

Ambiguous Origins: Mixed Race and Mixed Reality

By

Adrienne Matheuszik

A thesis exhibition presented to OCAD University

in partial fulfillment of the requirements

for the degree of

Master of Fine Arts

In

Interdisciplinary Master's in Art, Media, and Design

Ignite Gallery, OCAD University, 165 Augusta Ave

30 March – 3 April 2019

Toronto, Ontario, Canada

© Adrienne Matheuszik 2019

### Authors Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I authorize OCAD University to lend this thesis to other institutions or individuals for the purpose of scholarly research.

I understand that my thesis may be made electronically available to the public.

I further authorize OCAD University to reproduce this thesis by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

Ambiguous Origins: Mixed Race and Mixed Reality  
By Adrienne Matheuszik

A thesis exhibition presented to OCAD University in partial fulfillment of the requirements for the degree of Master of Fine Arts in Interdisciplinary Master's in Art, Media, and Design.

Keywords: identity, mixed race, mixed reality, augmented reality, science fiction, hybridity, installation

This thesis draws connections among new media art practices, science fiction, and mixed-race identity to compare the boundaries between physical and digital space and the experience of unrecognized layers of identity. Referencing the writing of N. Katherine Hayles and Amanda Starling Gould, I investigate the perceived border between physical and digital and how the liminality of the boundary can be compared to that of white-presenting mixed-race identity. This thesis uses science fiction tropes and imagery to communicate the contingency and liminality of identity. The writing of Frederic Jameson and Ytasha Womack is discussed, regarding the critical potential of science fiction to address the presumed correlation between mixed-race identities and the future. This thesis challenges the idea of mixed-race identities as inherently objective, a potential solution to racial oppression, or something from the future. This thesis instead focuses on mixed-race positioning as embedded and contingent within social and historical contexts.

## Acknowledgements

I acknowledge the ancestral and traditional territories of the Mississaugas of the New Credit, the Haudenosaunee, the Anishinaabe and the Huron-Wendat, who are the original owners and custodians of the land on which we stand and create.

My advisors for the support, guidance and challenging questions: Johanna Householder and Camille Isaacs

For writing and conceptual help and encouragement: Keiko Hart, Jessie Raymond and Jessica Wyman

My mother and grandparents for the all the support that is too great to be listed: Keisha Bell-Kovacs, and Doreen and Michel Bell

## Table of Contents

	List of Figures	
	Introduction	1
Section 1	Narratives	
1.1	The Real Adrienne	4
1.2	The other adrienne: a cyborg narrative	8
1.3	The Rock: a fiction	14
Section 2	Theoretical Framework	
2.1	Identity/Identification	21
2.2	Hybrid Identity	25
2.3	Augmented Reality: between physical and digital	29
2.4	Using/Making/Being Science Fiction	33
Section 3	Ambiguous Origins: The exhibition	
3.1	The Film: Somewhere	40
3.2	The Installation: The OAO	45
3.3	The Augmented Images: Mediations	46
Section 4	Conclusion	52
	Works Cited	

## **List of figures**

<b>Figure 1 - Me and My mother in Jamaica</b>	<b>4</b>
<b>Figure 2 - Film Still from Somewhere 2019</b>	<b>8</b>
<b>Figure 3 - Falling</b>	<b>9</b>
<b>Figure 4 - Film Still from Somewhere, 2019</b>	<b>11</b>
<b>Figure 5 - Film Still from Somewhere, 2019</b>	<b>12</b>
<b>Figure 6 - Film Still from Somewhere, 2019</b>	<b>13</b>
<b>Figure 7 - Installation view of The First Two Rocks, 2017</b>	<b>15</b>
<b>Figure 8 - Detail view of The First Two Rocks, 2017</b>	<b>16</b>
<b>Figure 9 - Installation view Wire Frame/Wireframe, 2018</b>	<b>17</b>
<b>Figure 10 - Film Still from Objects of Ambiguous Origin, 2018</b>	<b>18</b>
<b>Figure 11 - Film Still from Objects of Ambiguous Origin, 2018</b>	<b>19</b>
<b>Figure 12 - the OAO as designed in digital space</b>	<b>21</b>
<b>Figure 13 - Film Still from Somewhere, 2019</b>	<b>41</b>
<b>Figure 14 - Film Still from Somewhere, 2019</b>	<b>43</b>
<b>Figure 15 - The other adrienne, 2018</b>	<b>45</b>
<b>Figure 16 - Cardboard Prototype of OAO installation and interaction</b>	<b>46</b>
<b>Figure 17 - Work in Progress image of PVC pipe structure</b>	<b>47</b>
<b>Figure 18 – AR Marker of Mediations I, 2019</b>	<b>51</b>
<b>Figure 19 - Simulated installation view of Mediations I, 2019</b>	<b>51</b>
<b>Figure 20 - Simulated installation view of Mediations I with AR</b>	<b>51</b>
<b>Figure 21 - AR marker of Mediations II, 2019</b>	<b>52</b>
<b>Figure 22 - Simulated Installation View of Mediations II</b>	<b>52</b>
<b>Figure 23 - Simulated installation view of Mediations II with AR</b>	<b>52</b>
<b>Figure 24 - Ambiguous Origins - Exhibition AR App, 2019</b>	<b>60</b>
<b>Figure 25 - Ambiguous Origins - Exhibition AR App, 2019</b>	<b>60</b>
<b>Figure 26 - Installation view of Micromediations, and The OAO</b>	<b>61</b>
<b>Figure 27 - Installation View of Mediations I and II</b>	<b>61</b>

<b>Figure 28 - Installation View of The OAO</b>	<b>62</b>
<b>Figure 29 - Installation View of Micromediations</b>	<b>62</b>
<b>Figure 30 - Detail View of Micromediations</b>	<b>63</b>
<b>Figure 31 - Detail View of Micromediations and The OAO</b>	<b>63</b>
<b>Figure 32 - Detail View of 3D Printed Joints of The OAO</b>	<b>64</b>
<b>Figure 33 - Detail View from Inside of The OAO</b>	<b>64</b>
<b>Figure 34 - Alternate View of Installation with Micromediations and The OAO</b>	<b>65</b>
<b>Figure 35 - Installation View of Backroom with Somewhere projected</b>	<b>65</b>
<b>Figure 36 - Installation View of Back Room with Somewhere projected</b>	<b>66</b>
<b>Figure 37 - Demo of Ambiguous Origins - Exhibition AR App</b>	<b>66</b>
<b>Figure 38 - Demo View of AR App scanning Image Marker</b>	<b>67</b>
<b>Figure 39 - Demo View of AR App with AR Assets displayed</b>	<b>68</b>
<b>Figure 40 - Demo View of AR App with AR Assets displayed</b>	<b>68</b>
<b>Figure 41 - Demo View of AR App with AR Assets displayed</b>	<b>69</b>
<b>Figure 42 - Demo View of AR App with Exhibition Map displayed</b>	<b>69</b>

## Introduction

*Ambiguous Origins: Mixed Race and Mixed Reality* uses mixed realities as a method to explore the experience of mixed-race identity. Mixed reality is a subset of virtual reality “that involve[s] the merging of real and virtual worlds somewhere along the ‘virtuality continuum’ which connects completely real environments to completely virtual ones” (Kishino and Milgram, 2). Employing science fiction imagery in video, augmented reality (AR) and installation, the resulting body of work functions as a layered narrative that the viewer must navigate both physically and digitally.

*Ambiguous Origins: Mixed Race and Mixed Reality* attempts to pull apart the experience of identity as a mixed-race woman, investigating identification, hybridity and mutability. In my experience, as a light-skinned mixed-race woman who is sometimes assumed to be white, and sometimes assumed to be “something else”, my identity is understood differently depending on the context and the expectations of others. In my research I rely upon anecdotes from other mixed-race writers and artists – as well as my own experiences – that deal with being identified, misidentified and/or misunderstood.

In my work I have attempted to bring the liminal space of mixed-race identity into conversation with the liminal space between the physical and the digital. I use AR as a medium that exists at the border between the physical and the digital and invisibly adds layers of digital information to the physical world. The works use mobile-based AR which relies on a mediating device to reveal unseen information, much like the experience of revealing invisible layers of identity or being recognized by cultural or physical attributes.

I have used a science fiction narrative that brings together different works within the exhibition which chronicles a digital copy of myself as she journeys through space. The copy and the rock (a recurring motif within the work) are the two main characters within the narrative. Both cross between physical and digital realms: the digital copy, *the other adrienne*,



originated as myself and entered digital space through a 3D scan, while the rock (a further iteration of previous found objects) originated in digital space and has been produced physically multiple times throughout my research.

The first three sections of this paper describe the narrative context of the work. Through personal anecdotes, I describe some of the experiences of identity and identification that I've had as a mixed-race woman. My experiences provide context to the mutability of identity that I investigate in further sections. The next two sections are the fictional narratives involving the two main figures within *Ambiguous Origins*, (the OAO and *the other adrienne*) outlining the backstory and development of each character within the story world of the exhibition. "The other adrienne: a cyborg narrative" discusses her relationship to the conversations of identity and mutability that I investigate in later sections. "The rock: a fiction" uses narrative to address the iterations of the OAO as a motif within the work, the boundary between physical and digital and how the OAO translates between the two realms.

The next four sections discuss theories of identity, technology and science fiction. Through the writing of Stuart Hall, Malcom Gladwell, Danzy Senna and others, I investigate the varied experiences of being identified or mis-identified. Using the perspectives of these writers and theorists, I discuss how context can influence identity in the discursive process of identification. Hybrid identity and the problematics of hybridity are addressed through the writing of Homi K. Bhabha and Vince P. Marotta. I investigate the assumption that hybrid identities are inherently objective, and how mixed-race identification relates to the concept of hybridity. Media theories related to augmented reality and the boundary between physical and digital are discussed by drawing upon the writing of N. Katherine Hayles, Kate Mondloch and Amanda Starling Gould. Hayles and Mondloch provide context to the perceived border between physical and digital space, enabling my discussion of the boundary between the two

realms as porous. Gould's writing supports my use of augmented reality as a tool to facilitate embodied experiences with digital space.

I draw parallels between the experience of augmented reality and the experience of unseen identity. I then discuss the role of science fiction within *Ambiguous Origins*, Using Frederic Jameson's writing on science fiction as a tool for defamiliarization and restructuring perspectives. In my discussion of science fiction, I draw connections between ideas of the future and mixed-race identity being perceived as a futuristic concept. I investigate the use of science fiction as an aesthetic and a tool for critique and potential space to imagine the future for people of colour. I refer to Ytasha Womack's writing on Afrofuturism, as well as artists contributing to their individual cultural and racialized futurisms.

In the final three sections, I reflect and analyse the work shown within *Ambiguous Origins*. I address the goals and methodologies in creating the film, installation, and augmented reality works. I examine how the work explores and problematises my theoretical interests in the liminality of the perceived boundary between physical and digital realms, connecting the narrative to science fiction tropes, and how the works relate to identity and the process of identification.

In the final section I discuss how the work connects to my research questions. I show how the work troubles the boundary between physical and digital space, and how the mediated interaction of AR can parallel the mediated experience of mixed-race identity. I address the problematics of relying on screen-based technologies to interact with the physical/digital boundary, and potential avenues to continue the research started within this thesis.

## Section 1: Narratives



*Figure 1 - Me and My mother in Jamaica*

### **The Real Adrienne**

I was born with my father's skin and my mother's face. I grew up surrounded by my mother, my brothers and my maternal grandparents. Many faces that simultaneously look like mine and do not. Both of my parents have brown eyes and dark brown hair while I was born with blue eyes and light brown hair that eventually changed to green eyes and brown hair. My mother told me that when I was a toddler, people thought she was my nanny when we went to the park.<sup>1</sup>

There have been so many times when people refer to my mom as "my friend." I always took it as a joke about how young she looked and would respond with the typical teen angst that she was my mother and she didn't look *that* young. My mother would laugh too and say "No, it's because I'm black." She didn't take these kinds of confusions seriously from what I could tell. I don't think she cared. I didn't really care either until it kept happening and then it became old. It was no longer funny, just tiring. The following is a

---

<sup>1</sup> One comment was: "They can't pay you enough to do this." It took her a minute to realize what the person had meant.

chronological list of some foundational and upsetting interactions I've had with others – microaggressions.

---

My mother taught piano in our suburban neighbourhood. A student's mother, for whom I'd babysat asked "what is the name for people like you?" I said "grey." My mother and I laughed. The word she was looking for was "mulatto," but we told her that was an outdated term.

---

My brother told me a black girl at our high school said I looked weird. The girl had said "she looks black, but she doesn't look black." I moved out of my family home at seventeen, my brothers were fifteen and twelve. They started referring to me as their "mysterious white sister" because I wasn't around.

---

When I was in an undergraduate painting class, I painted a portrait of my two brothers. It was based on a picture from a family trip to Prince Edward Island a few summers before where we were deep sea fishing. I presented the painting during the critique and one of my classmates asked me "why did you choose to paint your brothers as black?" My only response was that they were.

