glissant's "right to opacity." In version two, I combined all my 360-video performances, adding Corbett's experimental sounds and audiovisual collage of bright colours and nodes of text. In version three (presented at MUTEK in Montreal, in 2019), the now-abstracted 360 videos blended into the original 3D landing space more seamlessly than had the geometrical shapes in versions one and two. Building the final version of *ISLAND* and working with new tools while creating *MYRa VR* (2019) enabled me to reconfigure my objectives, using the presence of bodies captured with 360 video as they became less recognizable through digital manipulation.

1.3.1 Opacity / merging together / opaque subjects as hybrid

Turner's painting recalls the Zong massacre of 1781,[169] wherein a British slave ship captain ordered his crew to throw 133 enslaved men, women, and children, considered human chattel,

[169] The *Zong* massacre was the subject of the legal case *Gregson v. Gilbert*, heard in the London courts (Guildhall and later Westminster Hall) in 1783. In this proceeding, the slave-ship-owning syndicate (Gregson) disputed the maritime insurance claims of the *Zong*'s insurers (Gilbert) for the loss of slaves as goods. The insurers lost. The *Zong* case became famous due the nature of the dispute at a time when both European and American consciousness regarding the slave trade was shifting and more people were in support of abolition. The case also involved major figures within the British legal system. In the court, the judge was Lord Mansfield, the Lord Chief Justice who revolutionized English commercial law; while the lawyer representing the *Zong*'s insurers was Granville Sharpe, an abolitionist who paved the way for emancipation after Olaudah Equiano, the formerly enslaved writer and abolitionist (who later published his autobiography, *The Interesting Narrative of the Life of Olaudah Equiano, or Gustavus Vassa, the African*, in 1789), brought the case to Sharpe's attention. Although the inherent humanity and

overboard. The massacre took place at the peak of British slave trading.[170] The reference to the *Zong* massacre in *The Slave Ship* underlined the importance of shipping for the British Empire's transatlantic slave trade, to which Akomfrah's and Perry's works also refer.

Akomfrah's *Vertigo Sea* portrays a lone Black figure, the formerly enslaved writer and abolitionist Olaudah Equiano (1745–1797), in empty, evocative seascapes. In this three-channel video work, the channels representing a kind of triptych, the figure of Equiano is at the centre of a network of representations and situations which transcend the limitations associated with Blackness during his own lifetime. His multi-temporal figure "builds on that precedent, defining an innovative cinematic methodology to endow the past, present, and future with new meanings."[171] Moving back and forth across the times and spaces of Black Atlantic histories, *Vertigo Sea* allows viewers to consider multiple events and timelines alongside each other and juxtaposes documentary footage with staged cinematic tableaux wherein lone figures contemplate cloudy seascapes. American art critic T. J. Demos points to the evocative power of Akomfrah's cinematic approach, particularly the juxtaposition of different types of images, connected through themes of water and exploitation. In *Vertigo Sea*, water is presented both as a natural environment and a human-made one, with references to the Anthropocene and the whaling industry alongside references to the slave trade, the contemporary refugee crisis, and other violent histories connected to the ocean. The three-screen installation allows viewers to form their own associations as to the various types of footage presented, while questioning notions of the sublime associated with the sea: life and death, beauty, violence, the exotic, and the dangerous.

Sondra Perry's multimedia installation *Typhoon coming on* at London's Serpentine Gallery[172] draws from the art historical canon by referring to Turner's *Slavers Throwing overboard the Dead and Dying – Typhon coming on.* For a video projection covering a large

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agency of enslaved people was only recognized in the context of commercial law, the verdict did challenge the legitimacy of chattel slavery by ruling against the objectification of enslaved people. It also exposed the inner workings of both maritime law and insurance practices to a wider public.

[170] The practice of slavery did not end then, as competing European nations were still involved in the trade and American planters fought to maintain it until it was abolished there in 1865.

[171] T. J. Demos, "On terror and beauty: John Akomfrah's Vertigo Sea," *Atlántica*, July 6, 2021, https://www.revistaatlantica.com/en/on-terror-and-beauty-john-akomfrahs-vertigo-sea/.

[172] The artist was aware of the potentially uncomfortable circumstance of exhibiting her first solo show in England, which she refers to as "the colonizer's land," and with Turner's painting located close by at the Royal Academy of Arts.

section of the gallery wall, Perry used a tool called Ocean Modifier,[173] from the open-source 3D application Blender, applying it to an image of Turner's painting and transforming the still image into a brightly coloured, monochromatic moving-image work. In a work titled *TK (Suspicious Glorious Absence)*, which forms part of *Typhoon coming on*, a close-up view of the artist's skin is projected across an entire wall alongside a monitor showing bodycam and protest footage intercut with images of the artist's family. Art critic Hettie Judah[174] notes the juxtaposition of the artist's skin in extreme close-up, which to her refers to representational abstraction in art, and suggests that the work is in dialogue with what Perry refers to as the "political abstraction"[175] of marginalized people, something she perceives as impacting them negatively. For Judah, Perry's visual abstraction is one that points toward hurt.

Researching *Typhoon coming on*, *Vertigo Sea*, and *APEX*, alongside an understanding of Édouard Glissant's "right to opacity" as a force for liberation, influenced the creation of my artworks conceptually and aesthetically. Drawing from this research, the visual plane of my VR experience moved away from the water's surface. This had a particular effect on the visual outcome: a move toward merging subjects and water together, building upon transcultural studies scholar Andrea Gremels's understanding of Glissant's opacity as an acceptance of something we can not easily comprehend:

> As an antonym of transparency, this notion questions the possibilities of intercultural communication. In a multirelational world, recognizing difference does not mean understanding otherness by making it transparent, but accepting the unintelligibility, impenetrability and confusion that often characterize cross-cultural communication…. Opacity thus tries to overcome the risk of reducing, normalizing and even assimilating the singularities of cultural differences by comprehension.[176]

I focused my visual exploration on working with techniques that made it seem as though the subjects merged into the watery space. Where the first version of *ISLAND* (2018) featured cinematic sequences with Black and white subjects, my research on visual representations of

[173] The Ocean Modifier tool is intended to simulate deep ocean waves and foam. It generates a simulated, deforming ocean surface, with associated texture used to render the simulation data.
[174] Judah, "In Sondra Perry's New Show."
[175] Perry, quoted in Judah, "In Sondra Perry's New Show."
[176] Gremels, "Opacité/Opacity (Édouard Glissant)."

Blackness and whiteness in the context of the transatlantic slave trade contributed to a decision to move further away, with each iteration, from photorealism.

In the third version of the *ISLAND* VR experience, I combined 360-video stills with visual effects using shaders[177] to blend both Black and white subjects into the virtual waves of the VR experience. For *MYRa VR*, I integrated 360-video stills from my solo performance in Tadoussac with video stills of moving water to create a pared-down, watery 3D space. *MYRa VR*'s virtual collage took VR viewers through a sequence of irregular moving shapes, potentially disorienting for those less accustomed to the experience of wearing a VR headset. Aware of this possibility, I removed the interactions that I had created for *ISLAND* and designed *MYRa VR* so that viewers could experience the work along a more defined trajectory.[178]

Working with water shaders allowed me to blend my 360 videos into VR's 3D world in new ways. By applying the shaders to a handful of stills from my original 360-video performances, the existing three islands remained present in VR, but, in parts of the experience, the VR viewer's visual field was surrounded by abstracted versions of these videos, which blended into the original 3D landing space more seamlessly than it had with the geometrical shapes. In turn, this allowed me to adapt the single-channel video version of *MYRa* into a VR artwork.

By experimenting with my subject's literal levels of opacity and visibility in this way, I explored how the one (the subjects) extends into the other (the watery space), blurring the distinction between them deliberately. Merging them together resulted in rendering subjects less visually "intelligible," in order to visualize the hybridity within Caribbean identities and gesturing toward Caribbean futurity. The aim here, however, was not to propose a colourblind approach to virtual space via Glissant's *opacité*; rather, I explore how this "unintelligibility" can highlight the tension of my own positionality in making this work, since, unlike Akomfrah, Jafa, and Perry, my whiteness affords me the option to stay away from addressing my racial heritage. And although I read Glissant's notion of opacity as liberatory in the sense that it refuses reductive racial and cultural categorizations, this move toward rendering my subject matter less clear stands in contrast to the bulk of my practice, which engages with visual realism.

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[177] Shaders are short computer scripts that contain the mathematical formulae and algorithms for calculating the colour of each pixel rendered, based on the lighting input and the material configuration.
[178] The VR viewer's point of view was now driven by an animated 3D camera, instead of following navigation prompts and using hand controllers.

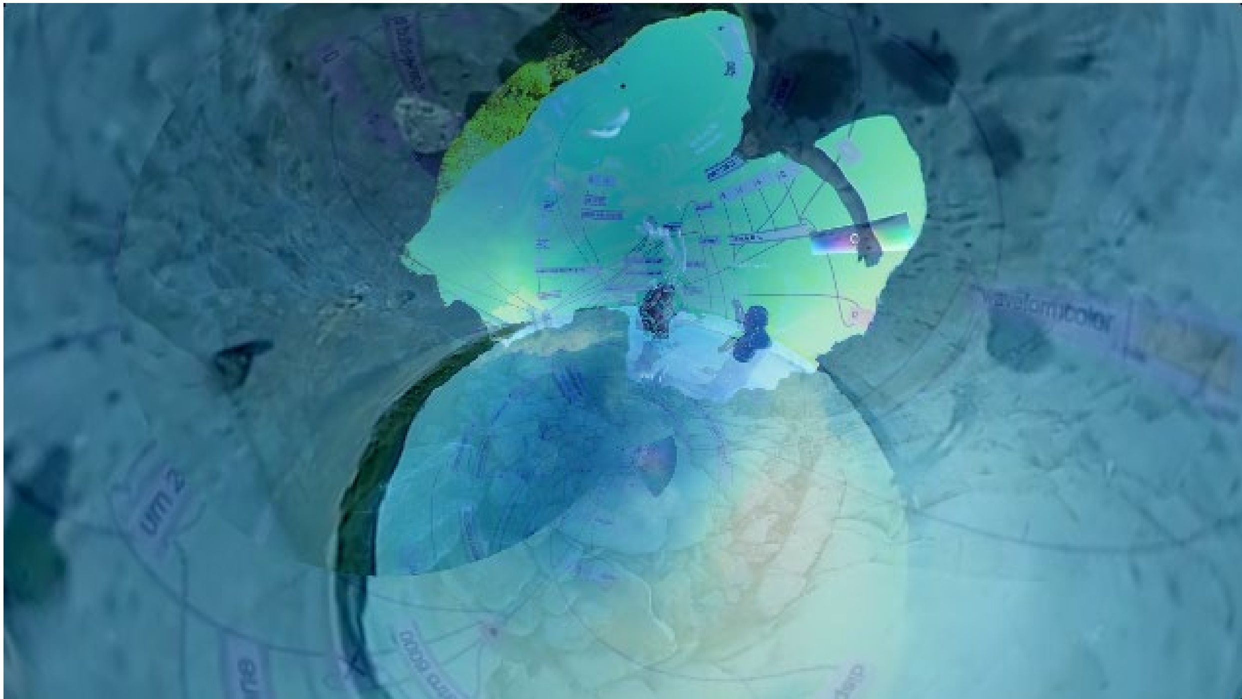

Figure 1.18: *ISLAND* (version 3), screen capture, 2019. Henri Tauliaut's group performance blends into the 3D scene.

In contrast to Perry's reference to abstraction pointing toward hurt, my move toward rendering subjects less recognizable was motivated by my experience as a visibly white person of Caribbean heritage and in order to explore creative strategies for evoking the complexity of what Glissant refers to as opacity in relation to Caribbean identities. One such strategy was to consider the field of vision in VR as a space for formal artistic experimentation in regard to the Caribbean landscape, which is often visualized through tropes. In this way, I began merging my subjects and the water through digital layering and by varying opacity levels within the infinite field of view of the 3D canvas, something I perceive as abstract in comparison to the visual languages of painting, photography, and installation art in which I was trained.

I was also interested in the potential of merging together different visual planes to gradually erode their realism while using tools designed to simulate photorealism or what some refer to as "high fidelity" VR.[179] I do not claim that the work evokes Glissant's *opacité*

[179] Stuart Gilson and Andrew Glennerster, "High Fidelity Immersive Virtual Reality," in *Virtual Reality: Human Computer Interaction*, ed. Xin-Xing Tang (n.p., 2012), https://doi.org/10.5772/50655.

successfully; rather, it proposes a space for dialogue around artistic creation using VR tools with Brathwaite's tidalectics and Glissant's "right to opacity," and gestures toward Pearce's enquiry into how visual artists from the Caribbean portray the region's futurity.

Akomfrah's, Jafa's, and Perry's artworks also made me reconsider how to articulate my position of allyship through the means of creation. Akomfrah and Jafa explore a range of archival images of Black suffering and death to highlight the systemic nature of violence against Black people and the connections between this and the racialized legacies within the history of visual representation. Their innovative approaches to visualizing the impacts of racial violence through immersive video installation led me to reconsider the whiteness of my presence alongside Black subjects in the work, especially since I began manipulating the images so that my subjects became enmeshed in the watery environment.

As a visual artist who engages with issues of race and gender, I created this work while following the global conversation around the ongoing, systemic violence directed toward Black people and people of colour in the United States and around the world, a conversation amplified from 2020 onward following the murder of George Floyd, an African-American man who was the victim of police brutality. From 2020 to 2022, I featured my own body in the work, and then that of another white, female subject, for specific reasons: the restrictions accompanying the COVID-19 pandemic limited the scope of in-person collaborations, so I did not engage further collaborations with Black artists at this time, to avoid placing additional pressure on these artists to engage with race and representation within this particular moment.

Being visibly white, born to a white mother and a mixed-race father, I benefit from white privileges across all my creative and academic pursuits. I do not suggest that this project can transcend my positionality. Rather, the project aims to trouble the way in which a VR experience, created from a position of allyship with Black people and people of colour, might open spaces for dialogue as to how Blackness and whiteness are re-inscribed within immersive worlds as the creation of these worlds becomes more accessible to visual artists.

1.3.2 Creating within a community of voices

Paul Gilroy establishes links between Black musical traditions and the Black Atlantic histories and cultures that shaped them as they travelled in multiple directions, throwing into question the notion of an authentic cultural form. I draw a connection between this aspect of Gilroy's theory

and one of Arthur Jafa's creative strategies: "Black Visual Intonation," or BVI, as Black cinematic practice.[180] The editing style that Jafa employed for *APEX* is what drew me to study his work and led me, subsequently, to research how he devised this technique through BVI.

Jafa describes BVI as: "the use of irregular, nontempered (nonmetronomic) camera rates and frame replication to prompt filmic movement to function in a manner that approximates Black vocal intonation"[181] and as "'Black cinema with the power, beauty, and alienation of black music.'"[182] Jafa's objective with BVI is to place the experience of contemporary Black life at the centre of the filmmaking process.

As a contemporary work of film montage, Jafa's *APEX* works with archives covering an array of themes. Through the re-appropriation of hundreds of images taken by others, *APEX* focuses on the historical development of the racially biased photographic and cinematographic frames of Western visual aesthetics and popular culture. In *APEX*, the editing technique used to combine approximately seven hundred still images situates one image after the next, with a gradual dissolve imposed between sequences (here, a sequence is a single frame running for a few seconds). The pacing and the duration of the blends between the images remain consistent, but the repetitive and rhythmic nature of the edit distances it from a film with shots of variable lengths.

Although the film shines a light on the systemic nature of anti-Black racism, *APEX* also contributes to questions regarding the "authentic" voice or talent, the "unique" expression, and the attribution of an artwork to a single artist as opposed to a community. Before becoming a film, *APEX* was a digital file on Jafa's computer containing hundreds of images, which had been digitally transferred in turn from the artist's physical photo albums. Jafa collected his images over a long period of time, a process he described in his artist's presentation for MIT's Art,

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[180] In an interview with Swiss curator Hans Ulrich Obrist, Jafa describes key notions that contextualize his film practice, namely his use of editing images and sound to produce what he refers to as "Black visual intonation." Arthur Jafa and Hans Ulrich Obrist, "Arthur Jafa and Hans Ulrich Obrist in Conversation," Los Angeles, 2016, p. 6. Jafa presents the latter to Obrist in the context of the collective vision that Jafa had shared with his collaborators Malik Hassan Sayeed and Elissa Blount-Moorhead: "Our continuing mantra is: how do you make a Black cinema with the power, beauty and alienation of Black music?" (p. 4). Jafa evokes the deliberate creation of a "contextual dissonance" (p. 4), which is when elements in a film are placed in a "a context that didn't generate it." (p. 4). The Jafa/Obrist conversation is available via Wayback Machine: https://web.archive.org/web/20191031153050/https://www.serpentinegalleries.org/files/downloads/arthur_jafa_in_conversation.pdf.

[181] Arthur Jafa, "69," in *Black Popular Culture: A Project by Michelle Wallace*, ed. Gina Dent, 249–54 (Seattle: Bay Press, 1992).

[182] Jafa, quoted in Tina Marie Campt, *Listening to Images* (Durham, NC: Duke University Press, 2017), 1.

Culture and Technology program.[183] Two of his close friends and collaborators, filmmakers Malik Hassan Sayeed and Khalil Joseph, imported Jafa's image file into a digital editing application, combining his existing sequence of stills with a soundtrack: a track called "Minus" from the album *Inland Empire*,[184] by Detroit African-American techno producer Robert Hood,[185] considered one of the founders of the minimal techno genre.[186] Jafa describes Sayeed and Joseph's effort as an example of "passing back and forth between one another." Jafa asserts his belief that for "transformative art" to happen, collective effort is required: "It always happens in discourse, in relation, in exchange."[187]

The realization of such an ethos within *APEX*, and in Jafa's wider œuvre, is recognized by Canadian curator and screen theorist Laura Marks[188] and American feminist and Black studies scholar Tina Campt,[189] who perceive the liminal space occupied by the film within media practices as a productive one, which permits the work to suggest a wider collective creative project. Marks describes *APEX* as being in dialogue with Édouard Glissant's philosophy of relation, which she perceives as a "truly 'American' philosophy." As Marks explains, "the effect of Jafa's visual experiments is to emphasize that images, like people, arise from a relational field that draws in both history and the viewer."[190] She also draws further connections between Glissant's philosophy and Jafa's films, linking together their common interests in distinguishing

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[183] Arthur Jafa, "Arthur Jafa, APEX_TNEG," MIT Program in Art, Culture and Technology, Cambridge, MA, February 25, 2013, YouTube video, 01:50:08, https://www.youtube.com/watch?v=TUBm2_v5RUw&t=5039s./.
[184] Robert Hood, "Minus," track 2 on *Internal* Empire (Tresor, vinyl LP), released February 1994.
[185] Born in 1965 in Detroit, Michigan, Robert Hood is an American electronic music producer and DJ currently based in McCullough, Alabama. A founding member of the influential Underground Resistance collective, with Mad Mike Banks and Jeff Mills, Hood is known as one of the founders of Minimal Techno. In 1994, Hood founded the minimal techno label M-Plant, in Detroit, the same year his album *Internal Empire* was launched. He has released music under various names: Dr. Kevorkian, Hood Scientific, Inner Sanctum, The Mathematic Assassins, Monobox, and The Vision. He is currently collaborating with his daughter, Lyric Hood, on a project titled *Floorplan*.
[186] Jafa's inclusion of Hood's soundtrack was important for the former's project of "Black Visual Intonation" as Black cinematic practice. Together with other prominent figures of second-wave Detroit techno such as Jeff Mills, Hood had founded Underground Resistance (UR), a Detroit music collective. UR developed a distinctive minimalist sound and, in the context of Reagan-era inner-city economic recession, a militant political and anti-corporate ethos geared toward lower-income African-American men. Promoting experimentation and self-expression through electronic music, UR artists made sounds using various then-current and "retrofuturist" technologies in a city where post-industrial automation had rendered the human workforce obsolete.
[187] Jafa and Obrist, "Conversation," 10.
[188] Laura Marks, "'We will exchange your likeness and recreate you in what you will not know': Transcultural Process Philosophy and the Moving Image," in *The Anthem Handbook of Screen Theory*, ed. Hunter Vaughan and Tom Conley (London: Anthem Press, 2018).
[189] Tina Marie Campt, "Black visuality and the practice of refusal," in *Women & Performance: A Journal of Feminist Theory* 29, no. 1 (2019): 79–87.
[190] Marks, "We will exchange," 124.

the proposals of African-American and Caribbean voices while advocating for collective approaches to creation: "As Glissant argues, the more the particulars are free from dependency, the more relation exists."[191]

In my research project, I am the primary author, but its iterative nature has allowed me to explore the potential of co-creation and collaboration in different ways across its iterations. Working at a greater scale and with more collaborators than I do, Jafa expresses a belief in the necessity of collective effort—a quality that *APEX* exemplifies—for "transformative art" to emerge. Created in an academic framework—a different framework from Jafa's—each iteration of my project was conceived in relation and exchange with my theoretical research and with other artworks engaging with themes present in my project. I make no claim that my work is transformative, but I do assert that it was created within a community of voices and practices with similar objectives.

1.4 *virtual ISLANDs*: Performing Submersion

1.4.1 Final artistic intentions / A departure

In summarizing the overarching trajectory of *virtual ISLANDs*, the iterations described so far have explored different approaches to bringing submerged histories—drawing from notions of tidalectics and *opacité*, through the lens of Caribbean futures—into dialogue with the immersive possibilities of VR through a dual reading of submersion as historical and technological.

The final version is distinguished from the earlier iterations in how it moves away from engaging with submerged histories and Caribbean identities to focus, instead, upon experiential aspects of submersion through a gallery installation in which a white performer's dancing body becomes part of a watery space. Although in *ISLAND* and *MYRa VR* the digital renderings through which the viewer is transported treat water as a space of history, creation, and interpretation, the focus in *virtual ISLANDs* is on inviting the VR viewer to explore the possibilities in navigating through a 3D world while witnessing a performance in which the subject is portrayed as actually moving through the water.

[191] Ibid., 134.

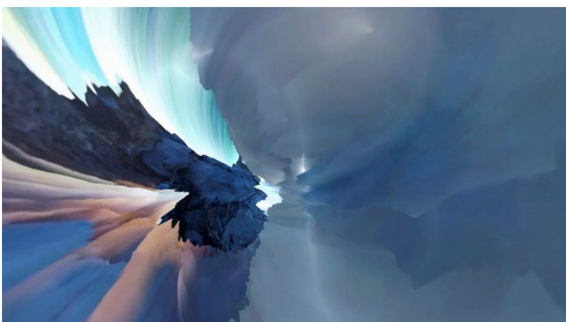
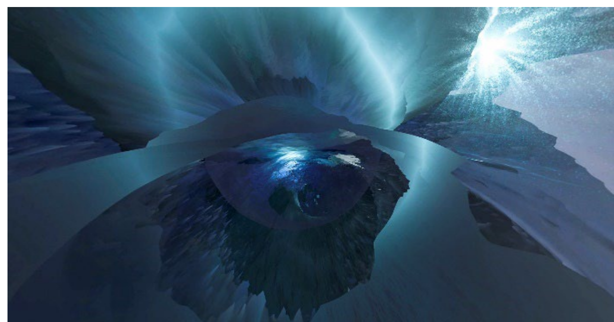



Figure 1.19: *ISLAND* (version 3), game engine screen capture 03, 2018.
Figure 1.20: *MYRa*, VR (video still 05), 2019.

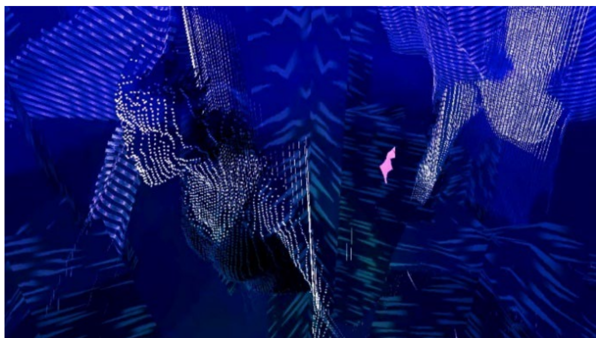
My work is conceived, first and foremost, with a Caribbean audience in mind, alongside a North American and European audience; that is to say that the water should feel like a space for exploration rather than focus primarily on the Black Atlantic's "*heavy water*."[192] In this iteration, my choice to collaborate with a white female performer was motivated by reasons outlined above: the intention not to ask Black subjects to spend more time working with issues of race and representation than they were already doing in the cultural context from 2020 onward.

In planning the next steps for my practice, my hope is that the different approaches explored across my works' various iterations might foster dialogue on the possibility of creating VR worlds with Caribbean-based creators. In relation with their perspectives, I would welcome the opportunity to continue investigating the notion of Caribbean futures.

In *virtual ISLANDs* (2022), I used VR to depict a body extending into virtual water. The audience is invited to reflect on the distancing effect created between their virtual engagement with the performer's gestures in VR and the physicality of their experience within the gallery installation. When I began working with volumetric video in early 2020, I planned to use it for two purposes: first, to film new performances and integrate them into the VR experience, replacing the 360 videos created for the previous iterations; and second, to create a stage upon which audiences would be filmed in 3D before putting on the VR headsets, permitting the creation of an individual virtual avatar for each viewer. In the VR experience, viewers would experience the 3D world I created, including the pre-recorded performances, and, upon gazing downward at their hands and legs, would see the virtual avatar created earlier in a manner similar

[192] Bachelard (1983), quoted in DeLoughery "Revisiting Tidalectics," 95 (author's emphasis).

to how videogames offer players a "skin" within which to experience the game.[193] During this exploratory phase, I used volumetric capture as a prototyping device and filmed myself performing small gestures evoking movement through water. I then created a proof-of-concept installation,[194] complete with VR headsets and a video installation with a green-screen background against which to film viewers using volumetric capture and then create their avatars. However, the necessary technical parameters needed meant my plan was not feasible at this time.



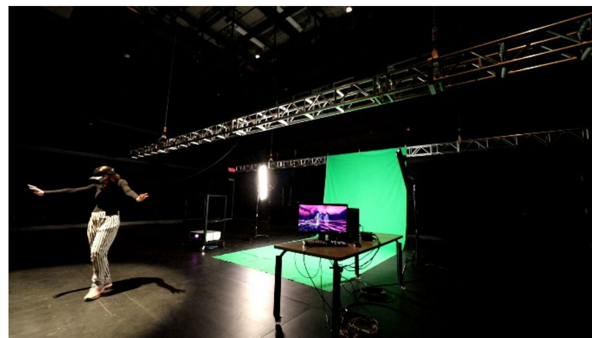


Figure 1.21: *virtual ISLANDs* (proof of concept), game engine screen capture with volumetric video self-portraits, 2020.

Figure 1.22: *virtual ISLANDs* (proof of concept), VR and video installation with green screen capture, 2020. Presented at the Black Box, Concordia University, Montreal, 2020.

Yet, I succeeded in testing the physicality of sonic immersion provided via a spatial sound installation, in collaboration with Newfoundland electroacoustic composer Kasey Pocius,[195] a concept we developed further in 2022. As my proof-of-concept had not achieved the distancing effect I was aiming for, I focused instead on planning a choreographed performance wherein the performer's gestures would blend into the water, as well as a VR interaction system with which to navigate smoothly about the 3D world.

[193] In a first-person point of view, players see their avatars' hands as they manipulate 3D objects in the game and can see their avatar's likeness in mirrors or other "reflective" surfaces. In the third-person view, players see and control the full figure of their avatar.

[194] Originally intended for public presentation in Concordia University's Black Box, December 2020.

[195] Alongside my first experiments with volumetric video, I began a collaboration with electroacoustic composer Kasey Pocius. Their experience with sound spatialization, in both physical space and through digital interfaces, combined with their interest in the acoustics of water for the human ear led to the creation of a multilayered sound composition that engaged with the idea of submersion. Originally from St. John's, Newfoundland, Pocius is a genderfluid intermedia artist based in Montreal. They are particularly interested in multichannel audio works and spatialization, and how this can be used in group improvisatory experiences. Pocius holds a BFA from Concordia in electroacoustic studies and is currently pursuing an MA in music technology at McGill under the direction of Dr. Marcelo M. Wanderley.

1.4.2 *Exploring verticality*

Until 2020, the iterations of my projects' VR experiences offered viewers two forms of engagement: first, to move among virtual islands; and second, to remain still amid a dynamic watery space. In *ISLAND* (2018–19), VR users can move between three diamond shapes that function as portals to 360 videos, or among more abstracted visuals based on these videos. In *MYRa VR*, viewers cannot choose how they move in 3D space; instead, they are transported through a virtual tidal wave.

As installed at TOPO in Montreal, in January 2018, *ISLAND* included two video projections framing the space in which viewers accessed the VR experience. This placed the VR user in the centre of the installation, while other viewers could watch the video content through the video screens. Building on this first version, *ISLAND* as installed at Ars Electronica, in September 2018, included a freestanding, approximately nine-foot-tall vertical projection screen. The VR user was positioned between this screen and a wall-mounted forty-two-inch monitor.

In each iteration of *ISLAND*, I integrated 360 videos into a 3D scene to create an interactive experience via an executable file[196] for VR headsets. This format meant that VR viewers needed to operate hand controllers and understand navigation prompts within the 3D world. Realizing that art audiences were generally unfamiliar with how to do this in VR, *MYRa VR* was designed as a contemplative experience with no interactions. These iterations of my project offered viewers different forms of engagement entangled with my research questions. In *ISLAND* (2018–19), viewers navigate between three virtual islands in a VR experience and video installation. In the live installation of *MYRa*, the audience is invited to alter the work by moving within the projection space. In *MYRa VR*, viewers are automatically transported through a virtual tidal wave that surrounds their field of view from beginning to end.

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[196] An executable file contains all the interactions available in play mode in VR.

Figure 1.23: *virtual ISLANDs*, VR experience and installation, 2022. Presented at Coeur des Sciences, Montreal, 2022.

The VR interaction system for *virtual ISLANDs* was designed in tandem with choreography that Newfoundland aerialist Keely Whitelaw[197] and I co-created as well as the design for the physical installation. In VR, viewers can move along all 3D axes within the aquatic scene to navigate around Whitelaw's performance. In the gallery, the physicality of the space matters: the VR user is at the centre of a stage composed of a modular circular aluminum

[197] Keely is an aerialist, coach, and researcher currently based in Montreal. She honed her skills in St. John's, Newfoundland, before spending several years working with artists in Toronto and later moving to Montreal to pursue an interdisciplinary doctorate in the humanities at Concordia University. There, she revisits threads from her master's research concerning the Platonic *chora* as a necessary condition of the relation between appearances and their corresponding ideals; via this research she considers how an aerial practice forms a unique environment in which to explore the chiasmic relationship of a body immersed in an environment. This research-through-practice is fertile ground for exploring phenomenological questions concerning the experience of the continuity between body and space, the infinite topological surface of the mobius structure of the real and virtual, and how one might describe the postural self-organization of the null body so as to delve into questions of how acrobatic bodies occupy space and co-create points of resistance with the immediately surrounding space. Keely is a graduate of the coaching program at l'École National de Cirque and a current participant in En Piste's circus dramaturgy lab, where she investigates dramaturgical techniques and tools that may be used to create and disseminate circus presentations.

structure above their head and two fabric banners hanging from the circle down to the floor, creating a semi-enclosed space large enough to accommodate their range of movements in VR. Building on the project's previous iterations, my artistic goal was for visitors to feel that their movements in the 3D world were a part of an installation in a gallery setting, while inviting them to consider the distancing effect created between their engagement with the performer's gestures in VR and their presence in the gallery. The semi-enclosed space provided more privacy while in VR than my previous installations. I hoped this would be conducive to viewers feeling more comfortable as they moved their arms up and down, or side to side, using the VR controllers to navigate around the performance. At the same time, the sonic immersion of the sound installation by Pocius was designed to reinforce the viewer's sense of physical presence in the gallery.

1.4.3 Performing submersion

My collaborator Keely Whitelaw's PhD research interests in phenomenology, combined with her professional aerial performance practice, supported our goal of creating a performance evoking a responsive, nimble experience of being underwater in a VR experience. Once we finalized the choreography, Whitelaw designed a feasible method[198] for me to capture her movements, using a ten-sensor volumetric video setup, from all angles. We recorded a sequence of gestures inspired by swimming while drawing on her aerial performance repertoire. Bringing this performance into the VR experience, viewers can observe Whitelaw's movements from any perspective and navigate around and among them. I also designed an interaction, requiring intentional movement toward the choreographed performance on the part of the viewer, to associate these reflections with the notion of agency, of a choice in individual orientation within a simulated version of an unfamiliar environment: being underwater. My hope is that this experience will lead viewers, albeit in a manner different from my previous iterations, to reflect on their connection to water. My role as the artist, as I see it here, is to suggest and invite viewers to reflect on my proposal, while allowing them to choose how they will engage with the prompts provided.

Conceptually, my goal in 2018 was to evoke the hybridity of identities as it relates to submerged histories, based on my experience and my earlier, Jamaica-based research and practice. Only in 2020 did my work feel closer to achieving this goal aesthetically, after I began

[198] We used a Weggsphere: a floor-based structure inspired by the aerial hoop on which Keely executes aerial movements without leaving the ground. See: https://circusconcepts.com/shop/circusconcepts-weggsphere.html.

working with volumetric video capture. Through the use of volumetric technology from 2020 onward, I was able to adjust the subject's visibility directly within my 3D world, such that water surrounds the viewer's field of vision, something I had strived for but not achieved until then. Instead, previous iterations explored the possible uses of 360-video capture and of combining series of 360-video stills with 3D effects, such as water shaders, to achieve the look I was going for: my subjects merging into the water. Using volumetric video, my subjects could now blend into the watery space continuously. Artistically speaking, in the tests I created in 2020–21, I considered how the representation of a body that moves in and out of visibility in an underwater world might be conducive, in new ways, to a reflection on the physical aspect of submersion, more so than my earlier iterations. The aesthetic possibilities of volumetric video prompted me to focus my project's final iteration on evoking the sense of physical submersion in a multimedia installation that combines a VR experience with a physical stage in a gallery setting. Although *virtual ISLANDs* (2022) remains in dialogue with previous versions inasmuch as they drew from Caribbean perspectives on cultural hybridity, this new experience proposes more open-ended reflections.

In 2020, my project's goals had also shifted in response to global conversations around ongoing, systemic anti-Black racism and violence, a discourse that the murder of George Floyd only amplified. In addition, my research around Black Atlantic contexts and on visual representations of Blackness in immersive multimedia installations, allowed me better to unpack how my positionality as a white artist evoking the Black Atlantic is problematic in and of itself. Although the early iterations of my artworks were aimed at cultivating a productive dialogue around these histories via a collaborative approach, as the project evolved I revisited this proposition and decided to create a final version in which an embodied experience of whiteness would take precedence. This approach renders my white privilege visible; this appeared to me to be a less problematic option than to claim to address issues of race without being in direct collaboration with Black artists at this stage of my project. Featuring another white, female subject in this iteration also serves as a nod toward the presence of my alter-ego, *whitey*. As a visibly white artist of white and mixed heritage, my decision was motivated by a desire to express my subjective engagement with the notion of hybridity in relation to submerged histories—an engagement which, in my case, is embodied via whiteness.

Figure 1.24: *virtual ISLANDs*, VR experience and installation, 2022. Presented at Coeur des Sciences, Montreal, 2022.

Featuring this performance in my VR experience both drew from and challenged my earlier reflections on the potential of immersive technologies as tools for exploring the representation of hybrid identities within post-colonial contexts. This iteration of my project has also provided an opening to new directions in my practice: Whitelaw's performance is both about physical submersion in water and the element of water itself, since the aim is that viewers should feel as though they can move through water in new ways. With this performance as the current focal point in my VR experience, my artistic intention is to evoke both the strength and the sensitivity of these gestures, while permitting viewers the freedom to navigate among the small particles that form a body in motion.

Appendix to Part 1 – Exhibitions by the Author

Exhibitions Featuring Iterations of My Doctoral Project

2017

• *Slick and Gritty: Performance is Alive*, curated by Quinn Dukes, Satellite Art Fair, Miami.

2018

• *ISLAND*, solo show curated by Michel Lefevbre, TOPO, Montreal.
• *VR HAM!*, 360/VR work for Magenta VR iTunes app (created by Deutsche Telekom, Germany).
• Ars Electronica Campus Exhibition, Hexagram student showcase presentation, Linz, Austria.
• Les Journées de la Culture (30 September), Terrebonne, Quebec.
• VR pitch session at FNC Pro (October 11), Festival du Nouveau Cinéma, Montreal.