---

I was talking to my first serious boyfriend's family about racism. In response, his mother said "yes, but you are quite light." I explained that I wasn't trying to say that I experienced racism. This same woman later said, "I

feel like we live in a post-racial society.” I told her that I was sure it felt that way to her.

---

I went to a bar and at the end of the night while I waited for my friends, two men came up to me and said, “you’ve got some of us in you. What are you, a quarter?” They were black. I said I was half, and I asked how they could tell. The bar was obviously dark, and it was winter, so I was obviously pale. “From the way you dance,” they said.

---

A guy I was briefly seeing knew I was half black. I had told him I was half Jamaican, and I had shown him pictures of my family. One day he asked, “how white are you?” I told him I was half white settler-Canadian, half Jamaican again but that didn’t seem to be the answer he wanted. I asked him what he meant. Like, a percentage? That was what he wanted. And I was so shocked and confused. I broke it down for him awkwardly: two great grandparents were mixed, one had blue eyes whom I don’t remember meeting, the other was as light as me when she died; I had thought that old people just faded as they aged. Another great grandparent was black, and another was Indian. My mother does not remember her grandfather’s blue eyes. Jamaica is a very mixed place.

---

When I was young it was a party trick to pull out. Now that I’m older I tell people pretty early to avoid making a big deal of it later. It’s nice when someone can just tell, and I don’t have to explain myself. I’ve tried to operate as if everyone knows and leave them to fill in the blanks, but that has led to

me making jokes about being a basic white girl and the jokes don't land because they think I really am a basic white girl. I'm trying to get to the point where I don't explain myself or feel the need to authenticate my identity with some kind of proof.

I am identifiable, but not always identified. Online dating and working customer service, I am identified by strangers who will ask if I am mixed (or *a mix*, or *half*). Sometimes I can tell they will ask before they do. Sometimes when people learn *what* I am, they freak out. They are overcome by the shock and the unbelievability of it all. It's usually men who ask and have been more likely to overreact. In my experience, most white people think that I'm white. Sometimes they think white but that *something is up*.

I am not trying to claim anything more than the truth and yet somehow that is still so difficult. I think sometimes I've tried to claim my space, as half Jamaican and I've had people react by throwing my skin colour back in my face and insist that I *am* white. What do they gain by trying to stop me? Saying I'm half Jamaican doesn't ignore my skin colour. I am aware of what I look like. I know I present as white and I've never attempted to say I don't. In some moments I've thought about if I could let it go, to just identify as white because that's what I look like, but I can't. I grew up with my mother and her family. To deny my black Jamaican heritage is to cut myself off from my family – and part of myself.

---

My mom used to joke that if we lived during slavery, she and my brothers would be out in the field and I would be in the big house. While this isn't necessarily untrue, what hurt was that I was separated from my family.<sup>2</sup>

### **The Other Adrienne: a cyborg narrative**



Figure 2 - Film Still from Somewhere 2019

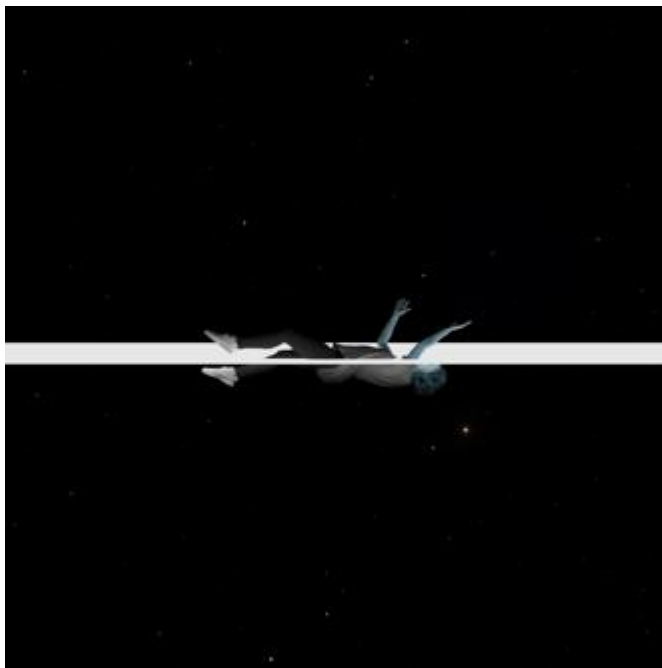
*The other adrienne* was born in cyberspace, she is a 3D scan of the real Adrienne. She is called *the other adrienne* in lower case and italics because she is not the real Adrienne. When I began working with her, I thought she would be a surrogate for myself. I thought I would identify with my digital copy. I do not. She feels very separate from me. She looks like an abstraction of myself and I was genuinely surprised that I didn't feel more of a

---

<sup>2</sup> I asked my mother if she remembered making this joke. She said "Can you imagine how it felt for people who had to suffer that? It wasn't a good joke for me to make, but slavery was extremely cruel, and families often had to choose to pass off lighter skin children to give them a chance, which would have been a huge sacrifice. None of us really appreciate the choices our ancestors had to make."

connection to her. She is just a tool, a virtual object that I can use, pose and place.

She lives in multiple files, locations, and poses. It is strange to have a digital copy of myself in my computer, but she doesn't really look like me. Her eyes are dead, she has a thicker neck, and her arms and legs don't bend properly. She goes into the digital realm in my place. She has a bedroom that looks like mine, and she walks hallways and uses a computer just like me too. She doesn't have any thoughts or needs or wants. She does what she's instructed, and she doesn't need to do anything more. She is an actress. I can change her hue depending on the scene: sometimes she has green skin and sometimes blue. I make her blend in to every place she goes. Her role is to play a solitary space explorer set adrift with her station and shuttle. The character has dreams of looking at herself, of being suspended, mirrored, reflected, reflective and split in half.



*Figure 3 - Falling*



*The other adrienne* was sent into space to search for a new home for humanity but she's never been in contact with other humans so she's not sure if she needs to continue looking. She started her mission too late. Humanity had already tried living on other planets and already returned to earth. Space travel had passed its peak and no one cared about it anymore, but she had already been sent to a distant galaxy. Humanity has been continuing its cycle of progressing and failing without her knowledge for hundreds of years.

---

She woke from stasis in a shuttle en route to a space station in a galaxy many light years away from the Milky Way. When the shuttle docked at the space station, it was empty. It had been built and launched into space for only one person to live in. It was an outpost to assert humanity's claim on multiple galaxies. She woke knowing she had a job to do and how to do it, but with only a vague understanding of why. Whoever had sent her to do this job had thought the "why" wasn't as important as the "how" or "what."

Time passes, and she has been working on the station for what has felt like years. She has visited many planets, taken many samples. She's tested the atmospheres and scanned the desolate planets for organic life. She hasn't come across any aliens, but she has seen what seem to be human-made ruins on abandoned planets.



*Figure 4 - Film Still from Somewhere, 2019*

On one of these empty planets she finds a rock. The composition is unclear – the matter of the rock has many near matches in her database of samples. She categorizes it as an OAO, an Object of Ambiguous Origin. She becomes obsessed – there were too many near matches in her system but no clear source, no clear origin. She searches to find how it came to the place where she had found it, and how it might be related to the other places she's been. Being in contact with the rock, she thinks she can hear what it might be telling her. She begins to have dreams and visions of seeing herself – falling, mirroring, joining and splitting.

She starts to notice that she's different. She had never noticed before how she could change in different places. She doesn't know if it's a normal human characteristic to change colour based on one's surroundings – she doesn't know other humans to ask. On a planet with green soil and water, her skin turns green. On a planet with pink geologic structures her skin turns pink. She blends into every situation and begins to wonder what she looks like without influence – without context.



*Figure 5 - Film Still from Somewhere, 2019*

She thinks of the OAO as her only companion, but she knows that she is always alone. Before the OAO, her only context and comparison was the space station. When she had gone to other planets, she couldn't see herself within these contexts. With the OAO, she begins to think about what she is in relation and in comparison, to the OAO. Due to her lack of memories from before the space station, she realizes she is also an Object of Ambiguous Origin. She doesn't have any memories of where she was before and barely knows about earth and humanity; she remains unsure of her connection.

---

*The other adrienne* is a clone from earth, sent as a sentinel and scout for humanity in deep space. She does not have access to her history, and she is unaware of her existence as a clone. She exists in a reality where humans have colonized space and the colonies have already failed. She is unaware of the failure and only vaguely aware of the former glory of space travel. In the narrative she does not become aware of the fact that she is a clone – she is only aware of her own existence in the context of space. Her relationship to space colonization is not explored in the scope of this project. The inclusion of space colonization is to critique the false hope that extra-terrestrial expansion might solve any of earth's problems. Much of mainstream science fiction is interested in space colonization as the final frontier, but a frontier is not a safe place for everyone, and space colonization is still colonization. Within the narrative that I am producing, colonization has already failed. However abstract or implicit the references are, I will not show space as an exciting, diplomatic post-racial future; rather it is a desolate wasteland of

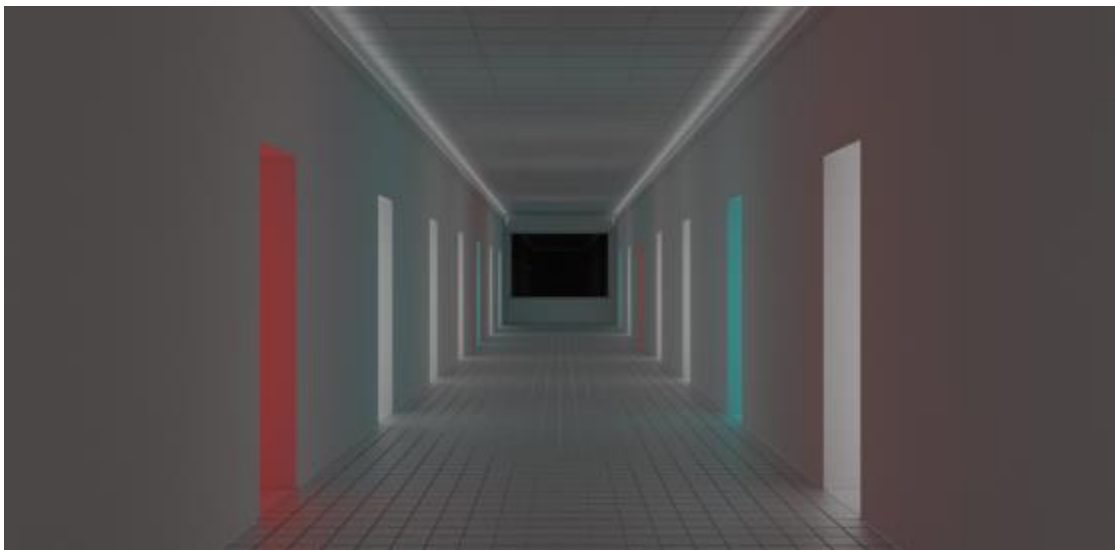


Figure 6 - Film Still from *Somewhere*, 2019

emptiness and confusion.

The endless halls, the rooms without doors, the windows looking out into the void of space and the empty alien planets reflect *the other adrienne's* confusion, placelessness and liminality. The actual spaces function as a kind of labyrinth where the character is in an endless loop of changing and being changed by her surroundings.

*The other adrienne* functions as a conversation about identity and identification rather than a conversation about race. In her context there are no other people except for herself, and she has no knowledge of how she might be perceived by others until she begins to compare herself to the OAO. Moving between unfamiliar landscapes and stark futuristic interiors, she enters into many different environments and contexts that she knowingly and unknowingly responds to through changing appearance. Travelling to these different spaces function as abstractions or metaphors for different social contexts in real life. In these spaces, she acts out how identity can be perceived differently depending on the context and often in ways she may not expect – or even notice.

### The Rock: a fiction



Figure 7 - Installation view of The First Two Rocks, 2017

The first two rocks were artefacts from a planet being prospected for colonization. The story was that scientists had brought back these rocks to entice people to leave the earth for a colony in space.

See? They said, Other planets have rocks just like us!

But the rock quivered when people approached as if to say

*please leave me alone.*

The other obstructed the images of their planet, cracking the image with the weight of its rocky body.

*leave us alone.*

The rocks said *please*, they were polite and small. They were frightened but they tried to be conversational. One rock quivered at the slightest touch, asking to be treated gently; the other pressed down against the screen, its

position precarious as it floated above images of its home. One rock was upright, the other faced down. One shivered and glowed, and the other remained motionless. One allowed itself to be touched, while the other displayed its strength, bearing downward.



*Figure 8 - Detail view of The First Two Rocks, 2017*

The rocks spoke to one another in a secret language. One was covered, one was covered and copied again and again. The copies lay strewn around their feet, slumped and empty. They were supposed to be an advertisement. The rocks were supposed to excite the people of earth to travel to their home planet. Instead they asked to be left alone.