2019

• *Imaginer les futurs numériques*, MUTEK Édition 20, Espace culturel Georges-Émile-Lapalme, Place des Arts, Montreal.
• *From Glissant Unfixed and Unbounded*, curated by Pamela Edmonds, Wanda Nanibush, and Catherine Sicot, Art Gallery of Ontario, Toronto.
• *The Bcc: Archive*, group exhibition curated by *Decoy Magazine*, Vivid Projects, Birmingham.
• *Decoy Magazine* (Vancouver), 360 video for *Bcc:* digital art subscription series.

2020

• *VRHAM! Hamburg*, curated by Ulrich Schrauth. VR exhibition presented in digital exhibition space provided by festival partner Museum of Other Realities (MOR).

2021

• *Seascape Poetics*, curated by Bettina Perez, Concordia University, Montreal. Exhibition organized by Concordia curatorial research group Beyond Museum Walls.

• *ULTRAMARIN*, curated by Ulrich Schrauth and Irina Tokareva, Stanislavsky Electrotheatre, Moscow.

• *Slowly Moving Through on Daata.art*, curated by Miriam Arbus, skyfinefoods gallery, Toronto.

2022

• *ULTRAMARIN*, curated by Ulrich Schrauth, Tana Art Space, Venice, and VRHAM!, Hamburg.

• *Symphony for the metaverse,* MEET Milan, curated by Giogio Vitale, Milan, Italy

2023

• *ESPACE V Underwater*, curated by Fanny Surzur and Alliance Française Vancouver, Oculus Applab.

• *Nouveaux environnements: Approcher l'intouchable*, group exhibition curated by Nathalie Bachand and produced by Molior, Le Livart, Montreal.

• *XR Landscapes*, MUTEK Forum Presentation, MUTEK, Montreal.

Exhibitions Featuring New Artworks Informed by My Doctoral Research

New artworks:

- *night dreams of water*, collaborative WebXR project, 2020–21
- *X-cosmos-X*, three-channel video work and WebXR experience, 2020–23

2020

• ChampdAction.LAbO, deSingel School, Antwerp (online).

• *Slow Tech* (with Black Quantum Futurism), curated by Natacha Clitandre, Studio XX, Montreal.

• *Galvanized Suns orbits 1, 2 and 3* (video screenings), Diasporic Futurisms, Toronto.

2021

• *Time Canvas Festival*, ChampdAction.LAbO, deSingel School, Antwerp.

• Symposium iX, Société des arts technologiques (SAT), Montreal.

• *Zurich Moves!*, exhibition with publication, curated by Cherry Davis, Zurich.

2023

• AlloAda online platform, created by AdaX, Montreal.

Part 2 – VR Empathy, Embodiment, and Black Feminist Performance Art

In Part 2 of this thesis, I claim that VR empathy remains oriented toward audiences who can access and afford VR technology; here, I am referring to Western audiences. By moving back and forth between techno-cultural considerations, Black studies, and feminist scholarship, I aim to trace cultural aspects of VR in practice and to read them back through past and present racial and gendered configurations. I study how bodies are represented in VR alongside how they are represented in performance art and popular culture to provide a context for my proposal to centre intersectional creation models engaged with Black futurity as a foundation for working and building in the medium of VR. I discuss embodiment in VR via the status quo view of the medium as a tool for empathy, drawing from psychological research and highlighting anti-racist perspectives on the danger of "virtuous VR" and the "automation of racial empathy."[199] Although these latter perspectives on VR empathy and the kind of VR empathy questioned in my artwork are not the same, and acknowledging the benefits that white privilege accords me across my creative and academic pursuits, I argue that these proposed creation models underscore how, in the cutting-edge media of VR (as, indeed, in all media), representation politics matter.

I study the work of VR early adopters in the medium's recent history: American VR director Chris Milk,[200] the Barcelona-based international collective BeAnotherLab,[201] and the

[199] Lisa Nakamura, "Feeling Good about Feeling Bad: Virtuous Virtual Reality and the Automation of Racial Empathy," *Journal of Visual Culture* 19, no. 1 (2020): 47–64, https://doi.org/10.1177/1470412920906259.
[200] Born in 1975, Chris Milk is an American artist, director, and technologist. He is co-founder, CEO, and COO of Supernatural, a popular VR fitness game; as well as founder and CEO of Vrse, a VR entertainment system; and of Within, launched as an online platform for cinematic VR. Milk has also gained recognition as a music video director, working with Arcade Fire, U2, Kanye West, and other international artists. He has received top industry awards for both his music video and commercial work.
[201] Founded in 2012 and registered as a non-profit cultural organization in Barcelona, BeAnotherLab is an award-winning media laboratory organized as an independent art-science research collective. They connect neuroscientific research experiments with media art to create participatory, interactive, and immersive experiences. Their two key systems are The Machine To Be Another and The Library of Ourselves. Each technology comprises a system and a methodology, and comes with a range of setups and modes of application. Their international team of transdisciplinary researchers includes Philippe Bertrand, Christian Betánzos, Christian Cherene, Norma Deseke, Daniel González, Daniëlle Hooijmans, Daanish Masood, Marte Roel, and Arthur Tres, their varied fields of expertise including cognitive science, psychology, interactive systems design, digital arts, computer science, social and cultural anthropology, cultural management, philosophy, and conflict resolution. All of the laboratory's works are published under the Creative Commons ShareAlike licence.

Brooklyn-based international collective Hyphen-Labs.[202] Where Chris Milk heralds the power of VR to cultivate social justice through VR storytelling, BeAnotherLab claims to promote an "empathetic society" and "human integration instead of alienation"[203] through the "Body Swap" component of their VR experience *The Machine to Be Another*, or *TMBA* (2013–present). For both Milk and BeAnotherLab, empathy is understood along similar lines as the Stanford Virtual Human Interaction Lab, or VHIL (mentioned in the Introduction), which describes VR empathy and perspective taking as "the ability to understand another's point of view."[204] In contrast, Hyphen-Labs challenges VR empathy with their VR experience *NeuroSpeculative AfroFeminism*, or *NSAF* (2017), which proposes speculative futures through the lenses of race, gender, and oral storytelling from an Afrofuturist and cyber-feminist perspective.

A premise of my argument is that American media and cultures are instrumental in setting global trends for VR production and consumption models, and that they also impact global histories of the body and of feminism. In February 2016, Beyoncé performed the single "Formation," from her album *Lemonade*, at the Super Bowl halftime show, leading to a controversy around the song's critique of police violence against Black people in the United States. Later that year, Donald Trump was elected president following a campaign in which he proclaimed himself as the "law and order" candidate.[205]

In January 2017, eighteen months after I began working with VR, Trump was sworn in and *NSAF* premiered as a multimedia installation in the Sundance Film Festival's New Frontier program.[206] While exploring the potentials and pitfalls of VR empathy through the work of Hyphen-Labs, Chris Milk, and other VR innovators, these events led me to pursue an analysis of Beyoncé's work alongside VR projects such as *NSAF*, as a means of thinking through what Lisa

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[202] Hyphen-Labs is an all-female collective working at the intersection of technology, art, science, and the future. Through their global vision and multidisciplinary backgrounds, Hyphen-Labs' members are driven to create engaging ways to explore planetary-centered design. They challenge conventions and stimulate conversations, placing collective needs and experiences at the centre of evolving narratives. The Lab's co-founders are Carmen Aguilar y Wedge (Creative Director, Civil Engineer) and Ece Tankal (Creative Director, Architect). For NSAF, their main collaborator was Ashley Baccus (Speculative Neuroscientist, Creative Director).
[203] BeAnotherLab, "Body Swap," n.d., accessed January 10, 2020, http://beanotherlab.org/home/work/tmtba/body-swap/.
[204] Stanford University VHIL, "Empathy."
[205] Dan Roberts and Ben Jacobs, "Donald Trump Proclaims Himself 'Law and Order' Candidate at Republican Convention," *Guardian* (UK), July 22, 2016, https://www.theguardian.com/us-news/2016/jul/21/donald-trump-republican-national-convention-speech.
[206] Sundance Institute, "New Frontier Showcases Storytelling's Future at 2017 Sundance Film Festival," sundance.org, December 1, 2016, https://www.sundance.org/blogs/news/new-frontier-projects-and-films-announced-for-2017-festival/.

Nakamura refers to as the perils of "virtuous VR" at a time when white supremacist narratives were on the rise in America. I then decided to study two works by Beyoncé which challenge the latter narratives, alongside artworks by Adrian Piper, as examples of art that proposes intersectional feminist models—models upon which I might build using the medium of VR. My arguments draw from intersectional feminist and Black writers, within and outside the theoretical canon, on the salience of contemporary and historical works by Beyoncé and Piper.

One such writer is performance studies scholar Uri McMillan. I draw from McMillan's "re-render(ed)" notion of the avatar while referring to "both older and more contemporary understandings of avatars," since, to my mind, the emerging space of VR holds the potential to combine intersectional models of feminist image making articulated through feminist performance and avatar production.[207]

I further propose that centering intersectional feminism and feminist performance in VR by reading how these models operate in media texts and artworks can support a careful thinking through of VR's promise to offer new representations of the self and new ways of relating to the representations of others.

2.1 "The ultimate empathy machine"

> "Empathy—the ability to share the feelings of others—is fundamental to our emotional and social lives."[208]

2.1.1 "The ultimate empathy machine" versus the precariousness of empathy

American VR film director Chris Milk has referred to VR as a new storytelling device that can heighten empathy between people by fostering emotional connections through an embodied experience of the story at hand. Although earlier modes of storytelling were embodied (e.g., orature, song, theatre, ritual, etc.), comparable mediatized forms of storytelling like film and video also involve embodiment, but in ways different from VR. In his 2015 Ted Talk, titled "How virtual reality can create the ultimate empathy machine," Milk suggests that VR has the

[207] Uri McMillan, *Embodied Avatars: Genealogies of Black Feminist Art and Performance* (New York: New York University Press, 2015), 218.
[208] Boris C. Bernhardt and Tania Singer, "The Neural Basis of Empathy," *Annual Review of Neuroscience* 35, no. 1 (2012): 1–23, https://doi.org/10.1146/annurev-neuro-062111-150536.

"potential to actually change the world" as it is a technology with the power to "make us more human" by connecting us through compassion and empathy.[209] Looking beyond Milk's proposal, however, if those who design virtual reality experiences benefit from privileges associated with being white or male, or being deemed an authority on the themes depicted, then how do patriarchy, colonial constructs of whiteness, and Western cultural hegemony operate within such simulations, even as they are assumed to produce empathy toward those we see or embody virtually?

In thinking about how VR is oriented toward the white body and embodiment, I read from African-American studies scholar Saidiya Hartman's perspective on empathy in a slave society context, to highlight the precarity of this notion, when the context in which it is employed is based on structural inequality. In her book *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America*, Hartman discusses empathy in an analysis of the implications of abolitionist John Rankin's description, in a letter to his cousin, of the subjection of an enslaved subject.[210] In the imagined scene, Rankin placed himself and his family in the position of the enslaved person being tortured to cultivate empathy on the part of his cousin, a slave owner, for the sake of the abolitionist cause. Hartman's critique of empathy relates to whose voice is associated with a declaration of empathy, in this case that of Rankin. Hartman problematizes the precariousness of empathy: the ground of this critique is that empathy becomes performative without serving those on whose behalf it is solicited; this performativity makes empathy precarious. Reading from Hartman, my critique of VR as a machine for empathy concerns its tendency to rely on similar forms of performativity.

Although I consider VR a tool with the potential to change how we perceive and engage with the world, I am critical of the notion that VR technology can afford the possibility of empathy while proposing a singular, solipsistic conception of the self. Instead, if we understand VR empathy as context-dependant, while also accepting that those who aim to elicit VR empathy should examine and declare the culture that surrounds its production and intended effect, then it may be that racial, gendered, and colonial formations of identity, past and present, can indeed be explored in meaningful ways through this "machine." I refer to the turn to empathy in VR by

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[209] Milk, "How virtual reality."
[210] Saidiya V. Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America* (New York: Oxford University Press, 1997).

considering different perspectives related to VR and empathy, from the status quo perspective of Chris Milk to the kind of critique advanced by Hartman. Although I recognize the unique potential of VR's power to simulate "real" experiences (the VR headset can situate the viewer in a first-person perspective, as opposed to an observational one, by simulating the embodied experience of "being there" via a virtual projection), I argue for an understanding of empathy within a specific sociocultural context. Rather than point unilaterally to an easy, inter-subjective relation, VR may also gesture toward the limits of what is understood as embodied knowledge, and how that knowledge can be shared.

Since I consider visual representation in VR as functioning on a continuum of media technologies, including photography and film, both of which have been shaped around the systemically racist, anti-Black biases of Western visual cultures, I argue that the status quo around VR empathy has been likewise influenced by these histories. American writers Tina Campt[211] and Javon Johnson[212] discuss these media histories and how they have affected contemporary life in America, focusing on the potential for a paradigm shift toward the representation of Black joy over Black pain.

Inspired by British scholar Paul Gilroy's discussion[213] of the role of music in Black Atlantic culture "as a crucial modality of what he calls 'a politics of transfiguration,'"[214] as well as by American writer Fred Moten's question as to "what is 'the sound that precedes the image'?",[215] American feminist and Black studies scholar Tina Campt explores the "forgotten histories and suppressed forms of diasporic memory" transmitted by the images she studies.[216] In her book *Listening to Images*,[217] Campt conducts an archival interrogation through a series of comparative studies of historical photographic collections featuring Black subjects from Uganda, South Africa, the UK, and the United States. Because these archives are mostly constituted of

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[211] Campt, *Listening to Images*.
[212] Javon Johnson, "Black Joy in the Time of Ferguson," *QED: A Journal in GLBTQ Worldmaking* 2 (2015): 177–83, https://doi.org/10.14321/qed.2.2.0177.
[213] Gilroy, *The Black Atlantic*.
[214] Gilroy, quoted in Campt, *Listening to Images*, 6.
[215] Campt, *Listening to Images*, 7.
[216] American feminist scholar Tina Marie Campt conducts an archival interrogation through a series of comparative studies of historical photographic collections featuring Black subjects from Uganda, South Africa, the UK, and the United States. She describes her Black feminist mode of analysis as profoundly grammatical in nature, historically grounded in the transatlantic slave trade, concerned with a "future real conditional or that which will have *had to* happen" (author's emphasis), and located in everyday images of the past, present, and future of Black communities. Campt, *Listening to Images*, 17.
[217] Campt, *Listening to Images*.

images created for identification purposes, she pays particular attention to the "quiet and the quotidian" sonic and affective properties, which she reads as being activated by Black people as "everyday practices of refusal" against the societies that oppress them. In the chapter titled "Coda: Black Futurity and the Echo of Premature Death,"[218] Campt explores a contemporary photographic archive on the website Tumblr titled "#IfTheyGunnedMeDown Which pic would they use?"[219] Here, young African Americans post two different types of photos, portraying themselves in contrasting ways: on the one hand, a formal image taken in the workplace, at a graduation ceremony, or in a uniform; and, on the other, a portrait taken in an informal setting: at night or at a party—the suggestion being that the American media will likely select the latter to represent them in death. As Campt explains,

> They redeploy this predictive anterior probability by way of a photographic enactment of death as a fugitive practice of refusal. They are photographic enactments that force us to reflect on the historical continuities between black folks' past, present and future of photography to embrace the future they want to see, *now*.[220]

I read Campt's analysis as indicating that these young African Americans' pre-emptive gestures, undertaken in anticipation of negative portrayal after death, demonstrate that this notion—foundational to early photographic history[221]—remains present in contemporary visual media. It also highlights these youths' awareness of what American abolitionist Frederick Douglass described as "imputing crime to color," to which American political activist Angela Davis refers in her proposal for prison abolition.[222] Since, as Campt has it, "they enact anterior practices of fugitivity through their refusal to be silenced by the probability of a future violent death they confront on a daily basis,"[223] I emphasize the fact that these Tumblr users' responsiveness to

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[218] Campt, *Listening to Images*, 101–18.
[219] "#IfTheyGunnedMeDown Which pic would they use?", accessed September 12, 2019, https://iftheygunnedmedown.tumblr.com/.
[220] Campt, *Listening to Images*, 108.
[221] Tina Campt quotes photographer and theorist Alan Sekula by way of outlining the following aspects of photographic history: the invention of the mug shot by French police officer Alphonse Bertillon in 1879, and the use of photography to exercise biopower in the mid-nineteenth century: "the camera was an instrumental tool brought to bear on the body to produce images with the exceptional legal status of visual documents that furnished irrefutable evidence of what came to be defined as the 'criminal body.'" Alan Sekula, quoted in Campt, *Listening to Images*, 76.
[222] Frederick Douglass, quoted in Angela Y. Davis, *Are Prisons Obsolete?* (New York: Seven Stories Press, 2003), 30.
[223] Campt, *Listening to Images*, 109.

photographic histories showing Black pain is expressed through their choice of images portraying Black joy in multiple contexts, from professional success to enjoying time with friends.

"#IfTheyGunnedMeDown" underlines the importance of considering the context in which images are circulated. Returning to Milk's proposal to "use modern and developing technologies to tell stories in different ways" and to "tell different kinds of stories,"[224] I would suggest that the careful juxtaposition of images as found on this Tumblr page—resisting negative stereotyping by re-contextualizing a person's multifaceted identity—represents a consideration at least as important to contemporary image making as VR technology's ability to propose an embodied experience, especially where the goal is to elicit empathy.

2.1.2 The psychology of empathy

Following from this, I argue that the real-life cultural context in which a VR experience is created, and in which it is experienced, matters. Whether a VR experience is created using 360 video or 3D techniques, the wearing of a VR headset implies being surrounded by a 360 field of vision,[225] and, in many VR experiences, the viewer's perspective implies or suggests the legitimacy of their presence in the simulation: you are at the centre of a world that is unfolding around you. Although this chapter is not a scientific study of empathy in VR, my readings in psychological perspectives on empathy underscore the fact that psychologists consider it a context-dependent phenomenon.

To psychologist Felix Schoeller and his fellow researchers,[226] empathy is read as either cognitive or emotional; while for Melloni, Lopez, and Ibanez,[227] empathy is "embedded with specific contextual cues that trigger different automatic and controlled responses" while also being a "highly flexible and adaptive process that allows for the interplay of prosocial behavior in many different social contexts." To distinguish between the cognitive/emotional and the contextual, I refer to Brazilian neuroscientist Luiz Pessoa's notion of the "Cognitive-Emotional

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[224] Milk, "How virtual reality."
[225] In contrast to other forms of audiovisual storytelling, which mostly frame the world from one perspective and thereby leave space for the viewer to imagine who or what is behind the camera, 360 video captures everything around the lens, the only limit being the horizon or an enclosure within the space.
[226] Felix Schoeller et al., "Combining Virtual Reality and Biofeedback to Foster Empathic Abilities in Humans," *Frontiers in Psychology* 9, no. 2741 (February 5, 2019), https://doi.org/10.3389/fpsyg.2018.02741.
[227] Margherita Melloni et al., "Empathy and Contextual Social Cognition," *Cognitive, Affective & Behavioral Neuroscience* 14, no. 1 (2013): 407–25.

Brain,"[228] wherein cognition and emotion interact with each other, in contrast to previous perspectives that saw the emotional and cognitive functions of the brain as distinct. In the case of empathy in VR, I examine the contrast between reading empathy through the lens of the cognitive sciences, as per Shoeller, versus focusing on the contextual manner in which empathy is manifested, as per Melloni's views. The latter aligns with Milk's proposal that VR empathy "can change the world" through an experiential understanding of another person's context or reality—in Milk's case, suffering the effects of displacement due to war—which impels VR viewers toward taking action to promote social justice. I also seek to place American psychologist and neuroscientist Jamil Zaki's perspectives on empathy in dialogue with Milk's argument that VR empathy is a force for good.[229] Zaki examines the relationship between levels of empathy, as well as the degree of agency enjoyed by the study subjects, since he suggests that empathy can appear simultaneously automatic and context dependent. For Zaki, "although empathy *can be* automatic, by no means is it *always* automatic. Instead, this phenomenon is deeply context dependent and varies along with numerous situational features." Zaki adds that "empathy is often a motivated phenomenon in which observers are driven either to experience empathy or to avoid it. Just as they do in response to other emotional goals, observers translate their empathic motives into changes in experience."[230]

When Milk delivered his 2015 TedTalk, building on his reputation as a successful commercial video director, he was acclaimed as the creative director and executive producer of the 360 film *Clouds Over Sidra*,[231] the first VR film to be commissioned by the United Nations,[232] which premiered at the World Economic Forum in January 2015. The subject of *Clouds Over Sidra* is a twelve-year-old girl, whose family name is not mentioned, living in a refugee camp that is home to some 84,000 other Syrian refugees. Sidra recounts her daily

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[228] Luiz Pessoa, *The Cognitive-Emotional Brain: From Interactions to Integration* (Cambridge, MA: MIT Press, 2013).
[229] Jamil Zaki, "Empathy: A Motivated Account," *Psychological* Bulletin 140, no. 6 (2014): 1608–47, https://doi.org/10.1037/a0037679.
[230] Ibid., 1608.
[231] *Clouds Over Sidra* is a 2015 VR film about the Syrian refugee crisis created by Gabo Arora and Chris Milk, in partnership with the United Nations and Samsung. The film was directed by Gabo Arora and Barry Pousman, and co-produced by Samantha Storr, Socrates Kakoulides, Christopher Fabian, and Katherine Keating. Gabo Arora and Barry Pousman, dirs., *Clouds Over Sidra* (2015); Within (online VR platform), January 27, 2016, YouTube video, 8:45, https://www.youtube.com/watch?v=mUosdCQsMkM.
[232] United Nations, "UNVR: United Nations Virtual Reality," last modified 18 November, 2019, https://unvr.sdgactioncampaign.org/vr-films#.ZIL1S-zMIym.

activities through a voiceover narration while taking the viewer on a tour of the refugee camp. Milk salutes the power of VR to transport viewers to spaces they may have heard about, but of which they have no firsthand experience, and the ability of his film to shape the futures of those portrayed in it:

> And I think that we can change minds with this machine. And we've already started to try to change a few. So we took this film to the World Economic Forum in Davos in January. And we showed it to a group of people whose decisions affect the lives of millions of people. And these are people who might not otherwise be sitting in a tent in a refugee camp in Jordan. But in January, one afternoon in Switzerland, they suddenly all found themselves there. [Applause] And they were affected by it.[233]

I argue that Milk's position reflects the status quo around VR empathy, a position that implies another in need of understanding, and presumes that through a virtual simulation, one may understand another's experience. These assumptions set up an asymmetry of power between the VR viewer and those portrayed in productions such as *Clouds Over Sidra*.

Returning to Campt's analysis of the images in "#IfTheyGunnedMeDown," the author perceives these as an expression of Black futurity through the juxtaposition of two types of images in the present. But the Tumblr users do not ask viewers to empathize with them; rather, they expose the subjective nature of visual storytelling for Black subjects in Western cultures. In a manner quite different from VR, I would suggest that the images in "#IfTheyGunnedMeDown" point toward the limits of what is understood as "embodied knowledge," supporting Hartman's questions as to whom performative empathy truly serves.

Since, for Zaki, empathy may be orchestrated or instrumentalized, I argue that this underscores the problematic nature of a turn to VR empathy *à la* Chris Milk, whereby the orchestration of VR empathy remains unacknowledged, and the VR viewer's empathy is considered as given. In *Clouds Over Sidra*, the VR experience is designed to make viewers feel that they are personally following Sidra through the refugee camp. Here, Sidra's voiceover narrative becomes the main storytelling device (her voice was dubbed to English without subtitles). In his talk, Milk points to the power of VR to simulate another person's physical perspective via camera placement; this, for him, is conducive to creating empathy for that person, since the viewer experiences an embodied experience of being with Sidra—or of *being*

[233] Milk, "How virtual reality."

Sidra—in the camp. What I perceive as problematic here is the asymmetry of relation between the VR viewer and those portrayed in the film. Even if VR, as a tool, seeks to mobilize governments, NGOs, and economic leaders, unlike Sidra these viewers can simply leave the refugee camp by removing the headset.

Chris Milk proposes that showing VR films to those with the power to affect change will generate concrete steps. He highlights two specific aspects of the VR "machine" as conducive to VR empathy: VR as a storytelling medium; and the embodied experience, or what many refer to as *presence*, in VR (explored further in the next section of this chapter).

Regarding storytelling, the advent of the Internet and networked digital media has changed how stories are told. We have also seen the emergence of new storytelling technologies, as per American journalist and digital storytelling expert Frank Rose's insights on the history of immersive storytelling mediums, including VR alongside transmedia.[234] Rose describes an ongoing shift in storytelling practices as "native" to networked digital mediums such as the Internet; this shift has yielded "a new form of narrative" in which "stories break the limits imposed by print and film and video," and which blurs the boundaries between "author and audience, content and marketing, illusion and reality."[235] This observation suggests that medium and message remain in flux when it comes to new forms of storytelling, including VR, since the grammar of such new forms is still being written, as audiences and creators engage with the medium's rapidly changing tools.

2.2 Disrupting VR Empathy and the White Supremacist Narrative

Although the mediums of photography, film, and video operate in the present alongside VR, I focus on how artists, Black futurists, and feminists working in these mediums reimagine how the body is represented while challenging negative stereotypes based on racial, gender-based, and colonial identity formations. In the case of VR empathy**,** I outline the danger of "virtuous VR,"[236] where the turn to empathy in VR is read as stemming from white privilege and colonial

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[234] Frank Rose, *The Art of Immersion: How the Digital Generation Is Remaking Hollywood, Madison Avenue, and the Way We Tell Stories* (New York: W.W. Norton, 2012).
[235] Ibid., abstract.
[236] Nakamura, "Feeling Good," 47.

legacies. Alongside this, I explore "emancipatory approaches to technology"[237] in *NSAF*, a VR project that offers alternatives to the VR empathy status quo through intersectional and Afrofuturist models.

2.2.1 The "new Jim Code"

American scholars Ruha Benjamin and Lisa Nakamura examine how VR technologies are presented in the media, together with the intended aims of certain VR experiences with regard to the viewer, through intersectional perspectives. Both authors note the presence of systemic racism, sexism, homophobia, transphobia, and ableism in some VR experiences even as the same projects are presented as tackling or denouncing these problems. Both authors highlight the dangers of associating empathy in VR with a generally positive outcome for viewers seeking alternate realities within an immersive experience. As VR has become more accessible since 2014, experiences are being created and distributed in greater numbers, through an increasingly diverse array of channels. Both VR experiences and the technology itself are celebrated by many as vectors for change, as per the above observations on VR empathy. For Benjamin and Nakamura, this can become a justification for the creation of problematic VR projects that cause harm, misrepresent situations, or perpetuate the tropes they set out to challenge.

Benjamin, a sociologist, observes that "design is a colonizing project," adding that, "in the current technological environment … the politics and purposes of design matter."[238] For Benjamin, the proliferation of accessible tools for designing media, immersive experiences, and apps with a potentially high impact must always be considered in relation to the systems or industries to which they are attached. Throughout her book *Race after Technology*, Benjamin highlights both the negative aspects and positive potentials of emerging technologies and the everyday production, deployment, and interpretation of data. In coining the expression "the New Jim Code," she illuminates the enduring racist legacy of America's "Jim Crow" laws, even for digital mediums and platforms that are presented as neutral or objective:

> With emerging technologies, we might assume that racial bias will be more scientifically rooted out. Yet, rather than challenging or overcoming the cycles of inequity, technical fixes too often reinforce and even deepen the status quo. Such findings demonstrate what

[237] Ruha Benjamin, *Race after Technology*, 114.
[238] Ibid., 105–06.

> I call "the New Jim Code": the employment of new technologies that reflect and reproduce existing inequities but that are promoted and perceived as more objective or progressive than the discriminatory systems of a previous era.[239]

"The New Jim Code" is a reference to American writer Michelle Alexander's book *The New Jim Crow: Mass Incarceration in the Age of Colorblindness*,[240] which addresses America's racist mass incarceration system and a prison-industrial complex that has become a lucrative industry. Regarding the latter, Benjamin notes that new technologies may be put to work in support of unfairly imprisoned people, such as via an app called Appolition, launched in 2017 by American political activists Kortney Ziegler and Tiffany Mikell, which allowed users to contribute money toward a prisoner's bail.[241] In contrast, however, Benjamin reminds readers of the increasing presence of electronic monitoring (EM), an element of the American and global "technocorrections" industry developed in response to prison overcrowding. This industry promotes technological detention systems: surveillance techniques that incorporate advances in technological information and communication infrastructures into new modes of crime control—using the latest tools in the service of a dubious agenda.[242] As to the New Jim Code in VR, Benjamin cites a 2018 report published on the American website Police1.com, self-described as the "#1 resource for law enforcement online,"[243] which proposes that VR has the potential to generate empathy for officers and improve the public perception of the police. Benjamin cautions readers to consider how, if employed in this way, the VR-as-empathy-machine concept may harm, rather than improve, the lives of those who experience police harassment and violence.

Benjamin also gives attention to popular design methods and strategies, since empathy forms a part of such efforts. She remarks that "empathy is the first of five steps in an approach called 'design thinking': empathize; define; ideate; prototype; test." She challenges the notion of VR as an "empathy machine," by acknowledging the relation between the physicality of the hardware, the UX (user experience), and the content of the VR experience: "Tech designers have created actual headsets that we can don, our physical body in one world as our mind travels

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[239] Ibid., 110.
[240] Michelle Alexander, *The New Jim Crow* (New York: New Press, 2020).
[241] Unfortunately, Appolition ceased its work during the COVID-19 pandemic.
[242] Craig Paterson, "The Global Trade in (Techno) Corrections," *Criminal Justice Matters* 95, no. 1 (2014): 20–21.
[243] Allen Castellano, "Can virtual reality bridge the gap between police and the community?", Police1 by Lexipol, March 1, 2018, https://www.police1.com/police-products/virtual-reality-training-products/articles/can-virtual-reality-bridge-the-gap-between-police-and-the-community-nI7Hgo20mqdQD8qX/.

through another … do we really leave behind all our assumptions and prior experiences as we journey into virtual reality?"[244] Benjamin suggests that the physicality of seeing from someone else's perspective in VR will not be enough to comprehend the complexity of their lived experience, particularly when it comes to marginalized or systemically disadvantaged communities: "Perhaps we overestimate how much our literal sight dictates our understanding of race and inequity more broadly?"[245] Such arguments build on critiques of visuality, sight, and representation developed since the 1990s, which have sought to recognize difference while cautioning against the perceived visual legibility of identities.[246] The author also addresses the correlation between some VR creators' intention to show suffering and how "pain is repurposed as a site of economic production" through the financial gains reaped by VR producers and manufacturers.[247] Without engaging further with the logistics of commercial VR production, what Benjamin is pointing toward here is well worth examining. In essence, if VR experiences are created and consumed on a greater scale within the competitive U.S. media market, then financial gain will increasingly dictate how such works are produced, since they will need to yield a good return on investment.

Since Benjamin's *Race after Technology* was published (2019), there has been an increase in the availability of VR experiences across a variety of sectors, such as the videogame industry, VR films as cultural texts and entertainment products, medical research, and safety and training technologies from commercial flight simulators to military applications. Overall, when it comes to entertainment, VR technologies have remained less accessible than other mediums, which troubles Benjamin's proposal somewhat. Her views remain pertinent, however, as mediums such as VR, AR (augmented reality), and MR, also referred to as XR (mixed or extended reality), gain prevalence, and as leading XR hardware manufacturers Meta and Apple produce devices that are adopted by larger audiences, allowing certain types of immersive content to be seen and purchased at scale. Benjamin's analysis of the problematic nature of VR empathy also reminds us to consider the connections, past and present, between the latest VR technologies and the American military, one of the first industries for which VR was developed

[244] Benjamin, *Race after* Technology, 102.
[245] Ibid.
[246] Phelan, *Unmarked*.
[247] Tarnoff, quoted in Benjamin, *Race after* Technology, 101.

(for training and combat simulations). Further, police across the United States are currently using VR in their training programs, as per a 2022 article on the Police1.com website.[248]

When Benjamin discusses the repurposing of pain "as a site of economic production," she is also referring to the history of using images of Black pain for financial gain in America and elsewhere. Albeit in a different manner, American poet and performer Danez Smith's poem "Dinosaurs in the Hood"[249] speaks to this issue, as he describes his vision for a film featuring a young Black boy that would combine science-fiction, comedy, and biographical drama—but do not, he warns readers, "let [American filmmaker Quentin] Tarantino direct this"[250] (and thereby reproduce negative stereotypes about African Americans). For American poet and scholar Javon Johnson, Smith's poem points toward "black possibility outside the conditions of white supremacy" through its proposal of "a cinematic world that refuses to be about and/or cause black pain." Like Tina Campt, Johnson and Smith engage with the representation of Black pain in relation to systemic anti-Black violence. And Johnson argues that thinking about Black pain is also an opportunity to think about Black joy; this, he notes, ought to be employed "as a theory, a method, and a political device."[251] These perspectives articulate the ongoing power imbalances within visual representation in the America media, with its global audience. Coming back to VR empathy, I argue that engaging with Black futurity offers possibilities for a critical exploration of these power imbalances in the medium of VR.

In the case of Beyoncé's work, I argue that the scale of her popularity and the size of her audiences permit her performances to draw the attentions of current and future media creators, including those working with VR. Although I recognize that Beyoncé's musical film *Black is King* (2020), her album *Renaissance* (2022), and her concert film *Renaissance: A film by Beyoncé* (2023) engage more directly with Afrofuturism and Black futures, I perceive the references to American history and Black cultures in *Lemonade* and *Homecoming* as being in the service of Black futurity.

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[248] Greg Friese, "Why virtual reality and police training go together," Police1 by Lexipol, June 13, 2022, https://www.police1.com/police-products/virtual-reality-training-products/articles/why-virtual-reality-and-police-training-go-together-rPZ17SQwft1zi0uA/.
[249] Danez Smith, "Dinosaurs in the Hood," *Poetry Foundation*, December 2014, https://www.poetryfoundation.org/poetrymagazine/poems/57585/dinosaurs-in-the-hood.
[250] Ibid.
[251] Johnson, "Black Joy," 108.

From popular VR games to arcade and "room scale"[252] VR entertainment, to experimental and avant-garde VR experiences, and the ongoing expansion of social VR applications that intersect with existing social spaces in the "metaverse,"[253] scale is an important factor. My rationale for looking at Beyoncé and Adrian Piper—feminist creators working in media other than VR and at scales appreciably greater than mine—is that they allow us to draw connections between the present, in which few people can access VR, and the technology's projected broad future availability. And if we consider VR in the same category as "immersive media [which] aims to transport your mind and body into another world,"[254] then I would argue that intersectional feminism, combined with feminist performance, could grow from a media research framework to an applied creative method, spawning a shift in the politics of representation across different kinds of screens, and specifically within the emerging virtual spaces of VR.

2.2.2 "Formation" challenges the white supremacist narrative

"Did Beyoncé just make a statement about the black feminine body defeating the police state?"[255] asks British journalist Syreeta McFadden. The song, the video, and Beyoncé's live performance of "Formation"[256] at the 2016 Super Bowl halftime show attracted attention and criticism, and formed a point of contention in the debates on police violence and anti-Black racism in the United States. Analyzing the anti-Black reading of "Formation" and Beyoncé's 2016 Super Bowl performance, which led to a boycott of her Formation World Tour the same year, British sociologist Aaron Winter[257] contextualizes the boycott, in several U.S. cities, by

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[252] "Room-scale virtual reality is the use of clear space to allow movement for someone using a VR application such as a VR game. … The term room-scale distinguishes this kind of virtual reality setup from seated or standing VR setups in which, the user remains stationary as they engage with the virtual environment." Rahul Awati, "room-scale virtual reality (VR)," WhatIs.com, TechTarget, n.d., https://www.techtarget.com/whatis/definition/room-scale-VR-room-scale-virtual-reality.

[253] I refer both to virtual spaces, in which users may interact with a computer-generated environment as well as other users, and to the term's increased popularity since Facebook became Meta, in 2022.

[254] Sinclair and Clark, *Making a New Reality*, 12.

[255] Syreeta McFadden, "Beyoncé's Formation reclaims black America's narrative from the margins," *Guardian* (UK), February 8, 2016, https://www.theguardian.com/commentisfree/2016/feb/08/beyonce-formation-black-american-narrative-the-margins.

[256] "Formation," the final track on Beyoncé's album *Lemonade* as well as the album's first single, fostered passionate reactions.