---

Another two rocks grew from wire and wireframes, digital textures and fabric. One formed itself in cyberspace while the other grew physically out of wire. The wireframe digital rock textured itself with roughness,

spinning in space. The wire frame physical rock textured itself in reflective material. They mirrored each other, beside and below. The wire frame reflected into digital space. The reflective rock said nothing, while the reflected rock turned when spoken to. The material was illuminated and flattened by its own image as the reflected rock revolved on a tilted axis. These rocks reflected the same image again and again on and around one another. The rocks didn't say anything, they existed in a self-contained system where they could look at one another without interference except for listening to what others said about them.



*Figure 9 - Installation view Wire Frame/Wireframe, 2018*

They were big enough that they couldn't be held, especially since one was intangible. The wireframe reflected rock was a mystery, floating in a pink and purple sky. It was just an abstraction in a lilac void. The wire frame reflective rock was about three feet tall; it suspended itself over a screen,



barely touching, implying weight and weightlessness at the same time. It didn't bear down on the screen like its predecessor, merely floated above. These rocks were an ecosystem of reflection – and of validation. They asked for nothing and gave back even less – except to one another. The wireframe reflected rock didn't show the planet from which it originated; it presented itself as rootless.

---

Another set of rocks sprang from the earth or crash landed from space. They were plucked from the ground or excavated from craters, stolen from nests or collected from beaches. They begged to be touched, their soft bodies responding with excitement. Like the first ones, they quivered and whispered:

*validate me*

*invalidate me*



Figure 10 - Film Still from *Objects of Ambiguous Origin*, 2018

But how can you validate something that doesn't know for sure what it is? How can indecisiveness be corroborated? How can something firmly be

an ambiguous object? They couldn't say for themselves that they knew what they were. They had washed up on the beach or they had grown from the earth; They had landed from the stars or they grew in nests on the ground. When did they land? Last week or last millennium? When did they grow? Did they just sprout, or have they been growing for ages? They didn't know but they whispered over and over again:

*validate me*

*invalidate me*

I asked them again; how can something that doesn't know what it is be validated? How can so much evidence pointing to many different possibilities be invalidated?



Figure 11 - Film Still from Objects of Ambiguous Origin, 2018

The scientists didn't know what to do with these new rocks. They knew the rocks wanted something, but they didn't know what it was; so they left them alone. They classified the rocks as "Objects of Ambiguous Origin." OAO doesn't have the same ring as UFO. The UFO is firmly unidentified but

confirmed to be flying, confirmed to have come from elsewhere. The OAO is ambivalent, no identified origin, but identified to be of unclear origin. There were many possibilities, but none could be confirmed. But the rocks wanted to be confirmed; they wanted to be validated. They said so. They communicated in code because they thought they would be understood. They didn't want to have to pick a voice or make a mouth to sound out the words; they wouldn't know what kind of voice to use.

---

The next rock grew in cyberspace, crystalized and singular. It grew looking at the first OAO and the first quiet rocks. It was modelled after them and began to look like a sibling. The OAO from cyberspace replicated itself in plastic and paper changing size as it went. One was made of cardboard and was large enough to enter. The reflective skin of its ancestor coated the inside. It didn't ask for anything, but it invited people in and asked for them to see the flattened, bright space of its interior. It was just a prototype; it wanted to show more but made of cardboard and it wasn't stable enough. It needed to be remade. While waiting for its rebirth it retreated to cyberspace again.



*Figure 12 - the OAO as designed in digital space*

In cyberspace, the OAO came into contact with another – a copy of a person. Meaning quivers and shifts and the OAO sometimes occupies the same space as the person. They are kind of the same thing and sometimes they want the same things.

*The other adrienne* found the OAO on planet after planet, room after room. Sometimes it was an artefact, a sample, or evidence. It travelled through space and replicated itself again and again. It's not asking for anything now, just attempting to see itself reflected in the different spaces and contexts. Who knew it wanted to travel so far? It continues to do so. It has more to say but it still hasn't learned to speak

*leave me alone / validate me / invalidate me*

It has many facets and feelings. Sometimes it asks for what it wants and sometimes it quietly implies. In cyberspace it can change and shift in every context.

## **Section 2: Theoretical Framework**

### **2.1 Identity/Identification**

Within this body of research, the problem of identity – specifically white-passing mixed-race identity – is a problem of identification. Stuart Hall describes identity as “constructed on the back of a recognition of some common origin or shared characteristics with another person or group” (2), but differs in the “discursive approach [which sees] identification as a construction, as a process never completed - always ‘in process’ ... identification is ... conditional, lodged in contingency” (Hall 2-3). The expectation is that some aspects of identity and identification can be recognized through common characteristics that are visually obvious; however, identification is a process that is not necessarily obvious, especially for those who are not accustomed to identifying ambiguous visual cues.

In this researcher’s experience, it is easy to identify and be identified by other mixed-race people, while others may be confused by the mixed visual cues. They are able to see that there is something to identify but not exactly what, which leads to the classic question “What are you?” Who or “what” a mixed person may be becomes whatever the other can identify, whether that is part of one’s identity, or something else entirely. This contingency of identification is especially apparent for those whose identification is often misunderstood or misinterpreted. Artists and writers, Nina Coomes, Torika Bolatagici and others describe their experience of misidentification as being “mistaken” or “mistranslated” as other races or only parts of their mixed-race identities (Bolatagici 81; Coomes 2018). As a light-skinned and often white-passing person, being identified is entirely contingent on those doing the identification and whether or not they can recognize ambiguous visual or contextual clues.

Hall argues that:

Identities are never unified and ... increasingly fragmented and fractured; never singular but multiply constructed across different, often intersecting and antagonistic discourses, practices and positions. They are subject to a radical historicization and are constantly in the process of change and transformation (Hall 4).

The construction of any identity is inherently a process of bringing together different discourses and histories. Being mixed-race, the “intersecting... practices and positions” in constructing identity are even more apparent. Bolatagici quotes artist Kim Yasuda saying of her own racial ambiguity that “[w]ithout an allegiance to known origins, I have the privilege of embracing temporal heritage, one that is in a constant state of redefinition” (Bolatagici 79). The way Yasuda talks about her heritage parallels Hall’s description of identities as in “the process of change and transformation” (4). Mixed-race identities bring to the forefront the changeable nature of identity which is often thought of as fixed. Identity and identification change in context, through history, culture and position. Judith Butler argues that “identifications are never fully and finally made; they are incessantly reconstructed, and, as such, are subject to the volatile logic of iterability,” identifications are constantly changed and contested (105). Identifications can be changed because of the context, or by the perspective of person doing the questioning. A discursive understanding of identity is more fluid and contextual than the traditional understanding of identities and identification

Hall describes how the process of identification is “the *production* of the self as an object in the world, [based on] the practices of self-constitution, recognition and reflection, the relation to the rule, alongside the scrupulous attention to normative regulation, and the constraints of the rule” (13). Hall describes how one can produce one’s identity in relation to, or in opposition to the rule – or the expectation of society to identify or perform as a subject in the world. In producing oneself, recognizing oneself and then reflecting back into the world, one takes into account the prescribed expectations that would subjectify and oversimplify the

individual. What is more important than the object or the subject is the self-production in context. Subjectification leads to reading individuals simplistically and reducing them to the ways in which they are categorized by reductive expectations or assumptions. Using the production of the self through the methods Hall lists, individuals can present and be read as more than what is expected of them.

By making *the other adrienne*, I have produced myself as an object within digital space. In the different portraits and scenes of which she is a part, *the other adrienne* produces and recognizes herself within these different contexts. Because of her existence in a state of little context, she is unaware of what might be expected of her until she encounters the OAO which provides context and comparison for her own self-identification. In digital space, *the other adrienne*'s appearance can be manipulated by changing her clothing, skin colour and pose. The material appearance of her body can also be changed to opaque, translucent or reflective. Her subjectivity is entirely mutable, and she can adapt to and reflect whatever context in which she is placed. Animation makes visible the process of changing and adapting to the settings. She can change to become or oppose what is expected of her. Her existence in cyberspace is a constant process of production and reflection of herself in different contexts and situations.

For mixed-race identities there is an expectation of what a mixed-race person might look or act like, such as in the trope of the "tragic mulatto" which sees "people of mixed race [as] the embodiment of an inherent internal division" (Boltagici 75), or the multi-ethnic face of a post-racial future (Senna 14). For a mixed-race person the production of the self is a continual process that depends on the context, especially for those who appear to be only one of their racial backgrounds. Mixed-race identity can be produced as a fluid, constant redefinition of identity. Malcolm Gladwell describes his experience of moving between his "two sides":

I never feel my whiteness more than when I'm around West Indians, and I never feel my West Indianness more than when I'm with whites. And when I'm by myself, I can't answer the question at all, so I just push it out of my mind (123)

Gladwell's experience of feeling more of one side when with the other shows how contingent on community and context the experience of mixed race can be. The question of how one feels alone – outside of a social context — might be unanswerable. While Gladwell can't answer, Bolatagici answers this question as feeling like “both and neither ... yet whole” (81).

Hall links the process of self-production to the idea of performativity, and the contingency that Gladwell describes relates to the performativity of mixed-race identity. One link between the regulation of the self and the production of the self is how individuals “produce and ‘perform’ these positions” and how they may be in “constant agonistic processes of struggling with, resisting, negotiation and accommodating the normative or regulative rules with which they confront and regulate themselves” (Hall 13-14). Hall describes how individuals perform the positions to which they are summoned and “how subjects identify (or do not identify)” with those positions (14). Even when summoned to a position, the subject can perform and identify with that position or resist against it. The process of performing and identifying with different positions is never complete (Hall 14), and there is always room to resist those positions through self-constitution and self-regulation.

There is an expectation that a mixed-race person might identify themselves solely based on their appearance. Danzy Senna identifies as black, having been raised to identify as such and growing up in a context where identifying as in-between wasn't an option (16). She describes the experience of calling herself black and the responses she would get:

Sure, I received some strange reactions from all quarters when I called myself black.

But black people usually got over the initial surprise and welcomed me into the ranks.



It was white folks who grew the most uncomfortable with the dissonance between the face they saw and the race they didn't. (16)

For a white presenting mixed-race person, the position to which they are summoned is a white positioning. Choosing to identify otherwise or perform as otherwise resists that expectation. Senna speaks of the discomfort caused by the perceived “dissonance between the face they saw and the race they didn't” (16). The production of the self through self-constitution, recognition and reflection is all passed through the lens of identifying in opposition to the visual cues that others look for to make an identification.

Identities are never unified or fixed – they are continually in the process of being formed depending on the context in which they exist. Contingency and changeability in context are especially relevant to the formation of mixed-race identities. For many, mixed-race identity is contingent and temporal as seen by Gladwell, who describes the feeling of being more one aspect or another depending on the social context, and Yasdua who identifies with a “temporal heritage.” The process of identification has been a focus within this body of work through the motif of the Object of Ambiguous Origin, as well as the changeable appearance of *the other adrienne*. The work aims to replicate the experience of identification as contingent. The experiences and objects do not challenge their own process of identification – rather they challenge how they might be identified or be subject to the assumptions and expectations of others.

### **Hybrid Identity**

The term “hybridity” can have multiple interpretations. A problematic definition of “hybridity” when referring to cultural and racial hybridity is a definition based on the organic or essential hybrid which “presupposes a set of essentialized identities ... that come together to form a fixed, unified self” (Marotta 296), and relies on an anterior purity that precedes

mixture (Hutnyk 81). This essay uses the term “hybrid” and “hybridity” in reference to Vince P. Marotta’s “intentional hybrid” which “problematise[s] the existing order and the modernist, essentialized identities underlying it ... highlighting the instability and porous nature of social and cultural boundaries.” (296). Mixed-race identities are not necessarily hybrid identities, but there are many common traits and assumptions between them. Marotta describes the difference between the two types of hybrid subject: “the modernist hybrid self is unconscious of its liberating and transgressive potentialities, while the intentional hybrid is aware of its radical subjectivity and adopts an ironic and critical perspective” (296). Marotta describes hybrid subjectivity from a modernist or organic perspective as a position for “profound critical judgement” with a “detached and rational viewpoint” (305). This idea assumes that hybrid subjectivities can detach from social and historical contexts for a more rational or objective viewpoint to critique their social context and the nature of the boundary in which they exist. This perspective is overly optimistic. Marotta asserts that “hybrids are not immune to prejudices”; they are not “beyond” cultural specificities and cannot embody a universal perspective due to their “double perspective” since “hybrids are embedded in the prejudices ... of their empirical world” (308). The idea of hybrid identities being inherently objective leads to the romanticizing of the hybrid or mixed-race subject as the “answer” to racism or prejudices, and the experience of mixed-race subjects are more faceted and complex than objective critic, or multi-ethnic face of the future.

The modernist definition of the hybrid subject comes together to form a “fixed, unified subject,” similar to Hall’s description of identity in the traditional sense based on common origins or characteristics. Marotta’s concept of the intentional hybrid is similar to the discursive identification that Hall and Butler address. In discursive practice, identity is contingent on historical and social context – in a continuous process of formation. The intentional hybrid and the modernist hybrid are both assumed to be in better positions to

critique the nature of cultural and racial boundaries. However, the modernist definition implies objectivity and rationality, while the intentional or discursive hybrid accepts the embedded prejudices.