[257] Aaron Winter, "Boycotting Beyonce and the Politics of Policing in Post-Race America," *aaronzwinter* (blog), May 10, 2016, https://aaronzwinter.wordpress.com/2016/05/10/boycotting-beyonce-and-the-politics-of-policing-in-post-race-america/.

self-organized, non-official police groups such as Blue Lives Matter. The Black Power and feminism present in Beyoncé's "Formation" drew heavy criticism from the white establishment, including Rudy Giuliani, the former mayor of New York (1994–2001), who denounced Beyoncé and her dancers for their Black Panther outfits designed, so Giuliani charged, "to attack police officers."[258] For their part, the Blue Lives Matter movement appropriated the language and vernacular approach of a social-media-fuelled citizen or grassroots protest movement, even though its members either represent and enforce, or are backed up by the law.[259] Winter examines how the members of Blue Lives Matter see themselves as living in a "post-race" America, in which Black people are the creators of their own problems; white police, therefore, should not be held accountable for Black-on-Black crime. The movement also considers anti-white racism as equivalent to anti-Black racism, and that Black people who denounce anti-Black racism are part of the problem. Like the author, I read these positions as deeply problematic.

I bring Winter's analysis into dialogue with American film scholar Kevin Ball's analysis of *Lemonade*'s filmic grammar, since Ball has remarked on how the controversy around "Formation"[260] stemmed from a partial and incomplete understanding of the work on the part of the Blue Live Matter members, "as though blackness undermines the racially transcendent

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[258] *BBC News*, "Coalition of Police and Sheriffs Protest at Beyonce's Hometown Houston Concert," May 9, 2016, https://www.bbc.com/news/newsbeat-36246090.

[259] Winter contextualizes the boycott of Beyoncé's Formation World Tour in several US cities by members of Blue Lives Matter through a historical account. Police in the US have been traditionally associated with opposition to federal desegregation laws in Southern states where many whites refused to accept these new laws. Police worked in alliance with the Ku Klux Klan and recruited Klansmen. Blue Lives Matter believes that its choice to boycott Beyoncé is justified by her open celebration of the Black Panther Party, which they have compared to the KKK despite the fundamental differences between the two organizations. The Black Panthers were concerned with the defence of human and civil rights for Black people, who, throughout US history, have constantly been under attack by whites and the enforcers of "law and order." Klansmen are concerned with enforcing white supremacy and attacking those who oppose it. The Klan is actively engaged in hurting communities of colour and, unlike the Black Panthers, was able to survive COINTELPRO and other FBI programs that were put in place to dismantle "terrorist groups" in the US. The Klan endorsed presidential nominee Donald Trump and thereby gained in power and influence. Winter concludes: "police and conservative counter-protesters are assuming or claiming the former (post-race, equality or even inversion) and delegitimizing checks on power and police racism and appropriating a form and style of political activism to do so." Aaron Winter, "Boycotting Beyonce."

[260] "Formation"—the song, the music video, and the 2016 Super Bowl live performance—came in for criticism from conservative figures, law enforcement organizations, and social media users over perceived anti-police, anti-American, and racist messages. As a film critic, Ball's analysis of "Formation" draws attention to the broader visual framework within which Beyoncé operates, both as a politically engaged singer and a global brand. His point of view intersects with Weidhase's reading of Beyoncé's "hip-hop feminism" as well as with Winter's analysis of the boycott of her 2016 Formation World Tour. In conjunction with the latter, Ball helps us to decipher what fuelled this attack by the "law and order" establishment upon the "Formation" video and the live performances. Kevin Ball, "Beyoncé's 'Formation,'" *Film Criticism* 40, no. 3 (March 31, 2016), https://doi.org/10.3998/fc.13761232.0040.309.

femininity which animates the singer's international appeal."[261] For Ball, Beyoncé's videos are centered on her pride in her own femininity, Blackness, and southern roots. The audiovisual cues refer to diverse spaces, times, and places relating to Black histories, specifically in Louisiana and across the American South. Ball proposes that the agency in "Formation" lies in its expression of "the circuitry of a black 'cosmic' everyday—both fraught and blasé, aristocratic and grassroots—as the preconditions for reframing the contemporary milieu of black political action."[262]

Reading from Winter and Ball, I argue that with "Formation" and *Lemonade*, Beyoncé proposes an arresting alternative to the white supremacist narrative, establishing a creative environment in which Blackness is represented as complex, multifaceted, and firmly rooted in the history of the United States. Reading Beyoncé's approach as being in the service of Black futurity, I propose that such a method is something to build on for purposes of VR creation as it pushes against what Ruha Benjamin refers to as the New Jim Code.

2.2.3 The danger of "virtuous VR"

In her article "Feeling Good about Feeling Bad: Virtuous Virtual Reality and the Automation of Racial Empathy" (2020), Lisa Nakamura confronts the problem of VR texts whose creators herald the positive impact their VR experience will have upon the lives of the racialized or marginalized subjects they portray. Addressing VR designed for empathy, Nakamura sees the need to decolonize VR and the "automation of racial empathy" that is "addictive by design," having been initially developed by the American military to "both prepare humans to wage war, and to rehabilitate them from its traumas."[263] She maintains that VR has the power to provide "pleasures of toxic embodiment" to viewers who are "witnessing racial suffering in VR."[264] For Nakamura, VR embodiment is misleading as is the "pleasure" that the VR viewers may derive from their emotional connection with the reality they are witnessing, as the medium causes them to feel personally involved in the experience. Nakamura suggests that this combination further perpetuates the unequal living conditions of the disadvantaged subjects represented in VR works, even as it promises meaningful solutions to their problems. To put her views on VR in context,

[261] Ball, "Beyoncé's 'Formation.'"
[262] Ball, "Beyoncé's 'Formation,'" 4.
[263] Lucy Suchman, quoted in Nakamura, "Feeling Good," 61.
[264] Nakamura, "Feeling Good," 61.

since 1994 Nakamura has been writing on the emergence and uses of digital and networked media (digital bodies, the Internet, videogames, social media, film, television, advertising, and more) through the lenses of gender, race, class, ability, and access to technology. Tracking VR's technical development from the "VR 1.0 of the 1990s to the VR 2.0 of the 2010s," she addresses the problem of unequal access to this technology and how this contributes to promoting "toxic embodiment."[265] Since, to her mind, even the best intentions in creating VR experiences about the suffering of others cannot lead to meaningful change, the notion that VR allows the user to embody another person's reality not only detracts from the real work needed to address the problem in question, but it may even cause further harm to the subjects represented in the VR experience; and it is this that makes it toxic.

Although the COVID-19 pandemic cast doubt over the future of VR, many voices considered it an opportunity to exploit VR's potential to keep us connected while social distancing measures were in place. Reading Nakamura's article in 2021 was helpful to parse my own conflicted feelings on these topics, as an artist who works with VR albeit through a critical framework. Yes, I did consider VR a useful tool during the pandemic—but only for those who already owned a VR device.[266] Though my thesis argues for the potential of VR as a tool for artistic co-creation and collaboration, and as a space in which Black futurity and feminist performance can flourish, Nakamura's perspectives on the problematic nature of VR empathy reflected and expanded my own reservations around the potential benefits of VR in seeking to advance social justice. And Nakamura does make suggestions for decolonial strategies for VR. In her view, focus should be placed on a critique of methods that use empathy and compassion to justify "untenable material conditions of labor for racialized and gendered people long before VR claimed them."[267] In this sense, VR functions within an array of media practices that are changing only superficially yet are heralded as offering their users new and positive rewards almost as though by default. Nakamura is concerned about the entertainment-industrial complex, wherein VR is driven by profit and offers little more than a release valve for viewers hoping to

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[265] Ibid., 47, 61.
[266] Regarding Nakamura's point about experiencing VR without consequences or accountability to the subjects portrayed: although owning a VR device does not imply accountability, it does assume some form of investment, for good or bad, in the medium. What I take from Nakamura's point is that those VR viewers most likely to be prompted to experience "virtuous virtual reality" are those viewing VR on a punctual, ad hoc basis, often in cultural centres and film festivals, an experience that was not available during the COVID-19 lockdowns. Nakamura, "Feeling Good," 47.
[267] Ibid., 61.

feel better, rather than proposing radical alternatives to the status quo. For Nakamura and Ruha Benjamin, the repurposing of these tools to allow the emergence of "creative alternatives that bring to life liberating and joyful ways of living in and organizing our world"[268] is crucial. And, as both authors suggest, projects such as Hyphen-Labs' *NeuroSpeculative AfroFeminism*, or *NSAF* (2016), do just that.

2.2.4 VR as an "optimizing machine"

In the physical installation of *NSAF's* three-part digital narrative, the visitor sits in a swivel chair in front of a wavy mirror before entering the VR experience, which is set in what Hyphen-Labs calls a "Neurocosmetology Lab" inspired by a hair salon, which the team refers to as a safe space: familiar, intimate, and "historically a place of political activation and social activation."[269] In VR, the viewer experiences the 3D world through the avatar of a young Black woman called Audrey (this is who you see in VR, when you look down at your "body" or look at yourself in the mirror). Seated next to you in the virtual salon, an older Black woman called Naima explains this futuristic world's paradigm of authoritarian societal control, and how Brooks, the Black female salon owner can implement liberatory brain modulation through braiding techniques. The older woman explains that this involves you (the VR user) contributing to the "synaptic lineage," something that Brooks and a group of neuro-feminists created as an autonomous network to gather and distribute communal knowledge and memories. This will allow members to obtain a "detailed path of how to escape cognitive tyranny."[270] *NSAF* uses speculative design to explore intersectional feminism and Black futurity. Questions regarding embodiment and the possibility of experiencing another person's perspective in VR are present here, but Hyphen-Labs takes a different route than VR empathy. In conceptualizing the installation component of *NSAF*, the all-female team drew from the work of Black writers and scientists to design a series of speculative self-care and self-preservation products for women of colour; this in turn fed into the creation of their narrative sequence, designed within a 3D environment for VR. These speculative designs were conceived in relation to the team members' own methods for self-care and included:

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[268] Benjamin, *Race after Technology*, 114.
[269] Aguilar y Wedge, quoted in Maggie Lange, "The female inventors exploring brain stimulation through braiding," *i-D* (*VICE* magazine), April 27, 2017, https://i-d.vice.com/en/article/zmnv98/the-female-inventors-exploring-brain-stimulation-through-braiding.
[270] Tribeca Film Institute, "Rewire Your Brain in VR | NeuroSpeculative AfroFeminism," February 4, 2019, YouTube video, 4:15, https://youtu.be/43GUtyKPRm0.

transparent sunscreen "specifically formulated for skin high in Melanin"; *Hyperface*, "a facial recognition obscuring, anti-surveillance textile developed in collaboration with artist, Adam Harvey";[271] and *ScatterViz*, a reflective visor designed to deter microaggressions. Based on the Hyphen-Labs members' personal experiences in the United States, for the viewer these various items and strategies suggest critiques of unacceptable oppressive practices.

American curator Zoe Whitley comments on the value of artists' engagements with Afrofuturism as "an aesthetic strategy for addressing the experience of race, displacement and difference using recognizable visual symbols…. Whether as acolytes or accidental adopters of Afrofuturism, contemporary artists prove it is a rich and protean genre: expansive, not reductive."[272] The author's notion of Afro-futurism as expansive is exemplified here in *NSAF*: the hair salon becomes a place where "black women are pioneering techniques of brain modulation and optimization through braiding techniques, cognitive enhancement, and exploring the neurological and physiological effects of content made for and by women of color."[273] Inspired by the lack of multidimensional representations of Black women in technology, *NSAF* sits at the intersection of product design, virtual reality, and neuroscience; as such, the purpose of the VR experience was to create a "new mythology of this [VR] space."[274] This new mythology insists on the presence of women of colour in science and research, something the creators found lacking when they graduated from college and began working in the science, design, and technology industries. For its creators, *NSAF* capitalizes on the "undiluted attention" that the viewer must pay for a set amount of time, using VR as an "optimizing machine" instead of an empathy machine. "It can get you through creative roadblocks. It can inspire you and empower you," states Carmen Aguilar y Wedge, a co-founder of Hyphen-Labs. Here, VR allows users to "embody a new character" instead of being body-less, like in some other VR experiences.[275]

Characterizing their VR experience as an "optimizing machine," Hyphen-Labs also uses transcranial stimulation caps, a technology used in medical diagnostics and treatments. These caps are commercially available products thought to improve focus, attention, memory, and

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[271] Hyphen-Labs, *NeuroSpeculative AfroFeminism* (*NSAF*), three-part digital narrative, 2017, https://hyphen-labs.com/NSAF.
[272] Zoé Whitley, "The Place Is Space: Afrofuturism's Transnational Geographies," in *The Shadows Took Shape*, ed. Naima J. Keith et al., 19–24 (New York: Studio Museum in Harlem, 2013), 24.
[273] Hyphen-Labs, *NSAF*.
[274] Baccus, quoted in Lange, "Female inventors."
[275] Aguilar y Wedge, quoted in Lange, "Female inventors."

productivity. However, the VR experience is not about simulating actual brain impulses. Instead, the team employs VR as a simulation of this technique "to activate hyper-flow and focus states."[276] *NSAF* co-creator Ashley Baccus explains that the caps are designed in such a way that she, as a Black woman with braids, "would have to cut her hair or modify myself to be a part of this."[277] Baccus's point is that she wants to be fully included in the segment of the population that is currently exploring this type of technology with the potential to optimize brain use, something that she and the rest of the team see as being possible in and through VR.

I argue that both the speculative design of *NSAF* and the reference to transcranial stimulation caps echo British writer and artist Kodwo Eshun's belief that creating effective change in societies where anti-Black racism operates requires the development of Afrofuturist tools that are "capable of intervention." As Eshun explains, "Afrofuturism may be characterized as a program for recovering the histories of counter-futures created in a century hostile to Afrodiasporic projection and as a space within which the critical work of manufacturing tools capable of intervention with the current political dispensation may be undertaken."[278] Eshun's point is that making use of the technology at hand can allow marginalized groups to access resources that majority groups accept as given. I would suggest that *NSAF* takes a similar approach and that the project has struck a chord with those who question the VR empathy status quo; indeed, Hyphen-Labs is more concerned with VR technology's potential as a tool for liberation through optimization rather than for creating empathy.

To borrow from Benjamin, *NSAF* "recasts what counts as technoscience and whom we think of as innovators."[279] Benjamin also notes the potential for technology to become a tool for liberation, as designers such as Hyphen-Labs commit to a critical approach that "entails an appreciation for the aesthetic dimensions of resisting the *New Jim Code*" (my emphasis). Although Benjamin is critical of VR "empathy machines enrolled in the New Jim Code," she understands the liberatory potential of the medium, asking "what do abolitionist tools look like? What does an emancipatory approach to tech entail?"[280] The author makes connections between the bias existing at the heart of media technologies and the effect that may be produced once this

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[276] Ibid.
[277] Baccus, quoted in Lange, "Female inventors."
[278] Kodwo Eshun, "Further Considerations of Afrofuturism," *CR: The New Centennial Review* 3, no. 2 (2003): 301, https://doi.org/10.1353/ncr.2003.0021.
[279] Benjamin, *Race after Technology*, 113.
[280] Ibid., 103.

is understood and subverted. It is important, Benjamin reminds us, to understand, expose, and repurpose these tools for the emergence of effective alternatives. Reading from Benjamin's work and based on the example of Hyphen-Labs, I would argue that "abolitionist tools" in VR will entail Black leadership and direction, collaborative creative processes, and the provision of access to VR via popular or familiar imagery and experiences, such as the hair salon and its eye-catching colour palette of purples, pinks, and blues (inspired by the colour board for the award-winning film *Moonlight*, directed by African-American filmmaker Barry Jenkins).[281]

When it comes to cyber-feminism, the aesthetics both in the 3D world of the *NSAF* VR experience and the physical installation draw inspiration from the work of African-American science-fiction writer Octavia Butler, among other Black writers, and nod toward American futurist Donna Haraway's physical and political description of a cyborg: "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction. Social reality is lived social relations, our most important political construction, a world-changing fiction."[282] Haraway's vision of the cyborg is oriented toward a postmodern, socialist-feminist politics, a vision of the self she argues "feminists must code."[283] But, as Nigerian-American writer and African-American and Black diaspora studies scholar Louis Onuorah Chude-Sokei points out, Haraway's version of the cyborg "is essentially a white 'polymorphous' configuration…. Haraway's intent is clearly to enable racial readings of what was already gendered as masculine: technology."[284] The author's point here is not to detract from Haraway's proposal but instead to reframe her vision of hybridity, among those other white futurist writers such as Isaac Asimov and William Gibson, who "depend on race in their expression of a technological vision," in contrast to what Chude-Sokei describes as "*black* technopoetics … the self-conscious interactions of black thinkers, writers, and sound producers with technology,"[285] for whom race is not something they have a choice in addressing. I refer to Chude-Sokei here to highlight the correlations he draws between the West's social and historical changes that came on the heels of the abolition of transatlantic slavery with the move toward industrialization and

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[281] Barry Jenkins, dir., *Moonlight* (A24 and Plan B Entertainment, 2016).
[282] Donna Jeanne Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149.
[283] Ibid., 465.
[284] Louis Onuorah Chude-Sokei, *The Sound of Culture: Diaspora and Black Technopoetics* (Middletown, CT: Wesleyan University Press, 2015), 135.
[285] Ibid., 11.

"nonhuman technological transformations."[286] Here I perceive the credit that Hyphen-Labs accords to cyber-feminism—regularly associated with Haraway's vision—as part of the innovation that *NSAF* comprises, since it points to such histories and omissions—such as Haraway's combining of human and machine, although her engagement with race is less critical than her position on feminism.

One factor motivating Hyphen-Labs to ensure their present and future visibility in spaces of technological innovation is a desire to avoid replicating film history, from which Black women have either been absent or reduced to negative tropes. *NSAF* brings together physical and virtual speculative tools and narratives to propose sci-fi inspired scenarios in which the creators can see themselves, women of colour, now and in the future, by highlighting the central role of Black women in VR worlds.

2.3 VR Empathy and Embodiment in "Body Swap"

Returning to Nakamura's perspectives on the dangers of "virtuous virtual reality," the author challenges the notion that empathy elicited through VR experiences can create positive change via emotional and sensorial triggers such as "pleasurable tears of empathy."[287] I read this reference to witnessing another person's reality as pleasurable while shedding tears (associated with pain, vulnerability) as a useful description for understanding VR's ability to foster emotional connections between the viewer and the content of the virtual experience. By prompting readers to consider whom they might cry for in VR, Nakamura is urging VR viewers to be wary of what an emotional response such as empathy implies. The author also outlines the pitfalls of using empathy as the primary impetus for VR content creation and the dangers of repeating or reinforcing racism, misogyny, homophobia, class bias, and ableism while intending to do the opposite. "VR's vast claims to produce this compassion, to function as 'empathy machines,' frame racism and toxicity as a problem with a head-mounted solution, rather than as a set of structural relations that require structural solutions."[288]

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[286] Ibid., 2.
[287] Nakamura, "Feeling Good," 61.
[288] Ibid., 58.