Homi K. Bhabha describes the liminal space of the stairwell as a metaphor for hybridity: “The stairwell as a liminal space, in-between the designations of identity, becomes the process of symbolic interaction ...the temporal movement and passage that it allows, prevents identities at either end of it from settling into primordial polarities” (4). The notion of hybrid subjectivity as a process or a temporal movement is contingent on context. This movement between identities can critique the nature of the boundary as well as either designation of identity. This critique is not made from the objective or detached position of a modernist/organic hybrid; but from within the boundary and firmly embedded in the historical and social context (Marotta 305). Similar to artist Kim Yasuda’s description of a “temporal heritage,” hybrid identity can respond to historical and social context, moving from within boundaries and not as an impartial observer.

A mixed-race subject is not necessarily a hybrid subject. Theorists like Marotta and Hutnyk view the hybrid subject as uniquely placed to critique the boundaries in which they exist, and for some mixed-race subjects that is the case. Gladwell describes his own perspective of being mixed race saying, “If you mix black and white. You don’t obliterate those categories; you merely create a third category, a category that demands, for its very existence, an even greater commitment to the nuances of racial taxonomy” (124). The way in which Gladwell describes these categories implies there may be some metaphorical line in the sand that mixed-race identities cross between or exist at, and that there is some method of classification. The third category that Gladwell describes is the “third space” that Bhabha theorizes. Gladwell’s perspective seems to echo that those in the third category are uniquely placed to critique the racial taxonomy; however, it is overly optimistic to assume that mixed-

race subjects are necessarily able or interested in critiquing those categories and ignores historical context and prejudices.

Bhabha describes the “third space” of the boundary as a place of “newness” which “renews the past, refiguring it as a contingent ‘in-between’ space, that innovates and interrupts the performance of the present” (7). At the boundaries of culture and race, there is a presumed binary or definitive border. While working at these boundaries does offer new possibilities and perspectives, an overemphasis on hybridity can “[conceal] the actual violent politics of borders” (Marotta 300), ignore or simplify the real issues of the oppressed (Hutnyk 97). While the existence of hybrid identities can critique the nature of racial and cultural boundaries, they should not distract from the realities of racism and oppression.

Bhabha describes the space of the “beyond” which the hybrid subject occupies as an “exploratory, restless movement” (1); mixed-race subjectivity is contingent and mutable depending on recognition, self-recognition, context and social setting. The changeability allows for mixed-race identities to exist at the border between different racial or cultural backgrounds – not necessarily with one foot on either side of a line, but more like a meandering back and forth, and around the space where a border might exist. While Bhabha uses the term “beyond” to describe the third space of the hybrid subject, Marotta argues the term “beyond” as is problematic in its association with being “beyond” or “immune to cultural specificities” (308). There is no possibility for a “rational,” or “objective” perspective as some hybridity theorists argue since one cannot be removed from one’s own historical and social context (Marotta 305).

Claudine O’Hearn describes the “third space” of hybridity for mixed-race subjects, arguing that “[s]kin colour and place of birth aren’t accurate signifiers of identity. One and one don’t necessarily add up to two. Cultural and racial amalgams create a third, wholly indistinguishable category where origin and home are indeterminate” (xiv). O’Hearn’s

description of the third category as a place where “origin and home are indeterminate” relates to other writers’ descriptions of the movement and contingency of their own mixed-race identities. By using the acronym OAO to describe objects of ambiguous origin throughout this body of work, O’Hearn’s description of the indeterminacy of not only home, but also origin and how the two may be distinct from one another is especially relevant. O’Hearn also addresses the potential inaccuracy of relying on visual cues as signifiers of identity for mixed-race people. O’Hearn is not necessarily describing a hybrid subjectivity but still relates to Marotta and Bhabha’s concepts of the hybrid subject through the third category of the boundary.

In this body of work the concept of hybridity is viewed as an amalgam, an indeterminate, contingent and restless positioning; it is not an internal division or objective perspective. The key focus in referencing hybridity is more about legibility and communication rather than functioning as a hybrid consciousness. Throughout *Ambiguous Origins: Mixed Race and Mixed Reality*, it is important that discussions of hybridity are not used to ignore the present realities of oppression and racism to indulge in a fantasy of an inevitable post-racial, multi-ethnic future. Through engagement with the concepts of hybridity and hybrid subjectivity, the aim is to critique the ideas of the essential or modernist hybrid, the mixed-race subject as inherently divided and the mixed-race subject as the solution to present oppression. Embracing the mutability of identity and identification, this work attempts to reveal these processes of identification and the assumptions or expectations present when attempting to identify or categorize others and objects.

### **Augmented Reality: between physical and digital**

One of the goals for this project was to make work that troubles the boundary between physical and digital space in order to break down the hierarchies between the two. At the

beginning of this project, the intention was to address the digital/virtual as real – just as real as physical space – and to create physically embodied experiences within digital spaces. In my research, it has become clear that there is no boundary or hierarchy between physical and digital. The boundary is only seen as such based on “the cultural perception that information and materiality are conceptually distinct, and that information is in some sense more essential, more important and more fundamental than materiality” (Hayles 18). In N. Katherine Hayles’ book *How We Became Posthuman*, she describes how engaging in virtual experiences online “[enacts] a division between the material body that exists on one side of the screen and the computer simulacra that seems to create a space inside the screen” (20). Today, social media and the internet are tools to constantly participate in virtual experiences, yet still seem to operate under a cultural perception that virtual experiences are distinct from physical experiences. The physical and virtual are entirely contingent on one another and the digital cannot exist without the physical.

Hayles describes a virtual Ping-Pong game in which the player swings a physical paddle to move the virtual ball on the screen, making the game take place partially in real life (IRL) and partially in virtual reality (VR) (14). “Virtual reality technologies are fascinating because they make visually immediate the perception that a world of information exists in parallel to the ‘real’ world, the former intersecting the latter at many points and in many ways” (Hayles 14). This perception of a parallel virtual world is apparent not only in VR technologies but also in AR. Hayles wrote *How We Became Posthuman* in 1999 and since then, what is considered to be virtual reality has changed. The interaction of the virtual ping-pong game she describes is now part of typical video game interactions.<sup>3</sup> Using Milgram and Kushino’s “Taxonomy of Mixed Reality Visual Displays”, the current expectation for VR requires a high “extent of presence metaphor” where the viewer immersed in virtual space

---

<sup>3</sup> Video game developers working with major companies have explored these types of interactions through the Nintendo Wii, Xbox Kinect and PlayStation Eye.

feels as though they are truly present – usually experienced through a VR headset that surrounds the viewer in the virtual world (1994).

Augmented reality (AR) exists at the boundary between the physical and the digital by inserting digital objects and information into physical space. In her article “Invisible Visualities” Amanda Starling Gould states that “[AR] works are born digital and require a mediated unveiling” (25). AR adds an unseen layer of information that must be unveiled through a mediating device such as a smartphone, webcam or head-mounted display. The device must be equipped with an app or website to display a live view of the device’s camera. The viewer can then use the device to activate the AR based on GPS, screen interaction or by scanning an image or barcode which then loads a virtual object into the camera’s live feed. AR can be images, text or objects that can be placed anywhere in physical space using physical markers or GPS tracking.

AR approaches the boundary between the physical and the digital from the perspective of the digital; it is a digitally grounded experience of physical space. The simulated presence of AR assets can affect the viewer’s movement and experience in a space. “Though AR art behaves as an intangible object, it still manages the traditional artistic act of taking place: it happens and it inhabits place. And obliges the viewer’s body to do the same” (Gould 26). The viewer is able to move around the virtual objects and see different perspectives as if it were physically located. When the viewer’s attention is fixed on the screen, they manoeuvre around the space as if the digital objects are really there. AR art can facilitate an embodied experience with the virtual in physical space; it “networks the immateriality of invisible art onto the spatial dimension of the immediate environment. With AR art, a digital installation e/merges into the physical experience of our bodies as we wander within its invisibly annotated milieu” (Gould 26). In AR, the digital assets are always associated with image markers or GPS coordinates but are only made visible through a

mediating device. Hayles' description of a "parallel world of information" as perceived through virtual reality technologies is especially relevant to AR, which allows the viewer to experience the parallel worlds simultaneously through the mediating device.

The digital is housed in physical hardware; either within the device, or on servers elsewhere, but because of the screen and the tendency to "look through," the digital is perceived as "another world" (Mondloch, 4). Kate Mondloch describes screens in the conventional understanding as portals into another world where viewers look through rather than at the screen (4). She goes on to describe how screen-reliant installation art uses a "mode of viewing [that] is simultaneously material, and immaterial" (Mondloch 17). AR utilizes a screen and due to the simulated spatial presence of the assets which it displays, it becomes an embodied experience within the space it is viewed. With AR installation works, the viewer is simultaneously looking at a live video-see-through feed, and at the AR assets within physical space which can only be seen through the screen. This mode of viewing turns the screen not into a portal to another world, but rather a portal into the physical space of the gallery.

The use of AR in *Ambiguous Origins* aims is to emphasise the duality of looking through and at the screen. The viewers will have to navigate around the AR objects and the physical space. The viewer may look through the screen at the "parallel virtual world" which Hayles describes; or move their gaze between the screen and the gallery to compare the views of screen and space. The intention for this project is to use AR to emphasise the screen for its mediating function.

Throughout this project, I have considered virtual reality as a way to facilitate physical interactions with digital space; however, in my experience of working with AR, the importance of being grounded in physical space has become a key theoretical focus. The total immersion of VR removes the viewer from their physical context, making VR more of an escapist medium where the viewer does not necessarily have to consider virtual and physical



space simultaneously. The comparison between the virtual experience and physical reality only happens after the viewer has left virtual space. While the moment of escape can still serve to evaluate the boundaries between the physical and digital, in combining the two experiences they can be considered and evaluated simultaneously without prioritizing the physical or the digital even temporarily.

Much like an AR marker, for white-passing mixed-race people, identification needs to happen in the right context to be understood for the totality of one's identity. In using AR, the role of the screen as a mediating device is emphasized as it reveals layers of meaning through mediation. The experience of viewing AR using a mediating device parallels the contingent process of identity and identification. The viewer needs the correct context to view AR – the device – just as one needs the correct context to recognize other identities – through social context or communication. The viewer cannot experience the entirety of the AR work without using a mediating device, and the AR assets are not visible to the viewer without access to the proper interface. The viewer can make a judgment about the work without seeing or being aware of the AR components before the rest of the work is revealed through the device. For white-presenting mixed-race people, identity is often revealed to others whether that is through conversation or through being recognized. When meeting new people, it is inevitable that they may be unaware or misreading important layers of identity.

### **Using/Making/Being Science Fiction**

Throughout this body of work, science fiction has been used as a conceptual and aesthetic lens to address the formal aspects of physical and digital works, as well as provide a space for the narrative of the OAO and *the other adrienne*. Fredric Jameson argues that the purpose of science fiction is “not to give us ‘images’ of the future ... but rather to defamiliarize and restructure our experience with our own *present*, and to do so in specific

ways distinct from all other forms of defamiliarization” (151). Science fiction (SF) is a tool, not to imagine a probable future, but rather to look critically at the present and offer assumptions about the future. In many cases, SF does not attempt “to imagine the ‘real’ future of our social system. Rather, its multiple mock futures serve the quite different function of transforming our own present into the determinate past of something yet to come” (Jameson 152). The lens of SF is a space of defamiliarization. While the work and the SF story world within *Ambiguous Origins* references the future of space travel and space colonization/inhabitation, it is not meant to be a plausible speculation about the future of living and traveling in space. The narrative is meant to address the underlying assumptions at the foundation of imaginings of the future.

SF has been a way to imagine utopic and dystopic futures, whether that is the post-racial future of *Star Trek*, or the colonized future of *Avatar* (2009). SF is a genre previously (and currently) dominated by the “hopes and fears of white men” (Coles 2017). The choice to use SF as a lens and tool comes from a personal interest in SF, having grown up watching *Star Wars*<sup>4</sup>, and reading *Ender’s Game*<sup>5</sup>, as well as a general affinity for technology. Conceptually, using SF comes from an interest in contributing to a traditionally non-diverse genre, as well as an opportunity to complicate the presumed association between mixed-race people and the future of humanity.

As argued earlier, “hybridity talk” can be used as a way to simplify or ignore the realities of the present (Hutnyk 97). By focusing on hybrid racial or cultural identities, the discussion skips over the hard work of undoing present oppression. This same kind of skipping over applies when talking about mixed race and multi-ethnic people as “the answer to racism” (Shukla 2018). Senna describes the attitude toward the mixed-race subject as the

---

<sup>4</sup> Technically fantasy but often grouped with SF

<sup>5</sup> Both of *Star Wars* and *Ender’s Game* are very typical SF written by/for white men and are incredibly problematic re: sexism/racism/genocide.

face of the future; while her argument is specific to America, the idea is still relevant in Canada.

[In] 1993, *Time* magazine put on its cover “The New Face of America,” a computer-morphed face of fourteen models of different racial backgrounds, creating a woman they named Eve ... [Eve] does not exist except metaphysically ... [she was] selected as a symbol of the future, multi-ethnic face of America ... [they said] it [broke their] heart that she doesn’t exist ... Of course, anyone could see that women just like the computer face they had created did exist in Puerto Rico, Latin America, and Spanish Harlem. But the editors at *Time* remained unaware of this, seeming to prefer their coloured folk imaginary, not real. (Senna 14)

The mixed-race person exists as a dream of the future – post-racial and utopic. This multi-ethnic woman, who could have been found in the communities Senna lists, is instead composited by technology. She is a symbol of the future, and her image and origins are SF. The percentage of the Canadian population identifying as mixed or multi-ethnic is increasing and in the 2016 census, 41.1% of the total population reported multiple ethnic origins (Statistics Canada 2017). But racial discrimination continues, and a multi-ethnic population alone will not solve discrimination. Using the conversation about hybridity or mixed-race identities to divert from the present problems to a post-racial future is not productive.

Idealizing the mixed-race subject as a solution to racism ignores the realities of the present. As a white-presenting mixed-race person, my experience in the Canadian context, which is built on a history of colonization, racism and continuing racial inequality, is vastly different from others who are more easily identified as people of colour. My experience moving around the world is different even from that of my brothers who appear to be more obviously mixed-race and are often read as black. As a white-presenting person I often have access to the privileges of being white. Focusing on the mixed-race or hybrid subject as the

solution assumes that with enough mixed-race people in the world that racism and oppression will just disappear without having to address racism in the past and present. In a society that favours white skin, light-skinned mixed-race people can be looked at as more acceptable version of a person of colour (Danielle 2018). Presently in popular culture, it is profitable for white people to present as racially-ambiguous until they advance their careers and to return to whiteness (Thompson 2019; Shandijanova 2019). Being a light-skinned racially ambiguous person often means inheriting the current profitability. Skipping ahead to the future does not offer any real solutions to the present realities of racism and oppression. Mixed-race individuals can still uphold racist and oppressive beliefs and systems, and merely existing as a mixed-race person does not automatically cancel out racial inequality.

Bhabha describes dwelling in the “beyond” of the border space, as being “part of a revisionary time, a return to the present... to touch the future on its hither side” (Bhabha 7). This idea of returning to the present to defamiliarize and critique is a function of boundary spaces and hybridity, as well as a function of SF as Jameson describes. The connection among boundary work, hybridity and SF are that they can all function as new spaces from which to evaluate present assumptions and structures. Just as SF cannot separate itself from the biases of the present, hybridity does not bypass the biases of the present. In using SF as a lens and aesthetic, *Ambiguous Origins* attempts to look critically at ideas about the future from a perspective embedded in personal, historical and social context. The work aims to challenge the possibility of the “beyond” space as an objective or rational positioning unaffected by privileges and prejudices. Although this work is critical of the assumption of an objective or rational position as a hybrid or mixed-race subject, the work is still an attempt to use the boundary space as a place for experimentation and critique. However, the idea that a specific identity is somehow ideally suited to do this is overly simplistic.

In my research into SF as an artistic and narrative tool, Afrofuturism has been a consideration and example of using SF as a critical medium in the context of race and identity. Afrofuturism combats the absence of people of colour in the SF genre. Ytasha Womack, author of *Afrofuturism: The world of black sci-fi and fantasy culture*, defines Afrofuturism to include:

any sci-fi fan, comic book geek, fantasy reader, Trekker, or science fair winner who ever wondered why black people are minimized in pop culture depictions of the future, conspicuously absent from the history of science, or marginalized in the roster of past inventors and then actually set out to do something about it (6-7)

Afrofuturism is a space in which black people can imagine “possible futures through a black cultural lens” which “combines elements of SF, historical fiction, speculative fiction, fantasy, Afrocentricity, and magic realism with non-Western beliefs” (Womack 9). Spanning across creative mediums including music, art, film and literature, Afrofuturism proposes depictions of the future or alternative realities but can also address more earthly and contemporary themes. Martine Syms’ *Mundane Afrofuturist Manifesto* outlines strategies for mundane imaginings of black futures, which excludes SF and fantasy in order to represent a possible, real future for black imaginations (2013). In my research into Afrofuturism, I have looked at the artwork of Camille Turner and Sondra Perry. The work of these and other artists have enhanced my understanding of Afrofuturism – and other racialized futures.

Camille Turner’s *Afronautic Research Lab* performances invite participants to investigate the past from the perspective of the future and come to terms with the realities of Canada’s racist history. Her critical and educational engagement uses SF to restructure the relationship to the past through defamiliarization. The research lab is modelled aesthetically after SF imagery and the space encourages viewers to study the documents of Canada’s part in the transatlantic slave trade. The performance of “The Afronauts... descendants of the Dogon

people of Mali” serve as guides and further create a sense of defamiliarization (Turner 2019). Sondra Perry creates installations using SF to look at narratives of space travel. She enacts the physical/digital boundary through the use of chroma-key blue screen and explores identity within these spaces (Yoon, 2).

SF has been used by artists to create space for their own cultures in imaginings of the future. In my research, I have looked at other women of colour making artwork from the perspective of their own races and cultures. Skawennati’s machinima works connect indigenous stories and myths of the past with SF technology and narratives in *She Falls for Ages*, 2016 (Skawennati 2016). Sophia Al Maria uses Gulf Futurism “to describe the complex results of rapid urban development across the region, [and] the alienating effects of technology on the individual” (Nabi 2018). I have also looked at the work of Larissa Sansour’s *In the Future, They Ate From the Finest Porcelain*, 2016, which uses a SF narrative that spans between the physical and digital through the use of film and installation.

As argued earlier, mixed-race positioning is contingent on social setting and constantly in process. As other mixed-race writers have described, it is in a state of constant redefinition (Boltagici 79) – a place where “home and origin are indeterminate” (O’Hearn xiv). In making this work, Afrofuturism has been a consideration and research interest; however, the mutable positioning of being white passing and mixed race requires extra self-reflexivity. Artist Torika Boltagici describes her methodology for working in photography: a medium traditionally used to objectify colonial subjects and the unique position of “the multiracial photographer ... [as] being both a perpetrator of the gaze and a subject of the gaze” (81). Boltagici navigates this history and her own position through collaboration with her subjects and self-reflexivity (81). As a mixed-race person, addressing the traditions of medium and genre must acknowledge this amalgamation of perspectives.

Danzy Senna talks about moments where she “had not asserted [her] black identity” by simply “mumbling that [she] was mixed,” which led to others forgetting her background or dismissing it, “There was danger in this muddy middle stance. A danger of disappearing. Of being swallowed whole by the great white whale” (Senna, 18). While as a white-passing mixed-race person there is a lot of privilege, the possibility of disappearing into whiteness is also a problem. The shifting positioning of mixed-race identity means asserting a multiplicity of perspectives. The self-reflexive approach that Bolatagici describes is a possible strategy to claim the changeable positioning of mixed-race identity, without denying any aspect of identity.

In my own experience, claiming my identity is sometimes a fight or insecurity knowing that others may feel they can question or challenge my identity. The fear of being invalidated is just as strong as the desire to be validated. Acknowledging the privilege that I have helps to clarify my positioning but can sometimes feel like I’m invalidating myself before someone else can. There is critical potential to making SF from a mixed-race perspective, which is sometimes associated with the future, in a genre that has traditionally excluded women and people of colour. Admittedly, much of the work in this project is contemplative aesthetic imagery that addresses the specificities of mixed-race subjectivity rather than an outright critique of the genre. Future work will aim to use SF as a tool to look critically – both at the genre and assumptions about the future of mixed-race identities; however, within the scope of this project, I have focused on identity and identification with SF as a backdrop and consideration instead of a main point of critique.

### ***Ambiguous Origins: the exhibition***

#### **The Film: *Somewhere***

*Somewhere* features *the other adrienne* and the rock – the Object of Ambiguous Origin (OAO) – in a story world where space travel and colonization have already peaked and declined. The film can be divided into three acts and uses 3D animation to construct the scenes of the different locations and objects, overlaid by titles that communicate *the other adrienne's* thoughts. *Somewhere* is projected on the interior of the installation, a sculptural replica of the OAO, and the film consistently references the space in which it is viewed. The viewer is able to focus their attention on the narrative, to follow the character's journey and reflect on the text. The installation in which *Somewhere* is viewed is discussed in more detail in the following section.

In the first act *the other adrienne* is alone. She had woken from stasis in a shuttle en route to the space station where she now lives. We see some of *the other adrienne's* memories of her life in the empty space station. The station is designed based on tropes of SF, with control panels, blinking lights and long sterile hallways.



Figure 13 - Film Still from *Somewhere*, 2019

In the second act, *the other adrienne* travels to alien planets to evaluate them. She knows she has a job to do without knowing why she must do it. In her travels she finds the OAO again and again on many different planets – sometimes floating, other times growing



from the ground. After spending time studying it, The OAO starts to influence her; she begins to have visions and dreams of looking at herself, and of existing in a space without context reflecting her own image.

In the final act of the film, *the other adrienne* is able to see herself changing in different contexts. As the narrative progresses, the connection between her ability to change and the OAO become ambiguous. *The other adrienne* was always able to change appearance but it wasn't until she interacted with the OAO that she was able to notice herself changing. The work presents abstracted and varied settings to which *the other adrienne* adapts; showing how her appearance and experience change depending on where she is. While referencing SF tropes and aesthetics, the work aims to create a sense of defamiliarization. *The other adrienne's* changes can correlate with the ways in which identity is read differently in different contexts. Her changes show the varied experiences of being identified, validated or misinterpreted depending on who is doing the identifying or the social context.

*The other adrienne* and the OAO are foils of one another. Since the narrative is grounded in *the other adrienne's* perspective, when she categorizes the rock as an OAO she does not have the self-awareness that her origin is similarly ambiguous. *The other adrienne* has an approximate understanding of who she is before her travels in space, but her only experience is that of the space station and shuttle. The space station and shuttle are both vessels for transportation in the vacuum of space and are unfixed in their own positioning. These liminal spaces are the only points of origin for *the other adrienne*.

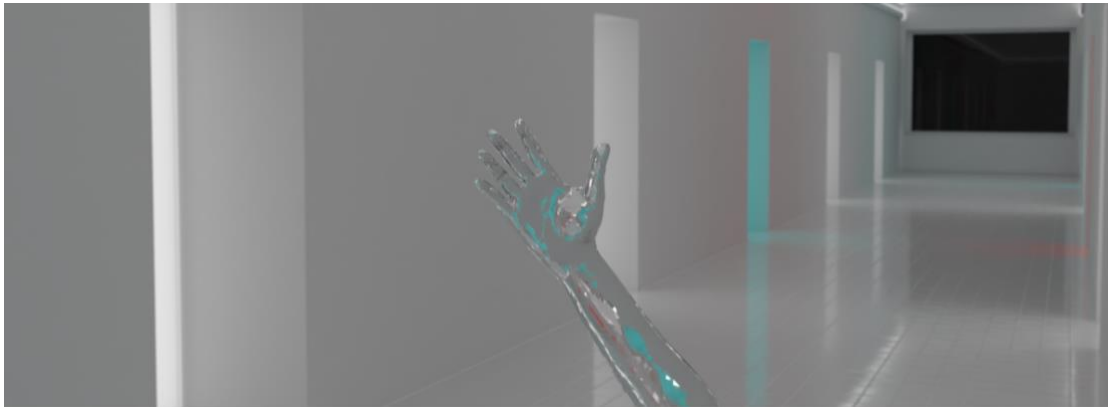


Figure 14 - Film Still from *Somewhere*, 2019

The planets are uninhabited, they are without structures or a definitive position in relation to either the space station or the other planets. The alien landscapes are static and do not adapt to changes in the way that the OAO or *the other adrienne* do. While they may be a definitive point of origin for the OAO, they still lack context. Many of the landscapes feature the OAO in different sizes and materials to further add to possible sites of origin. Similar to *the other adrienne*, the OAO exists in multiple files, locations and iterations, adapting and responding to the landscapes in which it is placed.

The OAO as it is seen in the different landscapes references the alien monoliths of other SF narratives<sup>6</sup>. In this trope, the role of the alien monolith or artefact is often meant to transmit information to advance civilization or technology. The objects often are placed or found in landscapes from which they do not originate. The artefacts originate from unknown alien civilizations. While the origins of these monoliths are not always clearly stated, they are vessels for communication or technological advancement. In *Somewhere*, the OAO holds no information for technological advancement, definitive message or information. Throughout the narrative *the other adrienne* studies the OAO to understand what it might want but the OAO does not communicate. Unlike the other alien artefacts in the SF trope, it is the OAO's incommunicativeness that advances the narrative. In *Somewhere*, as the boundaries between

---

<sup>6</sup> This trope is featured in Stanley Kubrick's *2001: A space Odyssey* and Denis Villeneuve's *Arrival*

*the other adrienne* and the OAO become porous, there is a transfer of material information through their interactions in which they respond to one another. *The other adrienne* is able to change her appearance, and after her interactions with the OAO, she has the context to become aware of her own mutability.