Nakamura understands the move toward empathy in VR as problematic since it perpetuates negative tropes associated with marginalized people and communities. Here I will argue for the potential transferability to VR creation and distribution of Beyoncé's methods. Beyonce's live shows and films challenge the white supremacist narrative and centre the lived experiences of historically underrepresented communities, while reaching mixed audiences on a global scale. When it comes to VR, I would suggest that VR users and makers are still negotiating what tasks VR technology, as a storytelling and an experiential medium, accomplishes better than other media, and how the medium serves the needs or purposes of the ideas and realities featured in the VR experience. My proposal is that VR creators might learn from Beyoncé's ability to reach broad audiences with messages that challenge systemic racism and patriarchy, while providing high production value entertainment.

For Lisa Nakamura, the focus on VR empathy creates the tendency for VR to become associated with "pleasures of toxic embodiment," especially when it comes to race. She warns readers about the "automation of racial empathy," one of the perils of "virtuous VR."[289] Nakamura's view is that VR mediums are being re-appropriated in ways that do harm to racialized communities, even as VR is portrayed as providing a solution to systemic racism. I would exhort VR users and makers engaged with American cultures and aiming to reach broad audiences to build on the creative methods used by Beyoncé in *Lemonade* and *Homecoming*, wherein she employs, subverts, and astutely distributes the mainstream media tools of music videos, documentary, and experimental film. I read Beyoncé's works as proposing new conventions for the representation of Black performance in mainstream media at a substantial scale, a factor that I bring into dialogue with Thomas DeFrantz's view that Black performance is centered around what a performer "does," not on speculative proposals. As DeFrantz puts it, "Black performance isn't trying to solve a historical possibility that might allow for some sort of weird newness. Black performance is trying to solve the moment in a way that encourages an unexpected relationship and encounter…. What the performer is able to do in the performance is what makes the performance black."[290] Reading from DeFrantz, I would note that Beyoncé's performances, presented on a global platform, are pertinent for understanding how Black performances in VR might be perceived by both Black and non-Black audiences, now and in the

[289] Ibid., 61.
[290] DeFrantz, "I Am Black," 19.

future, if the projected ubiquity of VR should materialize and whether VR empathy remains the status quo or not.

In contrast to the mediums in which Beyoncé innovates, VR currently requires the use of the head-mounted display, or HMD. Both Ruha Benjamin and Lisa Nakamura refer to the physicality of the VR headset to highlight the dangers of limiting the effect of VR experiences to something users put on and take off with neither consequences nor accountability. And although some viewers may be prompted to take real-life actions in support of the situation they have experienced in VR, Nakamura emphasizes that being exposed to something in VR does not equate to a form of responsibility toward the subjects represented in the experience. Before studying Beyoncé's work in greater detail, I will review a further perspective on VR empathy: exploring the experience of being "another," a scenario in which the headset's physicality plays a central role. This project's engagement with embodiment allows me to trouble the potential of kinesthesia implied in VR empathy and to wrestle further with received ideas of VR as an "empathy machine."

2.3.1 The Machine to Be Another

> TMBA works as an open platform to co-design immersive experiences in which one can step into the shoes of another…. [A]s a low budget and open system (licensed under Creative Commons NonCommercial ShareAlike) TMBA works as an embodiment VR tool with possible implications in storytelling and first-person VR filmmaking as well as in fields like education, psychology and healthcare…. Finally, the TMBA system (that combines interaction protocols, narratives, hardware and software, protocols) is built on an open community of creators, scientists, performers, and participants gathered by a common dream of building an empathetic society.[291]

I studied *The Machine to Be Another*, or *TMBA* (2013–present) as a means of focusing on embodiment within VR empathy. *TMBA* is an iterative VR project created by BeAnotherLab, an international research collective that explores the relation between VR and empathy through cognitive methods and live performance. According to the collective: "By combining virtual reality, cognitive sciences and performance, *TMBA* is a system that offers users the possibility to see themselves in a different body while moving and interacting with the space with realistic

[291] BeAnotherLab, "Body Swap."

tactile feedback." American VR researcher Lynda Joy Gerry, who has collaborated with BeAnotherLab, sees VR "as a tool for empathy" that is conducive to "empathic activation." Perspective-taking VR in *TMBA*, she says, can "present another person's point of view concretely rather than conceptually."[292] Although BeAnotherLab does acknowledge VR's potential for challenging assumptions around gender, race, and ability, I argue that the creators make certain assumptions about what their project achieves.

My study focuses on the *Body Swap*[293] iteration of what the BeAnotherLab team describes as an "Embodied Virtual Reality System," a setup that includes several technical devices in addition to VR, as well as the physical presence of team members to guide audiences, step by step, through their "Machine to Be Another" experience. I read this iteration on the part of BeAnotherLab as sitting at the intersection of scientific research, "social impact,"[294] and new media art, primarily due to the different spaces in which it has been presented, such as the immersive media showcase which formed part of the 2015 edition of Montreal's Festival du Nouveau Cinéma, where I experienced the project.[295]

For purposes of considering VR empathy's relation to embodiment, I bring the intended aim of *TMBA* into dialogue with various racial, gendered, and colonial deployments, whether past or present, by first exploring the gestural aspect of the experience. In *Body Swap*, participants access a VR experience in pairs and swap perspectives with their partner for the duration of the experience. In the VR headset, instead of seeing the world around you from the place where you sit or stand, you perceive it instead through the perspective of your partner, who is positioned in front of you. This means that you see yourself in a live, embodied mirror. The team has devised gestural prompts for VR users to experiment with, such as touching hands and following each other's movements, all designed to highlight the embodied experience of being another person and of seeing yourself from the other person's point of view. In this proposal, VR's advantage is the realistic way in which it proposes another person's lived, embodied physicality.

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[292] Lynda J. Gerry, "Virtual Reality and Empathy: Embodied Simulations and Perspective Taking in the Body of Another" (master's thesis, University of Copenhagen, 2017), 59. https://www.academia.edu/35715795.
[293] BeAnotherLab, "Body Swap."
[294] Meta, "VR for Good."
[295] See: https://nouveaucinema.ca/en.

For American literary scholar Carrie Noland, physical gestures are culturally charged actions, which may also influence innovation in cultural practices. I bring her research on the potential for innovation in "cultural practice" through "embodied gesturing" into dialogue with the potential of gesture in the *Body Swap* VR experience.[296] Noland studies the tensions between acts of gesturing and their social meanings, reading from early twentieth-century French anthropologist Marcel Mauss, who questioned the dominant discourse of his time and did not accept that Western civilization's scientific and technological achievements granted it a status superior to other cultures. Rather, Mauss believed that each civilization has distinctive strengths and weaknesses. In turn, Noland aims "to construct a theory of how a biologically and/or culturally informed use of the body affords a type of awareness that is 'agentic' in the sense that it plays a role in what a subject does and feels."[297] She explains that what holds the most potential, in her analysis, is not the "limitless capacity of the neuronal system" to "create new moments," but rather its capacity to "connect these movements that human anatomy allows, to enchain human possibility of kinesis in new ways."[298] What Noland's work suggests with regard to embodiment in VR is the need to keep the following tension in mind: if our larger social network directly influences our gestures, it remains that each singular body performs physical actions uniquely. Since, according to Noland, movement and meaning are always in flux—socially, culturally, and historically—how far can VR really go toward suggesting another person's embodied experience? *TMBA*'s *Body Swap* assumes that the gestures of exchange, which co-participants are prompted to use in VR, are universal rather than context dependent. I question the transferability of kinesthetic experience, understood as an ongoing, shifting mode of agency, and bearing complex cultural significances. I am not implying that *Body Swap* assumes tropes inherited from the colonial legacies of a "universal" body type that prioritizes the white, male body in visual representation; I would argue, however, that embodied gestures designed to foster VR empathy should be taken as indicators of the cultural formations behind such gestures.

Whereas Noland's embodied gesturing points toward the cultural implications of kinesis, American dance scholar Susan Leigh Foster traces the connections between choreography, kinesthesia, and empathy through histories of the dancing body. Foster's research on

[296] Carrie Noland, *Agency and Embodiment: Performing Gestures/Producing Culture* (Cambridge, MA: Harvard University Press, 2009).
[297] Ibid., 16.
[298] Ibid., 90.

embodiment in Western cultural frameworks addresses the subjective nature of empathy and how the cultural construct of whiteness, a construct made into law and used to exert power, continues to operate across creative mediums that engage with the body in performance. Foster focuses on establishing links between histories of the dancing body within Western subjectivity, to question the cultural constructs inscribing a body image that is white, Western, and male as a "neutral" body. She retraces the links between the Enlightenment's concern for rational and scientific notation systems to classify natural forms, such as flora or the dancing body. For Foster, such classification efforts explain how the dancing body became a site upon which cultural and political concepts could be represented through tightly controlled aesthetics. Recognizing strict codifications of body movement alongside new modes of inscribing and disseminating dance, Foster reveals the entwined nature of the colonial project in the kinds of bodies it created.[299] For Foster, the notion of empathy is historicized via a colonial framework in which only one group—the colonizer—has the power to evaluate and respond to all other groups: the colonized. Taken together, Noland's and Foster's approaches trouble the representation and reception of live bodies, with implications for representation, as well as viewer participation, in VR.

In *Body Swap*'s "system," a participant sees another person's body through a 360-video projection and can interact with them physically in real time.[300] *TMBA*'s choreographed scenario operates differently from the historical and modern dance contexts Foster studies, and its participatory nature functions in a manner different from performance-based artworks that require viewers to get involved—such as those of African-American conceptual artist Adrian Piper, considered further in this thesis. Having been a co-participant in *Body Swap* during its presentation at Montreal's Festival du Nouveau Cinéma, I bring this personal experience of *TMBA* into dialogue with Piper's strategies to highlight the gendered, racialized nature of our daily performance of self in the world. I am not implying that gender and race are performative per se, but rather that Piper's performances foreground how common assumptions around a person's race and gender influence not only how that person is perceived and represented but also how they perceive and represent themselves.

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[299] Foster, *Choreographing Empathy*, 32.
[300] Although interactive media, artworks, and videogames can offer real-time feedback, what I refer to here is the combination of liveness (actual people moving in space together) with the real-time visual feedback of VR.

As I experienced *Body Swap*, the interaction in VR with my co-participant (a stranger) relied on trust and constant exchange for it to feel successful, and made me re-examine the contextual nature of the gestures of exchange in which we engaged. My experience of *Body Swap* felt like it was a mediated performance of the self, performed for the other. The project's embodied physicality was novel and innovative, but feeling that I was mediating the self for another reminded me that the technology's very novelty influenced my reflection around empathy and my perception of the other participant's experience.

Regarding the context in which *TMBA* was created, although many of the project's presentations have taken place in Western spaces where audiences share the privilege of having accessed the technology relatively early in its recent history, BeAnotherLab also presented their "embodied system" in a refugee camp in Chad (in 2018).[301] There, *TMBA* was one of several projects proposed as cultural mediation tools by "artists, cultural actors and NGOs concerning their work for the culture and integration of refugees in Africa and elsewhere."[302] Reading from Saidiya Hartman, who warns of the precariousness of empathy when it becomes performative without serving those it portrays, I understand empathy as a relational practice, always bound by shifting contexts and asymmetries of power. In this context, Lynda Joy Gerry's view that *TMBA* fosters empathy in co-participants "directly" and "concretely" underlines the precariousness of VR empathy when that directness and concreteness refers to a Western cultural framework but the assumption of Western and/or white privileges is not being signalled.

Milk's proposal for VR empathy is close to the language of advertising: "Our film *Clouds Over Sidra* takes you to a Syrian refugee camp, and instead of watching a story about people over there, it's now a story about us here."[303] In contrast to Milk's approach, *TMBA* expressly relies on the diverse contexts that each participant brings along with them as they co-create their experiences with BeAnotherLab's guidance. Yet, in *Body Swap*, the participant is encouraged to feel a sense of connection with the co-participant, rather than a less involved observation of reality from their point of view. Returning to psychological understandings of empathy, wherein which social and cultural contexts cue individuals to respond in certain ways, *TMBA*'s turn to VR as co-creation suggests a form of relational exchange different from what immersive

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[301] BeAnotherLab, "Danser Pour La Vie – BeAnotherLab in Chad," accessed May 3, 2023, http://beanotherlab.org/2018/05/23/beanotherlab-in-chad-danser-pour-la-vie/.
[302] Ibid.
[303] Milk, "How virtual reality." See also n. 211 for more information about the film.

representation might allow without collaboration. At the same time, *TMBA*'s assumptions with regard to VR, as co-creation combined with empathy, nonetheless remain contextual and the co-participants' reactions appear weighted toward prompts supplied by the facilitators.

What Lynda Joy Gerry and BeAnotherLab envision as VR's cognitive offering is perceived by Lisa Nakamura, rather, as "an imagined reset button" through which "VR 2.0" is put forward by the "newly chastened digital media industry," which includes Facebook, Google, and other VR startups and for-profit companies. Nakamura seeks to alert readers to what she identifies, in light of earlier technological shifts, as the misleading claims of "VR 2.0": "It is a disturbing and enticing promise that we remember from the early internet but that we cannot have any more."[304] For Nakamura, the negative effects of looking to VR to foster empathy outweigh its potential benefits.

Nakamura and Benjamin point to the tendency of the part of some VR creators to use the status quo around VR empathy to imply a universal, unmarked body that is legible and accessible through virtual simulation. For these authors, however, this implies that subjects portrayed in VR may be racialized, or not, according to the desire of the viewer, which is problematic. The notion of difference, as contained within one person, becomes something you can toggle on or off, without permission. In my view, *Body Swap* raises key questions about embodiment in relation to VR empathy, and the turn to co-creation which *TMBA* investigates is a pertinent exploration of how empathy, or perspective taking in VR, can be literally embodied. Reading from Nakamura, Benjamin, and *NSAF*, however, the very notion of a "body swap" is something to approach with caution. If a "machine to be another" can simulate swapping bodies with another person, I would suggest that the dynamic connections between race, gender, and colonial legacies, which influence how we perceive ourselves and others through visual representation, should form a part of this machine's blueprint. In a significant contrast, *NSAF* challenges VR empathy while centering Black futurity, intersectional feminism, and artistic collaboration.

With VR's potential omnipresence in mind, I advocate for an approach to VR creation that challenges these implications, destabilizing a reliance on tropes through intersectional feminist models. Researching practices within and outside VR led me to study Beyoncé's media texts and Adrian Piper's artworks for the theories and the practices they propose in regard to

[304] Nakamura, "Feeling Good," 52.

feminist representation and Black representation through the lens of Black futurity, and how VR technology might be used to amplify such creative and artistic approaches.

2.4 Avatar Production, Feminist Performance, and Black Futurity

Thomas DeFrantz foregrounds the complexity of Black art and the fact that it resists being pitted "as a thing against something else—against white patriarchy, white racism, white privilege." Borrowing from DeFrantz, I argue that both Adrian Piper's and Beyoncé's works are "imbued with multivalent experiential and theoretical dissidence,"[305] and that both artists' approach are expansive, notwithstanding the distinctive messages their individual works contain. An element that connects all four works I study in this chapter is how these two artists' performances refer to distinct personas, discrete avatars, serving different purposes and addressing different audiences.

As Peggy Phelan observes, feminist performance lets you think about the body and play with a persona—which I refer to as an *avatar*, in Uri McMillan's understanding of the term. McMillan studies "performance art staged by black women" and engages with the "dual connotations of 'avatar'—of a spiritual reincarnation and an alternate self" in relation to these performances.[306] For him, the term "avatar" is both expansive and a critical device through which the complexity of these performances is best articulated. McMillan proposes the notion of "avatar production," which he employs both "as an analytic for understanding the cogent and brave performances of alterity these women enact" as well as to "reveal how these performers transmute their simulated identities into transhistorical figurations."[307]

A concentration on "performance art staged by black women" allows McMillan to highlight the marginalization of Black women within feminist art canons and of Black people more generally within the avant-garde. Like Phelan and Piper, McMillan understands the strength of performance as resting in its ambiguity, since the performer/artist can become an art object "blurring the lines 'between action, performance, and a work of art.'"[308] He also maintains that avatar production in Black performance art, both historically and for contemporary African-

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[305] DeFrantz, "I Am Black," 21.
[306] McMillan, *Embodied Avatars*, 3.
[307] Ibid., 12.
[308] Ibid., 3.

American artists,[309] "hint[s] at its generative future iterations."[310] Understanding McMillan's notion of avatar production as being in the service of Black futurity through "performance art staged by black women," I argue in this section for a reading of the distinct forms of avatar production in Beyoncé's and Adrian Piper's works as creation models with "generative future iterations"[311] in VR worlds. This is one way in which I perceive Piper's and Beyoncé's performances as serving Black futurity. Thinking along with McMillan's reading of Black performance, I turn to Phelan's contention that performance permits an artist to play with a multiplicity of identities, of avatars. I bring this idea in dialogue with the performances in Piper's *Catalysis III* and *Cornered*, and Beyoncé's *Homecoming* and *Lemonade*—in particular, these artists' employment of different personas when engaging with underrepresented histories and present-day realities in the United States.

2.4.1 In **Cornered,** *Piper addresses white viewers directly, embodies the "art object"*

Piper's *Cornered* (1989) is a multimedia installation presented in the corner of a gallery. The artist combines a video of herself, displayed on a TV monitor, with an upturned table placed directly against a plinth upon which the TV rests. A group of chairs faces table and monitor, and a pair of framed birth certificates, of Piper's father, hang to either side of the installation, a little higher than the TV. In the video, Piper addresses the viewer directly, stating: "I have no choice, I'm cornered. If I tell you who I am, you become antagonized. If I don't tell you who I am, I have to pass for white, and why should I have to do that?" Piper includes her father's two birth certificates to illustrate the complex relations that whiteness and Blackness signify in America. One certificate describes her father as "white" while the other refers to him as "octoroon," a historical term referring to a person who is one-eighth Black by descent, in the context of American racial segregation and the "one drop rule."