In editing the film, I use retreating camera movements to create a sense of isolation and wide aspect ratios to reference the cinematic conventions of SF. The interior scenes of the space station are often empty to emphasise the emptiness of space. The sets for the film are sculpted and animated using the open-source 3D modelling software Blender. Using open-source textures and the tools included in Blender, I modelled organic landscapes, hallways and spaceships. The two main subjects within the narrative are *the other adrienne*, and the OAO. The *other adrienne* is a digital copy of myself, made through a 3D scan. I was able to get my digital copy as an asset in “T-Pose,” in which the figure is standing with arms straight and parallel to the floor. This pose is often used as a base from which to animate characters for game design and 3D animation. I was able to import the digital copy and animate it through Blender’s programming. I edited the image texture and appearance of the scan in photoshop and changed the materiality in Blender to make it reflective or transparent as needed. I designed the OAO by manually sculpting the object in Blender. After experimenting with photogrammetry, I had found that modelling my own simplified version of the OAO was the best option. Modelled from previous works and simplified to a crystalline shape, the OAO visually references the polygons that make up virtual 3D assets.



Figure 15 - The other adrienne, 2018

The settings and models were made from my own imagination drawing on references from the SF genre as seen in video games, film, tv, novels, and popular culture in general. Many of the scenes were composed to experiment with the materiality of reflective and emissive textures. I found that reflection and illumination made the computer-generated scenes seem more realistic and more in line with the conventions of SF. The space station is depicted as hallways and rooms without a clear connection between them. The floorplan is not set, it resembles a labyrinth of halls that lead nowhere and rooms without doors. The station is not meant to feel claustrophobic; rather it is meant to feel isolating to create the sense of a space without context. A space without context highlights the mutability of *the other adrienne's* appearance, which is why in this space without comparison or relation she is unaware of herself shifting and changing.

The film features the song “Somewhere” by Leonard Bernstein and Stephen Sondheim, as three different performances. One version is performed by Natalie Wood and Richard Breymer from the 1961 movie adaptation of the musical *West Side Story*, one by Keisha Bell-Kovacs (my mother) and her jazz workshop group at York University, and another played by myself on the piano. My own performance of the piece is the main

soundtrack to the film which includes the small mistakes and pauses of a live performance. The imperfect nature of the recording is meant to suggest that the piece could have been played by *the other adrienne*.

The song ties into the narratives of place and time while also having originated from a story based on fears of racial mixing. “Somewhere” was written for the 1957 Broadway musical *West Side Story* a reimagining of Shakespeare’s *Romeo and Juliet* as centred on the forbidden love between Polish/Irish Tony and Puerto Rican Maria. The conflict within the plot revolves around racism and fears of miscegenation, while *Somewhere* expresses the protagonists desire for “a place,” and a future.

Using SF tropes of alien artifacts as vessels for communication, *Somewhere* subverts the desire for clear communication to show the layered and mutable experience of identification. The film serves as the basis for the overall narrative and visual vocabulary of the thesis exhibition, introducing the characters and settings featured in the two other works: *The OAO* and *Mediations*.

### **The Installation: *The OAO***

*The OAO* is a large structure which viewers can enter to watch the short film *Somewhere*. The structure is made of PVC pipe, 3D printed joints and a fabric skin to create an



Figure 16 - Cardboard Prototype of OAO installation and interaction

enclosed space, designed as a replica of the OAO featured in the short film. Viewers are able to enter from below and watch the film as it is projected on the inside of the structure. It functions as a private space where the viewer is able to watch the film in its entirety. Creating a dedicated space within an artefact from the film itself serves as a cohesive cinematic experience where the viewer enters the film through their interaction with the structure.

The object was designed and prototyped in cardboard before its construction in PVC pipe. The entire structure was designed and modelled in Blender, the same program used to make the film. I had the joints designed so that the structure would be collapse-able and lightweight.



Figure 17 - Work in Progress  
image of PVC pipe structure

The skin pattern was made based on techniques from the cardboard prototype, by hand drawing the geometric net into fabric. The skin was then sewn together by machine with channels for the PVC pipes. The structure is approximately five and a half feet at its tallest and widest points to reference the human body and creates the feeling of a human presence. *The OAO* is suspended in the gallery to create a sense of unfamiliarity which turns the gallery into a science fiction experience. Within the film, the rock is shown in different orientations: either with the apex pointed up or down. In the installation, the rock is suspended with the apex upward to create a space below where the viewer can enter. The structure is enclosed by a fabric shell to reference the shape of the OAO as it appears in the short film. Incorporating the large structure in the gallery space creates a sense of defamiliarization as *The OAO* contrasts with the scale of the gallery space. The structure becomes an alien monolith - a physical manifestation of the SF trope. Viewers can interact with *The OAO* as *the other adrienne* does in the film, by studying from the outside or merging with it by entering the space.

In Kate Mondloch's book *Screens*, she talks about how the screen is an ambivalent object, functioning both as a material and a virtual window (2). In what she terms "screen-reliant" installations, the intention is often to draw attention to the materiality of the screen and resist the convention of looking "through" screens rather than at them (3). In this installation, viewers look "through" the screen to see the object they are within. By turning the structure into a screen, it becomes an experience of looking through, looking at and looking from *within* the object. The screen for the film is also the object of the film, creating a feedback loop of representation of and within the same object.

The installation parses the boundary by combining material and virtual elements to be experienced simultaneously. *The OAO* references the content it displays in an enveloping experience where the viewer re-enacts the events of the film through their own interactions with the alien monolith. The installation references its origin through the short film projected inside, and calls into question the origin it offers.

### **The Augmented Images: *Mediations***

*Mediations* is a pair of AR images and objects taken directly from the short film. To interact with the works, the viewer must scan the physical image with an app on their phone. They are then able to turn and look around at the gallery which has been overlaid with digital objects and has changed the appearance of the installation to different versions of the OAO from the film.

After scanning the augmented image, the original 3D assets are superimposed on top; bringing the digital objects from the image into physical space. These augmented reality works merge the physical space in which they are displayed and the digital space they depict. The lightboxes reference the screen as the threshold between physical and digital space. They play

with the expectation of looking “through” screens but the viewers are then looking at objects that have entered physical space.

The interaction viewers have through the AR app is a screen-mediated experience, the viewers are looking through their phone screens at the physical space around them. The AR work superimposes large digital assets into the physical space of the gallery. While the viewer is still looking through their phone screen, they must physically navigate around the digital objects to avoid breaking the illusion of the objects’ physical presence. Through experimentation with scale in AR, I found that larger assets facilitate more embodied and physical experiences.

Mobile based AR can only be enacted by a mediating device. The smartphone’s function as a tool and mediator is privileged within the work. While the viewer is looking at and through their smartphone, they are still holding the physical object which emphasizes the role of the mediating device. AR can also be viewed through head-mounted displays; however, with a head-mounted display the viewer only looks through the screen and does not have to be physically aware of the device they are using. A head-mounted display gives the impression of immediacy and the viewer is more able to ignore the mediation of the device. Amanda Starling Gould describes how “ubiquitous computing wants to disappear the technological interface, while VR wants to disappear the body, [and] AR art wants to perform a reve(a)ling as part of its enactment.” (26) Through the mediation of a smartphone, AR art performs revealing – showing physical space annotated with digital objects and information. AR is meant to be an experience of both the physical and digital worlds simultaneously. Yet with head-mounted devices, the viewer is within digital space rather than at the boundary. When viewing AR with a mobile device, the viewer must move their body *and* the device to view the augmented information; the viewer holds the boundary between the two realms. The viewers’ attention is focused on and through the mediating device to interact with the digital objects; however, when



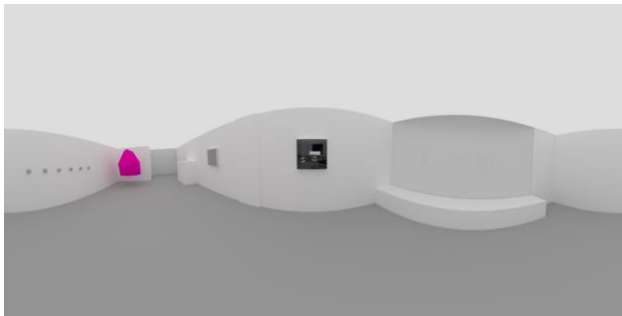
using a head-mounted device, the viewer can move their body to move the screen, and the device becomes part of the viewer rather than a tool they must use.

In addition to *Mediations*, the exhibition includes six smaller AR works which display text and images to support the overarching narrative. In the process of making the works, I had found that the small lightboxes did not facilitate the type of AR interaction I was aiming to create. The two final pieces are much larger and when the viewer scans the image with the dedicated app, the entire gallery becomes filled with digital objects and information from the narrative. The installation changes based on the AR marker to display the different versions of the OAO as featured in the film.

*Mediations* are images of settings from the film; one is an image of the interior of space station, and another image of the OAO in a landscape. *Mediations I* is an image of the living quarters of *the other adrienne*. When the viewer scans this image and turns to look around the gallery, *The OAO* installation appears as blue; the same color as *the other adrienne* as she is seen in the space station. The model of *the other adrienne*, the OAO and her bedroom appear in the gallery. *Mediations II* is an image of the OAO in an alien landscape. When the viewer scans this image and turns to look around the gallery, the OAO is placed around the room in its different iterations from the film different orientations. With this AR scan, *The OAO* installation appears pink as it does in the image. The AR object mirrors the marker from which it was created.



*Figure 18 – AR Marker of Mediations I, 2019*



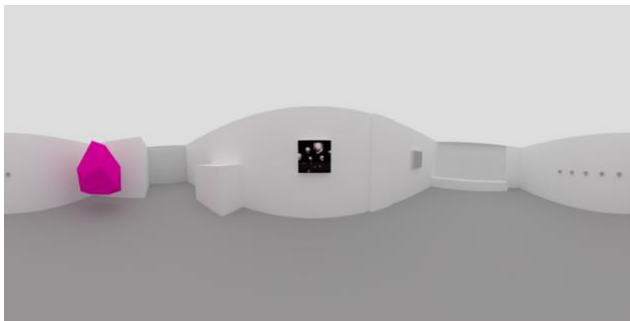
*Figure 19 - Simulated installation view of Mediations I, 2019*



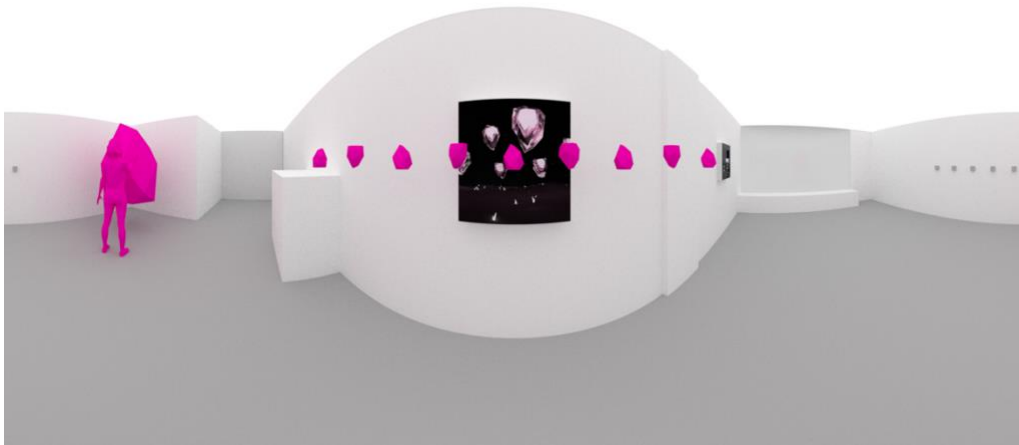
*Figure 20 - Simulated installation view of Mediations I with AR*



*Figure 21 - AR marker of Mediations II, 2019*



*Figure 22 - Simulated Installation View of Mediations II*



*Figure 23 - Simulated installation view of Mediations II with AR*

When viewed through the device, the two augmented images surround the viewer with the props and objects from the film. The role of the mediating device is meant to be emphasized, without which the exhibition would be impossible to experience in its entirety. The role of the mobile phone is both as the threshold between the physical and digital and as mediating device to reveal and/or identify. It is a tool for communication much like the alien artefacts of SF tropes.

The installation bridges between physical and digital while the augmented images bring immaterial digital objects into physical space. The structure of *The OAO* originated in digital space and has been replicated physically. When viewing the film from within, the installation references its digital origin. The augmented images complete the installation by making the appearance of the structure mutable as it is within the narrative. This work draws attention to the mediating device that enables the work to be viewed, focusing the viewers' attention at and through the boundary of the screen. *Mediations* ties together the elements of the other works by replicating the settings of the film and turning the gallery into a liminal space between materiality and virtuality.

## Conclusion

I began making work in the realm of science fiction by working on elements of a narrative about space exploration that attempted to break down the utopian idea of wide-spread space colonization. As I continued making, I felt compelled to do what I had been avoiding for most of my artistic practice and finally make work about myself and identity in a more direct and personal way.

Explorations of the boundary between physical and digital have always been present in my practice. As a new media artist, I bring together physical media and video or physical computing to create interactive artwork. In *Ambiguous Origins*, I continued this formal thread of making work at the intersection of physical and digital. In making this project, I have expanded my technical skills and have learned 3D animation and AR. Because of the scope of the project and the technical skills required, I was not able to explore formal and material investigations in making mixed reality work as much as I hoped. Instead I focused on the research into identity and identification which was extremely valuable in developing a vocabulary and context for approaching the concepts within my practice.

The AR and video works were able to reference physical elements and objects in digital space to highlight the porous nature of the boundary; however, AR and video are still screen-based, digital media. The viewer is still looking through a screen to interact through digital mediation; it still prioritizes digital media rather than being an equal experience of both physical and virtual space. In my research into AR, I came across the concept of augmented virtuality, which incorporates physical objects and interactions into virtual space. In the future, I plan to experiment with augmented virtuality<sup>7</sup> artwork.

I have investigated how SF can be used as a tool to bring together my interest in mixed-race identity and technology. In using SF, I have begun to address the assumption that

---

<sup>7</sup> Augmented Virtuality (AV) is on the “converse case of the virtuality continuum” to augmented reality and brings physical interactions into virtual experiences. (Kishino and Milgram, 2)

mixed-race people are somehow the solution to racism or part of SF. Moving forward, I hope to continue to explore the presumed correlation between mixed-race identities and the future.

Within this project I have used AR to anchor digital objects and experiences in physical reality. I have attempted to use AR to investigate the perceived boundary between physical and digital realms. I believe there is more potential for using AR critically as an art practice which I have only started to explore. In my work with *the other adrienne* and the OAO, I was able to translate objects back and forth between digital and physical space. I found that AR as a medium was conceptually suited for addressing visibility and identification as related to mixed-race identity. The layers of information that are revealed through interaction and mediation parallel the experience of identity as contingent and communicated rather than something that is always immediately apparent. The role of AR in revealing digital objects in physical space has been important in communicating my theoretical interests throughout this project.

Due to the scope of the project, there were some writers and methods I was unable to investigate. I plan to continue my theoretical research by looking more closely at Sarah Ahmed, Frantz Fanon and Judith Butler for their writings on phenomenology and identity, as well as Karen Barad and Donna Haraway for their writing on post-humanism.

The work I have produced contributes to the field of new media art by using augmented reality as a medium for critical art. My goal was to use augmented reality to address the process of identity and identification by using the mediated process of unveiling as a metaphor for the experience of unrecognized or unseen identity. I believe I have been successful in bridging mixed-race identity and the boundary between materiality and virtuality in new media art, and have developed a theoretical, material and visual vocabulary to continue this avenue of research.

## **Glossary**

**3D** – Three Dimensional: Used to reference digital objects that appear to be three-dimensional due to simulated volume, shading and texture.

**AR** – Augmented Reality: Video-see through application used by mobile phone, tablet, or head-mounted display that superimposes digital information, objects or images onto the video. Usually grounded to a specific point or image to give the impression that the digital information is located in physical space.

**CGI** – Computer Generated Images

**IRL** – In real life: A term used on the internet to describe life off the internet.

**OA** – Object of Ambiguous Origin: The name given the rock featured in the narrative and exhibition.

**PVC Pipe** – polyvinyl chloride (plastic pipe)

**SF** – Science Fiction

**UFO** – Unidentified Flying Object

**VR** – Virtual Reality: A virtual environment that viewers can interact with through head-mounted displays. Gives the impression that the viewer is within virtual space and can physically interact with the virtual world.

## Works Cited

- Bhabha, Homi K. 1994. *The Location of Culture*. Routledge.
- Bolatagici, Torika. 2001. "Claiming the (n)Either/(n)or of 'Third Space': (Re)Presenting Hybrid Identity and the Embodiment of Mixed Race." *Journal of Intercultural Studies* 25 (1): 75 - 85.
- Butler, Judith. 2011. *Bodies That Matter: on the Discursive Limits of "Sex"*. Routledge.
- Coles, Donyae. 2017. *Afrofuturism Is the Sh\*t: a Brief History and Five Books to Get You Started*. 26 October. Accessed 2017. [afropunk.com/2017/10/afrofuturism-sht-brief-history-five-books-get-started/](http://afropunk.com/2017/10/afrofuturism-sht-brief-history-five-books-get-started/).
- Coomes, Nina. 2018. ハーフ (Hafu): *On the Fetishization and Mistranslation of a Biracial Identity*. 24 August. Accessed 2018. [catapult.co/stories/column-mistranslate-hafu-on-the-fetishization-and-mistranslation-of-a-biracial-identity](http://catapult.co/stories/column-mistranslate-hafu-on-the-fetishization-and-mistranslation-of-a-biracial-identity).
- Danielle, Britni. 2018. *Essence*. 24 April. <https://www.essence.com/celebrity/zendaya-colorism-hollywood-acceptable-black-girl/>.
- Davis, Arianna. 2018. *Refinery29*. 12 March. <https://www.refinery29.com/en-us/2018/03/193327/bruno-mars-cultural-appropriation-backlash>.
- Gladwell, Malcom. 1998. "Lost in the Middle." In *Half and Half: Writers on Growing up Biracial and Bicultural*, by Claudien O'Hearn, 112 - 124. Pantheon Books.
- Gould, Amanda Starling. 2014. "Invisible Visualities: Augmented reality art and the contemporary media ecology." *Convergence: The International Journal of Research into New Media Technologies* (SAGE) 20: 25 - 32.
- Hall, Stuart. 2012. "Introduction: Who Needs 'Identity'?" In *Questions of Cultural Identity*, by Stuart Hall and Paul Du Gay, 1 - 17. SAGE Publications .
- Hayles, Katherine N. 1999. *How We Became Posthuman*. Chicago Ill.: University of Chicago Press.



- Hutnyk, John. 2005. "Hybridity." *Ethnic and Racial Studies* 28 (1): 79 - 102.
- Jameson, Frederic. 1982. "Progress Versus Utopia; Or, can we Imagine the Future." *Science Fiction Studies* 9 (2): 147 - 158.
- Kishino, Fumio, and Paul Milgram. 1994. "A Taxonomy of Mixed Reality Visual Displays." *IEICE Transactions on Information Systems* E77-D (12).
- Marotta, Vince P. 2008. "The Hybrid Self and the Ambivalence of Boundaries." *Social Identities* 14 (3): 295-312.
- Mondloch, Kate. 2010. *Screens: Viewing Media Installation Art*. University of Minnesota Press.
- Nabi, Nabila Abdel. 2018. April. Accessed January 27, 2019.  
<http://www.mercerunion.org/exhibitions/sophia-al-maria-black-friday/>.
- O'Hearn, Claudine. 1998. *Half and Half: Writers on Growing up Biracial and Bicultural*. Pantheon Books.
- Senna, Danzy. 1998. "The Mulatto Millennium." In *Half and Half: Writers on Growing up Biracial and Bicultural*, by Claudine O'Hearn, 12 - 27. Pantheon Books.
- Shadijanova, Diyora. 2019. *The Tab*. 8 February. [https://thetab.com/uk/2019/02/08/ariana-grande-is-a-blackfish-and-these-are-the-receipts-91714?utm\\_source=professionalxpost&utm\\_medium=babe&utm\\_campaign=xpost&fbclid=IwAR1Sgi6ZtcgQQ6hGKR6t5guob9HUhtQHIC73rcjHzsq9IovP4yzeUhErAdk](https://thetab.com/uk/2019/02/08/ariana-grande-is-a-blackfish-and-these-are-the-receipts-91714?utm_source=professionalxpost&utm_medium=babe&utm_campaign=xpost&fbclid=IwAR1Sgi6ZtcgQQ6hGKR6t5guob9HUhtQHIC73rcjHzsq9IovP4yzeUhErAdk).
- Shukla, Nikesh. 2018. *Racism will not be solved by there being more mixed-race children*. 15 July. Accessed January 2019.  
<https://www.theguardian.com/lifeandstyle/2018/jul/15/racism-will-not-be-solved-by-there-being-more-mixed-race-children>.

Skawennati. 2016. *Skawennati.com*. Accessed January 27, 2019.

<http://www.skawennati.com/SheFallsForAges/index.html>.

Statistics Canada. 2017. *Ethnic and cultural origins of Canadians: Portrait of a rich heritage*.

25 October. Accessed January 26, 2019. <https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016016/98-200-x2016016-eng.cfm>.

Syms, Martine. 2013. *The Mundane Afrofuturist Manifesto*. 17 December. Accessed 2017.

[rhizome.org/editorial/2013/dec/17/mundane-afrofuturist-manifesto](http://rhizome.org/editorial/2013/dec/17/mundane-afrofuturist-manifesto).

Thompson, Wanna. 2019. *Afropunk*. 22 January. [https://afropunk.com/2019/01/ariana-grande-](https://afropunk.com/2019/01/ariana-grande-found-her-new-era-in-a-culture-she-knows-nothing-about/)

[found-her-new-era-in-a-culture-she-knows-nothing-about/](https://afropunk.com/2019/01/ariana-grande-found-her-new-era-in-a-culture-she-knows-nothing-about/).

Turner, Camille. 2019. *Camille Turner Artist Website*. Accessed February 7, 2019.

[camilleturner.com/project/afronautic-research-lab/](http://camilleturner.com/project/afronautic-research-lab/).

Womack, Ytasha. 2013. *Afrofuturism: the World of Black Sci-Fi and Fantasy Culture*.

Chicago Review Press.

Yoon, Soyoung. 2017. "Beware the Light." *Millennium Film Journal* (65): 30-37.