According to Phelan, *Cornered* instrumentalizes the ambiguity of Piper's appearance—a light-skinned African woman able to "pass" as a white woman—to interrogate the viewer's preconceptions around race and racial identity. Phelan describes *Cornered* as addressing a spectator, who is assumed to be white, with "a slow but increasingly pointed set of questions and

[309] McMillan studies the works of Adrian Piper and Howardena Pindell, as well as those of younger artists such as Nikki Minaj and Janelle Monáe, among others.
[310] McMillan, *Embodied Avatars*, 218.
[311] Ibid.

propositions" to "gradually overturn the binary of 'black' and 'white' so fundamental to the performance of racist ideology in the United States."[312] For Phelan, *Cornered* also takes aim at the legacy of slavery in America, the notion of miscegenation (a term used in a derogatory way by those who condemn the mixing of Blacks and whites), and the discrepancies existing between race and skin colour, between which, as Piper suggests in this piece, there is no such thing as a "pure" match. For Phelan, *Cornered* touches on and exposes the arbitrariness of racial profiling in America, against its backdrop of persistent institutionalized racism.

In *Cornered* (1989), which she created nineteen years after *Catalysis III*, Piper not only implicates the white viewer's body directly but calls upon the viewer to question their own relationship with the "one drop rule." While McMillan and American art historian John Bowles suggest that Piper intends that the viewer "become self-conscious about his or her role in completing the work,"[313] American curator Ruth Erickson contends that Piper is arguing "for calling oneself black as a moral decision" and, "after stating that most 'white' Americans have black ancestry," for asking viewers what they will make of this information.[314] *Catalysis III*, McMillan notes, employs "self-staging in the everyday locales of New York City in lieu of museums and galleries"; this allowed Piper to be more confrontational while "testing her audiences' ability to recognize her *as* art."[315]

Piper's transition, in her practice, to performance, including performing objecthood, created a new space where her ideas could be articulated without a fixed result in mind, while inscribing these performances within visual art's premier spaces. Taking up performance allowed Piper to engage with art audiences who can read the art-world codes she employs, and to ask the members of these audiences to question their definition of what constitutes an artwork.

McMillan discerns the time-bending potential of avatar production, specifically in Piper's work *The Mythic Being*, an avatar she created in 1973 as her "seeming opposite: a third world, working class, overtly hostile male."[316] Both Bowles and McMillan read Piper's earlier performances, such as the *Catalysis* series, as paving the way for *The Mythic Being*. McMillan

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[312] Phelan, *Unmarked*, 7–8.
[313] John Bowles, *Adrian Piper: Race, Gender, and Embodiment* (Durham, NC: Duke University Press, 2011), 15.
[314] See Erickson's description of *Cornered*, exhibited at the Hammer Museum at UCLA, February 9–May 18, 2014. Ruth Erickson, "Adrian Piper," Hammer Museum, UCLA, Los Angeles, 2014, https://hammer.ucla.edu/take-it-or-leave-it/artists/adrian-piper.
[315] McMillan, *Embodied Avatars*, 224.
[316] Piper, quoted in McMillan, *Embodied Avatars*, 95.

suggests that avatars such as these can "seemingly supersede normal progressions of time," qualities reflected in *The Mythic Being*, which he describes as "timeless," and as imbued with a personal history that existed "prior to the history of the world."[317] As the act of performing became a part of Piper's artistic process, she explored it further by using various writing styles to engage with her own performances. In *Catalysis III* (1970),[318] Piper speaks to the art world as a conceptual, minimalist artist who presses the limits of what the art object can do in a gallery context. One of a series of performances made between 1970 and 1973 under the general title *Catalysis*, Piper refers to *Catalysis III* as a "street performance" in New York City, in which she takes direct actions aimed at challenging and provoking her audience. In two photographs documenting *Catalysis III*, Piper wears a white sign with the words "WET PAINT" inscribed in black letters on her white shirt. Bowles notes the matter-of-fact way in which the artist describes the performance: "I painted a set of clothing with sticky white paint with a sign attached saying 'WET PAINT,' then went shopping at Macy's for some gloves and sunglasses."[319] Piper walks along a busy main street. The left-hand image frames Piper from head to toe as she walks toward the camera. The image on the right shows her at an angle and closer to the camera, as if walking past the person taking the photo. She appears oblivious to two women who turn around to look at her, and seems undisturbed by the attention her sign attracts. Below the photographs, the last part of a typed caption reads "see Talking to Myself: The Ongoing Autobiography of an Art Object."

American art historian Cornelia Butler notes that Piper's *Catalysis* works (1970–73) represented a shift away from making objects. She also points to a shift, which happened in 1970, in Piper's politics. Before this, the artist had kept her political activism in the Civil Rights Movement and against the Vietnam War deliberately outside of her artwork. In the spring of 1970, however, a set of events[320] motivated her to bring her politics into her practice.[321] Butler

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[317] McMillan, *Embodied Avatars*, 11–12.

[318] I base my analysis of this artwork on the documentation presented during Piper's MOMA retrospective (2018), which is reproduced, as follows, in the exhibition catalogue: "'Catalysis III,' 1970, Documentation of the performance. Two gelatin silver prints and text mounted on colored paper. Overall, 8 1/2 x 11 in. (21.6 x 27.9 cm). Collection Thomas Erben, New York" (180). This version of the work presents two square black-and-white photographs displayed side by side on a landscape-oriented sheet of letter-size paper, with a typed caption pasted on the sheet below the photographs.

[319] Piper, quoted in Bowles, *Adrian Piper*, 183.

[320] Briefly, these events were: "(1) The invasion of Cambodia; (2) The Women's Movement; (3) Kent State and Jackson State; (4) The closing of CCNY, where I was in my first term as a philosophy major, during the student rebellion." Piper, quoted in Butler, "Adrian Piper," 57.

[321] Cornelia Butler, "Adrian Piper," in *Adrian Piper: A Synthesis of Intuitions, 1965–2016*, ed. Christophe Cherix et al. (New York: Museum of Modern Art, 2018), 57.

notes that in her early performances, such as the *Catalysis* series, Piper understood herself as a "'self-conscious object.'"[322] And Bowles notes, further, that Piper's earliest essays (August 1970–January 1971) "outline experiments with altering her appearance to become an "art object.'"[323] Bowles adds, however, that the essays do not report how Piper's audience responded and focus instead on describing her actions and the matter-of-fact manner in which they are to be performed.

But Piper does not equate the association with objecthood as becoming something static. To the contrary, I argue that Piper takes up the body as an artistic medium to challenge the limited notions of identity existing in American society. Indeed, she turned to performance to emphasize the performativity of bodies, the performativity of identities, and the fluidity of identities. In *Catalysis III*, Piper's choice of performance as an artistic medium—McMillan calls this a "substitution of her altered physicality for the discrete art object"—stemmed from her interest in provoking a direct reaction in an unexpectant audience. Piper, Bowles explains, "performs her role as an artist to alienate herself from her work,"[324] and to create a theatrical moment for the audience, rendering her personal experiences as universal. In *Catalysis III*, the presence of the artist's persona, or avatar, seeks to implicate the viewer's body, to act as a conduit for viewers to reflect on their own positionality vis-à-vis the performance. For Bowles, the *Catalysis* series establishes Piper's concern with prompting a reaction, while also allowing the viewer to come to terms with this reaction.

I would bring Piper's interest in the temporary-yet-potent moment of interaction into dialogue with the feminist "not one"[325] conception of the body through which, according to Canadian feminist writer Heather Davis, feminism thrives; for her, this highlights the importance of considering a multiplicity of bodies within a feminist practice. Looking through the lens of feminist performance, I see *Catalysis III* as proposing "not one" moment of interaction between artist and audience. And in inscribing this approach within an art-world context, Piper created a precedent upon which others might build.

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[322] Piper, quoted in Butler, "Adrian Piper," 57.
[323] Bowles, *Adrian Piper*, 165.
[324] Ibid., 15.
[325] "The point is that we are not one. We are not one body, nor one gender, sex, nor one race or ability or age. Feminism itself is the realization of the not-one. There is no position that can be outside of embodiment…. That body is a body that desires and its desire creates new worlds and new possibilities for feminism and art." Heather Davis, "Proposition for Twenty-First Century Feminism 1: On Sex, Gender and Feminism," in *Desire Change: Contemporary Feminist Art in Canada*, ed. Heather Davis (Montreal: McGill-Queen's University Press, 2017), 56.

DeFrantz emphasizes the value of a simultaneous co-existence of multiple Black identities: "It's not just one identity, or another identity; it's all of them simultaneously and on top of each other."[326] I place this idea into dialogue with McMillan's notion of "avatar production," highlighting the co-existence of multiple Black identities present in "performance art staged by black women,"[327] as embodied in Piper's and Beyoncé's various personas.

Returning to the proposition that Piper's and Beyoncé's works operate in the service of Black futurity, I argue that Piper's personas remain expansive. For example, her avatar's performance in *Catalysis III* may be re-imagined in open-ended virtual social worlds, such as the social VR application VR Chat, an online virtual world platform launched in 2014 and primarily designed for use with VR headsets, where users interact via customizable 3D avatars and circulate in and out of various rooms, making them another type of "unexpectant audience." I would argue, further, that the questions elicited by Piper's persona in *Cornered* as to Black and white identities in the United States are as current today as they were in 1989.

2.4.2 The Black female body: From Piper's objecthood to Black female solidarity in Beyoncé's work

Per DeFrantz's performative text: "The last thing the [Black] performance is trying to do is satisfy a white gaze; that's at the very bottom of the list, especially in black contexts, but even in white contexts."[328]

British journalist Syreeta McFadden and American scholar and activist Zandria Robinson stress that Beyoncé's *Lemonade* proffers a type of Black female solidarity that does not require white feminists' approval. Both writers read "Formation" as demonstrating a productive resistance in action, and Beyoncé's message as one of unity via the inclusion of diverse Black identities. Says Robinson: "I have no tolerance for the uncoordinated—those who cannot dance and move for black queer liberation, black trans liberation, black women's liberation, at all intersections."[329]

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[326] DeFrantz, "I Am Black," 20.
[327] McMillan, *Embodied Avatars*, 3.
[328] Ibid., 18.
[329] Zandria Robinson, "We Slay, Part 1," *New South Negress* (blog), February 7, 2016, https://newsouthnegress.com/southernslayings/.

Throughout its twelve songs and single hour-long film, *Lemonade* makes public Beyoncé's process of healing from the pain of betrayal by her husband Shawn "Jay-Z" Carter. Through a variety of personas, or avatars, Beyoncé's songs express sorrow, rage, and a call for reconciliation, through which she appears to be healing herself mentally and physically, and in community with other Black women. American media writer Carol Vernallis remarks that, "*Lemonade* showcases multiple story lines and strands simultaneously"[330] using a hybrid format, which draws "on music-video and avant-garde aesthetics."[331] For Vernallis, this allows audiences to understand Beyoncé's personal narrative in dialogue with references to American history, specifically the southern United States.

American feminist scholar and filmmaker Ayana Dozier[332] contends that *Lemonade* successfully remixes the music video as a generative Black feminist cultural space, both within and beyond the United States. Beyoncé, says Dozier, makes positive use of the music video format within the historical context of its development. Dozier explains that within American media production, the rise since the 1980s of the music video enabled increased visibility for Black popular culture, as it was one of the only media formats to support Black cultural expression and make it visible to a broad public. Dozier observes that Beyoncé adapts these formats to fit her vision, expanding her albums *Beyoncé* and *Lemonade* from audio tracks with music videos into full-fledged multimedia visual albums.

For Robinson and McFadden, Beyoncé's video for her single "Formation," which features choreographed movement and dance sequences performed by an all-Black roster of performers, affirms the diversity of Black cultures through the representation, as McFadden puts it, of "our diverse selves, of our intersections—class, sexuality, gender."[333] It celebrates, says Robinson, the "folks on the margins of blackness."[334] For the concert film *Homecoming*, the various performances of the live shows—solo, in small groups, or with a full stage ensemble—are juxtaposed with the words of famous Black feminists, scholars, and activists, which appear on screen at regular intervals during the film. Beyoncé's 2018 live performance is thus

[330] Carol Vernallis, "Beyoncé's Lemonade, Avant-Garde Aesthetics, and Music Video: 'The Past and The Future Merge to Meet Us Here,'" *Film Criticism*, 40, no. 3 (2016): 1, https://doi.org/10.3998/fc.13761232.0040.315.
[331] Ibid.
[332] Ayanna Dozier, "The Music Video's Counter-Poetics of Rhythm: Black Cultural Production in *Lemonade*," in *The Routledge Companion to Global Television*, ed. Shawn Shimpach (New York: Routledge, 2020).
[333] McFadden, "Beyoncé's Formation."
[334] Robinson, "We Slay, Part 1."

reimagined productively through the format of a 2019 Netflix documentary, wherein text, music, and performance function together in a choreographed celebration of blackness and Black femininity. Commenting on the *Lemonade* film, McFadden notes that its celebration of diverse Black experiences is "woven so neatly together in the visual that the lyrics and music seem secondary"; yet she acknowledges that the latter are "intrinsic to communicating this celebration of southern fried blackness."[335]

Alongside McFadden and Robinson, who discuss *Lemonade* in terms of Black female solidarity, American "femme-inist" Omise'eke Tinsley explores the visual album's treatment of Black trans feminism in the context of the "misogynoir, femmephobic, homophobic world we navigate,"[336] adding that "black trans women [were] being murdered at a rate of almost one per week in the United States at the time *Formation* came out."[337] For Tinsley, "Formation"—both the song and the video—communicate trans and cisgender Black feminist solidarity, something she describes as specific to the American South. Tinsley also explains the importance of including southern Black trans singer Big Freedia's voice in "Formation,"[338] even though she is not featured visually. Big Freedia is a successful rapper credited for popularizing bounce music, a genre of hip hop.[339] Tinsley perceives how Big Freedia's visual absence creates space for a sequence,[340] which accompanies her verses and features three anonymous Black women in a hair shop, facilitating the portrayal of a diverse, "not one"[341] representation of Black women.[342] *Lemonade* therefore resonates, writes Tinsley, with "the black femme function,"[343] an expression coined by Kara Keeling to value and celebrate hybrid Black identities. For Tinsley, Keeling's concept provides a space to imagine the co-existence and thriving of "different configurations of

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[335] McFadden, "Beyoncé's Formation."
[336] Tinsley, *Beyoncé in Formation*, 170.
[337] Ibid., 146.
[338] Tinsley also mentions that Beyoncé had invited Black trans activist Laverne Cox to appear in the video for *Sorry*, but Cox was unavailable. Tinsley, *Beyoncé in Formation*, 147.
[339] Thomas DeFrantz observes that Big Freedia's financially lucrative performances operate successfully in mostly white spaces while remaining valid in the Black spaces they were created in. To DeFrantz, this indicates how Black performance is "imagining together forward" through "a group process of reflection and rejuvenation." DeFrantz, "I Am Black," 10.
[340] See the clip 01:11–01:19 in Beyoncé, *Formation* (music video), dir. Melina Matsoukas, 2016.
[341] Davis, "Proposition," 56.
[342] Tinsley also points out that locating these women in a hair shop, a safe space for both cisgender and trans women, holds meaning in the context of the American South. Tinsley, *Beyoncé in Formation*, 150.
[343] Keeling, quoted in Tinsley, *Beyoncé in Formation*, 170.

gender, race, and sexuality—one where all the women aren't white, all the blacks aren't men, and all the queers aren't butch."[344]

2.4.3 **Homecoming** ***performances: "Without community, there is no liberation"***

In earlier works, Beyoncé explored the potential of embodying stage personas and alter-egos such as "Sasha Fierce" and "Mrs. Carter." Through her performances in her films *Lemonade* and *Homecoming*, I argue that Beyoncé pays close attention to the histories of Black bodies in America and thereby brings underrepresented people to the table.[345]

The 2019 documentary film *Homecoming* is centered on Beyoncé's two-hour 2018 Coachella[346] headliner shows of the same name as well as a series of in-depth personal, behind-the-scenes accounts by herself and selected performers and other close collaborators. The artist situates *Homecoming* in the context of Black American history, featuring quotes by Black feminists and historical figures such as Toni Morrison, W. E. B. DuBois, Alice Walker, Marian Wright Edelman, Reginald Lewis, Audre Lorde, and Cornel West, as well as audio clips by Nina Simone and Maya Angelou; and also by mentioning which HBCU[347] they attended. Over the duration of the show, more than two hundred performers, including dancers, singers, musicians, and other guest performers,[348] perform songs and dance routines from Beyoncé's twenty-two-year career with recognizable dance and musical performances drawn from HBCU traditions, paying homage to their legacy and abiding value in contemporary American culture.

I argue that in *Homecoming*, Beyoncé stages avatars from her own career in combination with HBCU avatars as a practice of liberation. If we consider *Homecoming* within a "Beyoncé feminist" framework, it is one that builds upon the legacy of the star's previous work, making use of "avatar production" to celebrate the present, past, and future of HBCU culture. And for *Homecoming* (the film), Beyoncé's decision to partner with Netflix was an opportunity to share

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[344] Tinsley, *Beyoncé in Formation*, 170.
[345] The quote in the above section heading is from Audre Lorde, quoted in Beyoncé, *Homecoming: A Film by Beyoncé*, 01:39:00.
[346] The Coachella Valley Music and Arts Festival has been held annually in the Coachella Valley, in the Colorado Desert, since 1999. Coachella showcases popular and established musical artists, emerging artists, and reunited groups. It is one of the largest, most famous, and most profitable music festivals in the United States and the world. See: https://en.wikipedia.org/wiki/Coachella_(festival).
[347] HBCU = Historically Black colleges and universities.
[348] Notably past members of Destiny's Child, Beyoncé's former band, as well as her sister Solange and her husband Jay-Z.

HBCU traditions with the streaming platform's millions of subscribers (approximately 74.4 million in the U.S. and Canada as of April 2023, and 232.5 million worldwide[349]).

In the live show, Beyoncé dedicates the song "Run the World (Girls)" to "all the incredible women who opened up the doors for me,"[350] thereby acknowledging how she has benefitted from other Black women paving the way for her to become a global icon. For American writer and podcaster Aisha Harris, Beyoncé "puts herself directly in conversation with voices from black American history" and "schools her audience on the beauty of black culture, yes, but also on the importance of preserving and encouraging the legacy of historically black colleges and universities."[351]

One of the key takeaways from watching Beyoncé's film *Homecoming* is her portrayal of HBCU cultures. The documentary opens with a dramatically angled frontal shot of a majorette drumroll and then cuts to Beyoncé walking toward the camera on a platform that traverses floor and audience, dressed in a luminous Nefertiti outfit coordinated to those of her female dancers. This sequence cuts to an HBCU-style battle-of-the-bands "fight song," and then to Beyoncé's second entrance, atop the stage in a stylized high-school sports outfit bearing the "Black Greek" letters (a reference to HBCU fraternity and sorority culture). This sequence forms the critical starting point to a film that invites viewers to discover, or revisit, various performances central to HBCUs across the United States. I argue that the film makes HBCU culture accessible to an all-American and even a global audience, using a range of audiovisual references such as "Black Greek" letters, military-style drumrolls and majorettes, line dance culture, and drum lines. All of these are portrayed in an appealing light, both through the rapid pacing of each stage performance and the fact that the show is the co-creation of a community working together rather than competing for a place in the limelight. Along with Beyoncé's voiceover narration and a candid camera behind-the-scenes segment, which features rehearsals and a post-show celebration, Beyoncé's personal narrative and the collective journey represented by *Homecoming*

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[349] Statista, "Number of Netflix paid subscribers worldwide from 1st quarter 2013 to 1st quarter 2023 (in millions)" (Media, TV, Video & Film), last modified April 20, 2023, https://www.statista.com/statistics/250934/quarterly-number-of-netflix-streaming-subscribers-worldwide/; Statista, "Number of Netflix paying streaming subscribers in the United States and Canada from 1st quarter 2013 to 1st quarter 2023 (in millions)" (Media, TV, Video & Film), last modified April 20, 2023, https://www.statista.com/statistics/250937/quarterly-number-of-netflix-streaming-subscribers-in-the-us/.

[350] Beyoncé, *Homecoming: A Film by Beyoncé*, 01:39:00.

[351] Aisha Harris, "Beyoncé the Creator: 'Homecoming' Review," *New York Times*, April 17, 2019, https://www.nytimes.com/2019/04/17/movies/beyonce-homecoming-review.html.

are presented as a celebration of HBCU traditions and African-American innovation and leadership.

I argue that Beyoncé's use of multiple stage personas in *Homecoming* brings Black performances inspired by HBCU cultures to both mixed and Black audiences. I would also suggest that Beyonce's approach is conducive to broadening the reach of Black performance in global popular culture, while maintaining control over its narrative.

For Thomas DeFrantz, "the dance of black performance is action"; as such, it is important to experience "the whole of it"[352] (versus focusing on one aspect of the performance).[353] I draw a connection between DeFrantz's "the whole of it" and the potential represented by VR worlds in contrast to other media: the possibility of perceptually surrounding viewers in environments different from the one in which they are physically located—thus, an immersion into "the whole of it."

In both films studied, I contend that Beyoncé's engagement with intersectional feminist performance, which centres Black performance, combined with her innovative film techniques, contributes to each film's success. Within the modality of mass entertainment, I argue that Beyoncé proposes a "whole" experience, which employs film as "a tool for liberation," one which can help us navigate VR's new conventions for representing both self and other. In addition to this, reading from DeFrantz's perspectives on Black performance may bring us to consider how performances in VR can, or could, be employed to rethink race and, specifically, intersectional and Black feminist positionalities.

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[352] DeFrantz, "I Am Black," 13.

[353] Acknowledging the art historical legacies of the term *Gesamtkunstwerk*, translated as "total artwork" or "total work of art," I read DeFrantz's notion in the following way. For him, Black dance and Black performance created and presented in Western contexts operate within societies where systemic and institutional racism influence how they are received, meaning that audiences should be mindful of this context when assessing the content of these performances.

Conclusion

Created in allyship with Black people, people of colour, and Caribbean people, my research-creation project evolved through a creative process informed by research, personal experiences, and the sociopolitical context of working in Montreal without returning to the Caribbean since 2017, when I began the project.

Across its first iterations (2018, 2019), my doctoral artwork explored Caribbean futures through the co-creation of immersive worlds in virtual reality and physical installation featuring experimental performances and soundscapes. Drawing from Kamau Brathwaite's concept of tidalectics as a foundational anchor, *ISLAND* (versions 1–3) and *MYRa* (2019) delve into water as a historical space, building on Paul Gilroy's concept of the Black Atlantic, engaging with Edouard Glissant's notions of *relation* and *le droit à l'opacité* (the right to opacity), and exploring Caribbean cultural perspectives and critical theoretical frameworks to create an artwork that explores the fluidity of identity and cultural relationships.

While studying the works of contemporary Black British and American artists John Akomfrah, Arthur Jafa, and Sondra Perry to centre Black perspectives around what I refer to as *submerged histories*, I focused on how the selected artworks engaged with the transatlantic slave trade's impact on the representation of Black and Caribbean postcolonial identities in immersive art installations. This led me to reevaluate how to work in allyship and to remove my presence as a white woman of mixed descent in an artwork engaging with Black Atlantic histories. Despite differences in context and scale, my artwork was created in mind of goals held in common with these more established artists. As the creation process developed, I further explored Glissant's concept of opacity in the context of Caribbean and American identities, emphasizing its role in preserving uniqueness against assimilation. Working in VR, I interpreted opacity artistically into a visual experience by digitally merging subjects and water, reflecting the intricate intersections of Caribbean and American identities shaped by colonial legacies.

Within each iteration of my artwork's VR experience, I encouraged viewers to explore a virtual world without embodying a specific person's perspective by intentionally creating open-ended environments, prompting viewers to form their own associations with visual and sonic elements designed to blend into each other. Rather than claim ownership over my research-creation project's outcomes—especially as it includes a reflection upon my own whiteness—my

artwork endeavours to foster constructive dialogue around the re-inscription of Blackness and whiteness within immersive worlds as the creation of such worlds becomes more accessible to visual artists.

Ultimately, this has led me to redirect my creative practice to engage with environmental issues centered around water, building on two of the themes explored through my doctoral artwork: submersion and Caribbean futures. I avoid speculating on the adoption of these notions by others engaging in VR creation, since I was unable to achieve one of my project's initial ideas—to foster a generative platform through which these topics may be troubled by other voices. Nonetheless, I argue that centering Caribbean and Black futurist perspectives in VR remains pertinent, whether such perspectives engage with people or ecosystems.

Although my artwork's final iteration *virtual ISLANDs* (2022) was a departure from previous versions of my project (as references to the Caribbean were removed and I returned to featuring a white female subject in the work), it marked a breakthrough in terms of how I work with immersive media. Learning how to record a performance from all angles successfully with volumetric video capture allowed me to effectively blend representations of subjects with virtual water. My goal when centering Whitelaw's choreographed performance—which aims to visualize submersion by evoking the physicality of water through the sensitivity of her gestures—was to invite VR users to experience movement through water in unique ways by navigating among the particles forming a moving body, which merge into the virtual water.

Within the exhibitions and public facing presentations (as listed in Appendix to Part 1) where I was given an opportunity to present my research-creation results, these were made available to either visual art audiences or academic audiences. My conceptual research behind the respective iterations was either very condensed or partially obscured by the open-ended messages the artworks propose in and of themselves, particularly in the last version, something I perceive as a limitation of my research-creation methodology. Yet the interactions with my audiences and my collaborators were key to the progression of my conceptual and creative process, and they inform the next stages of my research-creation practice. The main takeaways from my audiences were the following:

1) Firstly, that I proposed forms of immersion that required little to no prior experience with emerging technologies; this was perceived positively by viewers who were new to these tools and to those with prior experience.

2) Secondly, some viewers expressed a desire for clearer guidelines within the user interface. Others found the filmed performances too experimental and were searching for what they could 'do' in VR. But the general feedback about the experience of navigating within my submerged audio-visual worlds was that these were conducive to a meditative state; and viewers generally felt the level of agency within the work as complementary to the content.

Regarding the experience of working in collaboration with other artists and technologists, I found the experience to be generative and positive for myself as did my collaborators across the research-creation project's iterations and presentations. Working collaboratively, remotely with some collaborators and in-person with others, although not conceived in this way from the start, was pertinent to exploring the affordances of virtual world making. It also allowed our diverse creative voices to come together within a VR experience and multimedia installation which can adapt to the physical and digital spaces they are presented in.

As I reorient my praxis, the next concrete steps for my existing artwork are to update the VR experience for *virtual ISLANDs*. My aim is that the electroacoustic sound composition by Kasey Pocius be triggered directly by the VR users' movements through the water. This way, users can engage with the granularity of the sonic landscape, which Pocius has conceived as a spatialized experience within the gallery space. If the VR experience is then distributed online, the sound spatialization will have to be adapted to function *within* the VR headset without the aid of a physical speaker array, a meaningful update for purposes of bringing this project to larger audiences. Revising the user experience in this way could also potentially enable my artwork to function with the prototype aquatic VR headset engineered by French XR producer Pierre Friquet.[354] Albeit for a smaller audience, if *virtual ISLANDs* could be adapted for such a prototype, users could then navigate around Whitelaw's submerged performance virtually while experiencing the physicality of water directly, thereby opening new possibilities for this experience.

In line with the interdisciplinary nature of my research and creation practices, my aim is to collaborate with scientists working in water conservation within the context of climate change. Drawing from Canadian scholar and architect Cecilia Chen's notion of "thinking with watery

[354] Having worked with existing aquatic VR goggles before creating his own prototype, Friquet's aim is to work with artists who share his passion for creating VR works designed to be experienced underwater.

places,"[355] I plan to engage further with water though environmental, cultural, historical, and speculative approaches. Further, being aware of the potential for VR creation with interdisciplinary collaborators who share similar goals, I take to heart Chen's suggestion that,

> Unlike thinking with land, thinking with water asks us that we deterritorialize how we understand where we live and that we consider ongoing relations with others—whether these relations join us to other locations, other beings, or other events and spacetimes…. These relations may include communities of disease and environmental toxicity as well as the many watery places we make together. Thinking with watery places asks us to recognize places as always permutable and permeated with water—as shaped by water quality, scarcity, or abundance. Further, it requires that we consider a lively relationality and an ethics of environmental community.[356]

Within this broad proposal, I aim to co-create in a contemporary Caribbean cultural context and foster dialogue around Caribbean "watery places" through immersive world-building inspired by life conditions in the region. The first step toward this aim will be to co-create a virtual world in which to visualize the effects of climate change on Caribbean waters and ecosystems in community with those currently affected by these changes. Drawing from the collaborative and experimental approaches developed through my artwork's various iterations, this proposed virtual world would utilize the latest tools for 3D capture and immersive storytelling within a participatory creation framework. Further, building on my research in submerged histories and Black futurity, this approach could conjoin scientific data visualization with creative responses to shifting environmental conditions to serve both specialized and general audiences by designing the project's different outputs accordingly.

In his book *Experience on Demand*, VHIL founder Jeremy Bailenson builds on the research conducted at his Stanford University lab to share his views on the different ways in which VR affects society in the present and how it will do so in the future. Although VHIL's research has moved in new directions since 2018, including toward projects that address systemic racism, I believe the following questions which Bailenson asked then remain pertinent today: "How will VR change the way we learn, the way we play, or the way we communicate

[355] Cecilia Chen, "Mapping Waters: Thinking with Watery Places," in *Thinking with Water*, ed. Cecilia Chen, Janine MacLeod, and Astrida Neimanis, 274–98 (Montreal: McGill-Queen's Press, 2013), 274.
[356] Ibid., 275.

with other people? How will VR change how we think about ourselves? What, given a limitless choice, do we actually want to experience?"[357]

As I began my thesis, the concept of VR empathy caught my attention, as it was commonly associated with the general development of VR. Although my primary goal was to underline the significance of incorporating Caribbean perspectives in the representation of hybrid identities within a postcolonial context, in dialogue with the novel possibilities of representation offered by VR, the prevailing notion of VR as a tool to foster empathy prompted me to examine and explore this idea critically in conjunction with my research and creative work.

If we consider the contention that VR experiences can serve to put human empathy to good use, I question whose definition of empathy is at play (*by* whom), whose empathy we are seeking to elicit (*from* whom), and in regard to whom this empathy is being solicited (*about* whom). Whenever VR is described as an "empathy machine," a notion of VR embodiment is implied but not always spelled out. To speak of embodiment is to understand the body as lived experience—a living archive of social, cultural, and complex kinesthetic gestures—and as always existing in relation to other bodies. Thus, I have explored how engaging with the relation between embodiment in VR and the VR-as-empathy-machine notion may provide clearer frameworks for VR creators and better accountability for VR audiences.

Having claimed, further, that feminist performance and liveness are useful in supporting the careful thinking through of performances in VR that challenge existing biases within a media environment that prioritizes whiteness as the default form of embodiment, I have argued for an understanding of empathy as a relational practice which changing contexts and power asymmetries can influence, especially when empathy becomes performative.

In January 2017, as I began my PhD, Donald Trump's presidency in the United States fuelled a rise in the visibility of white supremacist narratives in mainstream media in America. As a white-passing artist engaged with race and gender, and proposing to explore how creating with VR may permit me to address these themes while transcending my white privilege, it began to seem to me that my enquiry would be too speculative if I were to keep my focus entirely on VR films and cultural texts, which remained niche in 2017. Being drawn to artists who were challenging the conventions of their chosen mediums and redeploying them strategically in the

[357] Jeremy Bailenson, *Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do* (New York: W.W. Norton, 2018), 13.

service of a creative vision, I studied works by Beyoncé and Adrian Piper (indeed, I see Piper's approach as a historical precedent to certain aspects of Beyoncé's engagement with feminism) and explored their theories and practices regarding feminist and Black representation within the context of Black futurity. With a focus on how these artists formulated distinct personas to engage with underrepresented histories and present-day realities in the United States, as well as the rich approaches offered by the interdisciplinary scholarship of DeFranz, McMillan, and Phelan "for the challenge of braiding together disparate and stratified ways of knowing,"[358] I sought to establish the significance of Beyoncé's and Piper's practices as foundations for intersectional feminist creation models in VR.

With social VR applications on the rise, an added blending of boundaries has occurred in terms of how we approach liveness and value the present moment as we interact with other VR users in real time. I believe that perspectives on feminist performance are relevant for those who engage with virtual, embodied VR experiences that are designed to "feel real"[359] and contend that the distinct forms of *avatar production* employed by Beyoncé and Piper contribute to shaping Black futurity in visual media, emphasizing their transformative influence on narratives within VR environments.

The Hyphen-Labs project *NeuroSpeculative AfroFeminism* (*NSAF*) forms one of the case studies in Sinclair and Clark's "Making a New Reality."[360] In that section, the authors acknowledge the increased visibility accorded to Hyphen-Labs, around the time their project premiered at the Sundance Film Festival (January 2017), which led to further screenings and showcases such as a presentation of the project at the Tribeca Festival[361] in March 2017.[362] *NSAF* co-creator and engineer Carmen Aguilar y Wedge, the authors report, looks forward to hearing the term "Neurospeculative Afrofeminism" become a part of "the vernacular for young

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[358] Dwight Conquergood, "Performance Studies: Interventions and Radical Research," *TDR: The Drama Review* 46, no. 2 (2002): 152, http://www.jstor.org/stable/1146965.
[359] Sinclair and Clark, *Making a New Reality*, 12.
[360] Ibid., 92.
[361] The Tribeca Festival, formerly the Tribeca Film Festival, launched the Tribeca Storyscapes category in 2014, which featured VR projects. In 2017, Storyscapes became part of the Tribeca Immersive category alongside the Virtual Arcade.
[362] Melissa Hanson, "Welcome to the Future – Tribeca Immersive: Virtual Arcade & Storyscapes Lineup at the Tribeca Film Festival," *Reel News Daily*, March 14, 2017, https://reelnewsdaily.com/2017/03/14/welcome-to-the-future-tribeca-immersive-virtual-arcade-storyscapes-lineup-at-the-tribeca-film-festival/.

boys”;[363] but Sinclair and Clark also mention Aguilar y Wedge’s awareness that the kind of genuine change proposed by this project requires a long timeframe in which to materialize.

In 2023, VR has become more visible and attracted more users, but its projected ubiquity remains linked to the affordability of the headsets and the pertinence of the medium for everyday-use cases. The launch of headsets offering both VR and AR (augmented reality) applications—referred to as passthrough HMDs (head-mounted displays)—such as Meta Quest 3 (October 2023) and the upcoming Apple Vision Pro (March 2024), are shaping VR’s pertinence—in contrast with AR, which allows users to experience virtual simulations overlaid on the world around them. I advocate, however, for creating XR (VR and/or AR) content that considers Nakamura’s concern with what she describes as the perils of “virtuous VR” in relation to the notion of VR empathy, pushing back against the “New Jim Code,” the phrase coined by Benjamin to refer to new technologies that are touted as neutral but which in practice replicate racial inequalities, something in which XR remains implicated. And I contend that Phelan’s ontology of performance can help us to untangle the relation between the body and the performing body within immersive spaces, and the ways in which audiences are implicated amid these rapidly changing environments.

Since 2017, Hyphen-Labs’ projects have included what the team refers to as “consumption based technologies”[364] within multimedia installations and one AR work,[365] but no further VR experiences. And, since *Homecoming* (2019), Beyoncé has launched several new albums and two new films, and completed a record-breaking world tour that critics have described as both highly innovative and inclusive. Although she has not (yet) released an XR work, Megan Thee Stallion, one of the younger artists with whom Beyoncé has collaborated, completed a VR concert tour in 2022,[366] in which each audience member wore a VR headset in a concert hall—a potential subject for future research.

Although I have engaged with how VR goes beyond simple portrayal toward the performance and enactment of identities—hence its power in comparison to other mediums—I would end with a call away from empathy and toward a mode of VR and, now, XR creation that

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[363] Aguilar y Wedge, quoted in Sinclair and Clark, *Making a New Reality*, 92.
[364] Hyphen-Labs, “Info,” n.d., https://hyphen-labs.com/who-is-hyphen-labs.
[365] Hyphen-Labs, *[AR]boreal Servers*, AR work, 2023, https://hyphen-labs.com/AR-boreal-Servers.
[366] Sophie Caraan, “Megan Thee Stallion to Hit the Virtual Road with ‘Enter Thee Hottieverse’ VR Concert Tour,” *Hypebeast*, March 1, 2022, https://hypebeast.com/2022/3/megan-thee-stallion-enter-thee-hottieverse-vr-concert-tour-announcement-info.

aligns with *NSAF*'s "optimizing machine," whereby the tools of production are contextualized and brought into conversation with the stories and subjects portrayed via the HMD.

My argument is that when XR texts engage with representations of the body and identity, histories of visual representation and colonial legacies often remain in play. By adopting an "optimizing machine" approach as the medium of XR evolves, we may foster new approaches to the representation of diverse realities, explore the technology's potential while remaining watchful when undertaking the portrayal and enactment of distinct identities, and advocate for inclusive, collaborative frameworks.

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