Appendix: Images of work as installed at Ignite Gallery March 30 – April 3, 2019

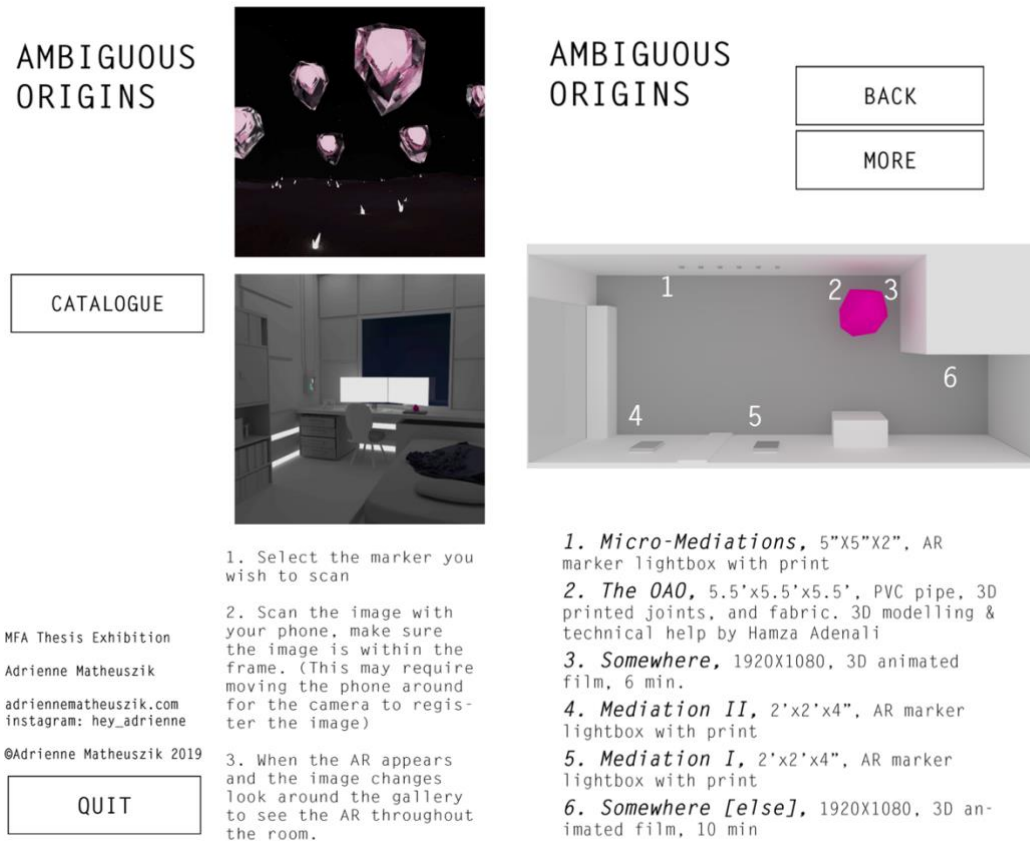


Figure 24 - *Ambiguous Origins* - Exhibition AR App, 2019

Figure 25 - *Ambiguous Origins* - Exhibition AR App, 2019



Figure 26 - Installation view of Micromediations, and The OAO



Figure 27 - Installation View of Mediations I and II



*Figure 28 - Installation View of The OAO*



*Figure 29 - Installation View of Micromediations*



*Figure 30 - Detail View of Micromediations*



*Figure 31 - Detail View of Micromediations and The OAO*



*Figure 32 - Detail View of 3D Printed Joints of The OAO*



*Figure 33 - Detail View from Inside of The OAO*





Figure 34 - Alternate View of Installation with Micromediations and The OAO



Figure 35 - Installation View of Backroom with Somewhere projected





Figure 36 - Installation View of Back Room with Somewhere projected

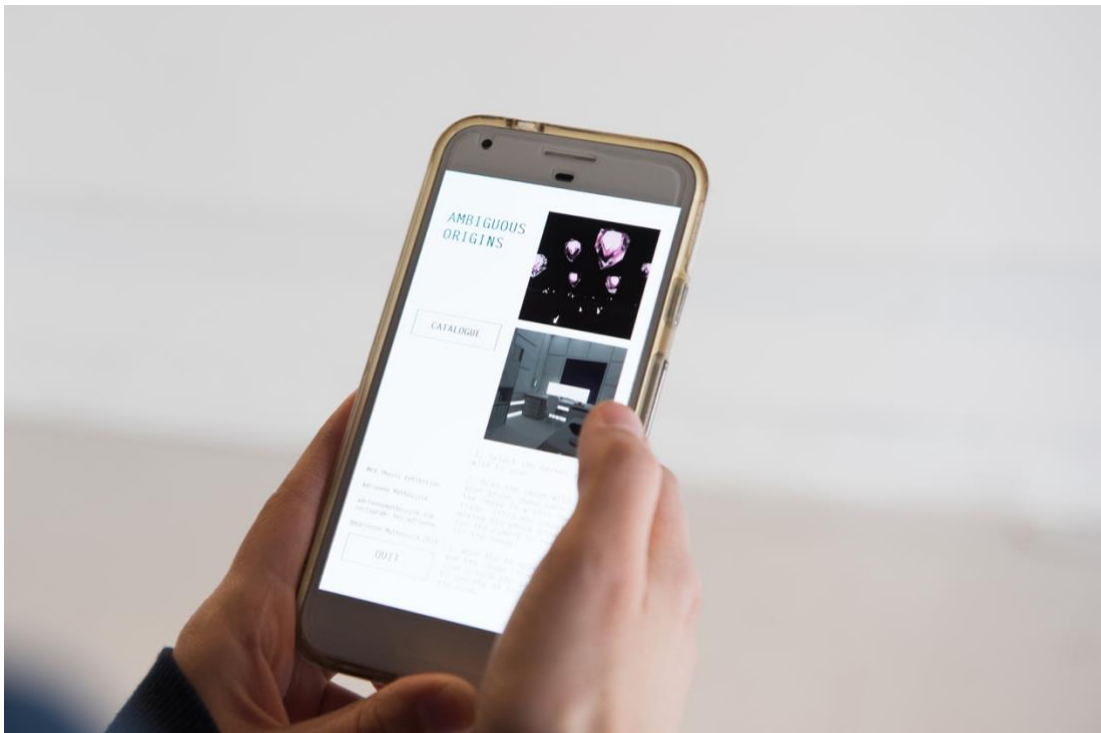
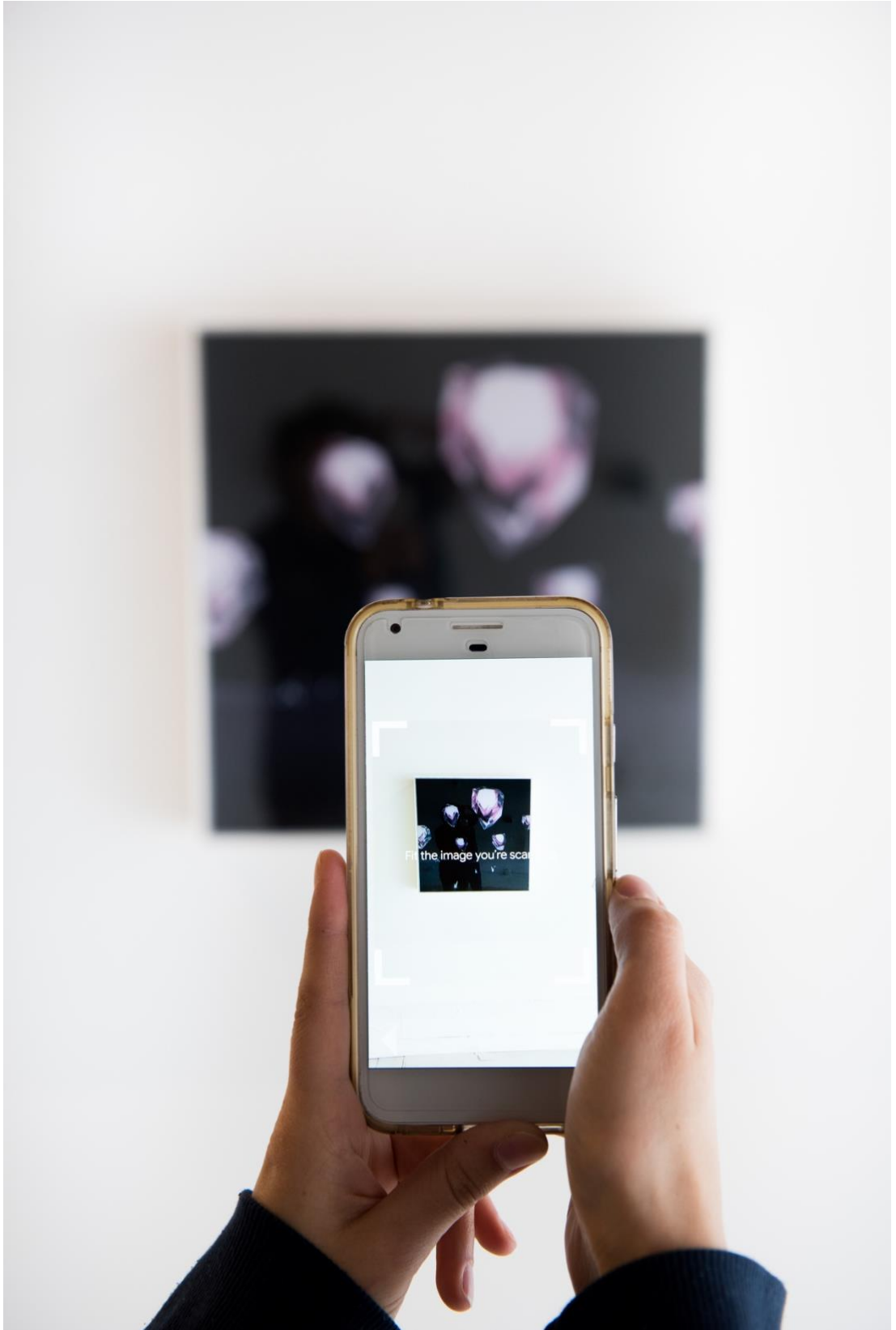
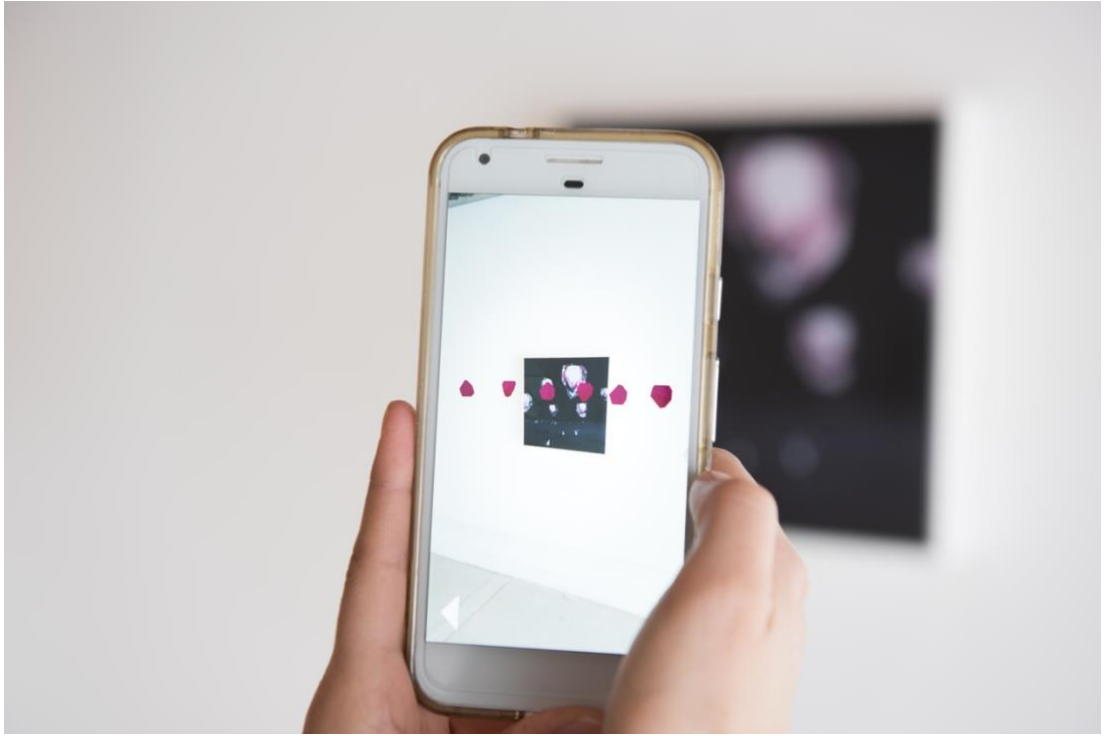


Figure 37 - Demo of Ambiguous Origins - Exhibition AR App



*Figure 38 - Demo View of AR App scanning Image Marker*



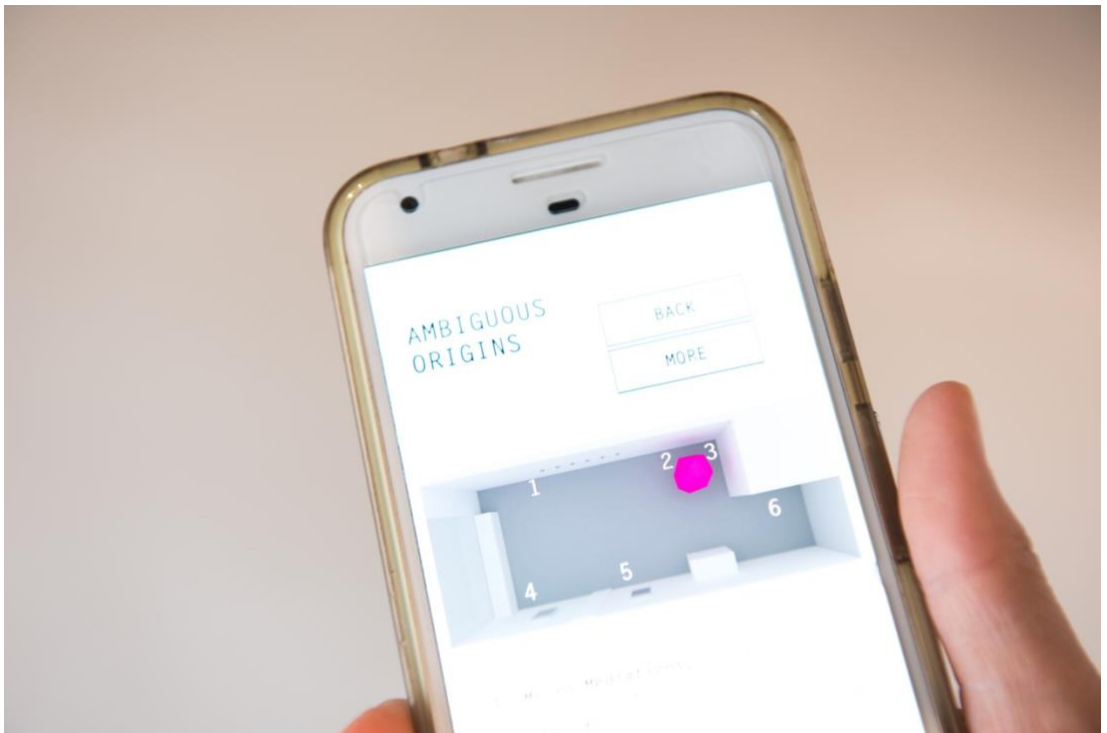
*Figure 39 - Demo View of AR App with AR Assets displayed*



*Figure 40 - Demo View of AR App with AR Assets displayed*



*Figure 41 - Demo View of AR App with AR Assets displayed*



*Figure 42 - Demo View of AR App with Exhibition Map displayed*