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An Art Museum at the Intersection of Science and Technology: An Anthropological Approach

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An Art Museum at the Intersection of Science and Technology:
An Anthropological Approach

by

Birney Robert

Under the Direction of Nicola O. Sharratt, PhD

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Arts

in the College of Arts and Sciences

Georgia State University

2022
ABSTRACT

In recent decades, museums have increasingly implemented technology, both technology to better assist in the visitor experience and technology within the art on display. This research explores the possibility for a university museum and residency program that would exhibit art intersecting with science and technology at the Georgia Institute of Technology in Atlanta, Georgia. Framed as an interest study, this thesis is situated in current scholarship pertaining to museum shifts of the 21st century and draws upon my interviews with interlocutors and participant observations. I make the case that community engagement, co-curation practices and residency programs can help museums be accountable and ethical to their publics. I utilize my ethnographic research to outline a proposal for a university museum and residency program at Georgia Tech in Atlanta.

INDEX WORDS: Museums, Immersive art, Community engagement, Residency programs, Georgia tech, Atlanta
An Art Museum at the Intersection of Science and Technology: An Anthropological Approach

by

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May 2022
DEDICATION

This thesis is dedicated to many people and one cat who were by my side through thick and thin. First and foremost, I would like to thank my parents Susan and Chip who gave me a love for education and the arts. To the most loving mom for teaching me about art museums and being my greatest inspirations through her strength, wisdom and passions. To my honorable dad who always believed in and supported me. To my sister Georgia who is the best sister anyone could ever wish for and who is always there for me offering wisdom. To my great Aunt Birney who taught me much about the world and who I am truly honored to share a name with. To my darling niece Alma who came into this world during my studies and brightens my days. To my brother-in-law, Mike who is such a dedicated and loving family member. To my Uncle David and Grandpa Pete who I miss greatly and who influenced my life. To my cat Oliver who left this world during my studies. To LaDonna who gave me the strength to start and finish this degree and never stopped believing in me. To Stephanie who inspired me to go back to school and consoled me through many emotional and challenging times, and who has always been by my side. To Carol for being my guiding light inspiring me to dream big while offering the most enriching guidance. To Brittany who believed in my vision and pushed me to apply myself to various endeavors. To Terence for his support and always offering the wisest advice. To Tyner for loving, supporting, and understanding me. To Blake for giving me perspective on life and believing in me, no matter what. To Nikki for always being by my side offering love and comfort. Finally, to my loving and supportive partner Alexis who never gave up on me, or us, during the growing pains of writing a thesis, and who provided the most enlightening advice during challenging times, cooking copious amounts of food to sustain me through this journey. Thank you all!
ACKNOWLEDGEMENTS

This thesis would not be possible without the constant support and encouragement from my advisor, Dr. Nicola Sharratt. When I first went to visit Dr. Sharratt in the anthropology department, I knew it was the place for me, mainly because Dr. Sharratt understood my passions and interests and confirmed that they would fit in the museum anthropology concentration. Dr. Sharratt has believed in me since day one and keeps believing in me, despite my self-doubt. This thesis is also greatly attributed to Dr. Jennie Burnet and Dr. Kathryn Kozaitis, who make up my thesis committee. Dr. Burnet saw me at my lowest state during the COVID-19 pandemic and always made herself available to me when I was anxious about her methods class. Dr. Kozaitis, who also saw me through some anxious moments, helped me understand applied anthropology and how it is pivotal for creating a museum and residency program. I cannot thank Dr. Burnet, Dr. Kozaitis, and Dr. Sharratt enough for giving me so much encouragement, guidance, knowledge, and support through this journey. I also want to thank all the professors I had the privilege of studying with; Dr. Emanuela Guano, Dr. Faidra Papavasiliou, Dr. Jennifer Patico and Dr. Bethany Turner-Livermore. This thesis would also not be possible without the full funding and support from Georgia Tech’s Tuition Assistance Program and my supervisors at Tech: LaDonna Cherry, Ann Claycombe, and Cedric Stallworth. I would also like to acknowledge Georgia Tech’s Center for 21st Century Universities and Microsoft for granting me funding for future research. A special acknowledgement to all the informants I interviewed who provided the data needed for this thesis. Lastly, a very special acknowledgement to Dr. Jim Foulks, Dr. Andrew Furman, and Dr. Susan Gantt for all their support and work. Thank you all!
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1 INTRODUCTION

Museums and exhibits dedicated to showcasing art at the intersection of technology and science are becoming increasingly common around the world. In 2018, the artist collective, teamLab, opened their permanent immersive art museum in Tokyo, which is named teamLab Borderless.\(^1\) During their first year of operation, 2.3 million visitors came through their doors, which makes it the “most popular single-artist museum that year (beating out the Van Gogh Museum in Amsterdam, which reported an attendance of 2.1 million)” (Haigney 2021).\(^2\) In January 2019, I visited the Whitney Museum of Art in New York, now relocated from the Upper East Side to the Meat-Packing District in Manhattan. The exhibition on view was titled *Programmed: Rules, Codes, and Choreographies in Art, 1965-2018*. I entered the Renzo Piano designed building of the Whitney and went to the top floor where this exhibit was on display. As I stepped off the elevator and entered the first gallery space, there was a 14-foot-tall installation of tv screens created from the famous digital media artist, Nam June Paik (see figure 1).

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\(^1\) [https://borderless.teamlab.art/jp/](https://borderless.teamlab.art/jp/)

\(^2\) I will come back to teamLab later in this thesis.
The exhibit was categorized into three main topics; “Rule, Instruction, Algorithm; Signal, Sequence, Resolution; and Augmented Reality”. The exhibit was a survey of art at the intersection of technology from the years 1965 to 2018. Later that year, in August, I visited Artechouse in D.C. to see an exhibit that was similar, yet completely different from Whitney’s Programmed exhibit. This exhibit was Refik Anadol’s Infinite Space (see figure 2), which was an immersive experience and had little text explaining the use of technology within the work.

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3 https://whitney.org/exhibitions/programmed
Programmed was carefully curated to guide the viewer through the history of artists using algorithms and computing in their art from the 60’s up until now. Descriptive wall text was installed by each piece in Programmed to help the viewer understand how the technology and art collided. Infinite Space was an experience immersing the viewer in a sensory journey without much guidance as to how the technology and art intersected. Refik’s art is “three-dimensional data sculptures and paintings, live audio/visual performances, and immersive installations” that are projected onto the walls, floors, and ceilings of a space (Rose 2018). Whitney’s Programmed exhibit was full of art affixed to walls, sitting on pedestals and installed in corners of the gallery spaces; the object is clearly demarcated from the visitor. Artechouse’s Infinite Space was art that is all around you, with no clear boundaries between the object and visitor (Haigney 2019). Both these exhibits are examples of art at the intersection of technology; one

4 https://refikanadol.com/
exhibit is more educational showcasing the evolution of technology within art, while the other exhibit is an experience-based immersive art installation heavily dependent on technology. The rise in tech-based art exhibits and seeing these two exhibits in 2019 (as well as many other art-tech exhibits in the following years) inspired my research into museums at the intersection of art, science and technology.

Today, some museums and exhibits reflect the digital age, while others use digital technologies to better understand our past, present and future (Batycka 2022; Clarke 2014; Michael et al. 2010; Turkle 2007). Whitney’s Programmed exhibit and Artechouse’s display of Refik Anadol’s work are two examples of curators working at the intersection of art, science and technology. Permanent spaces are being built to display immersive art that incorporates science and technology such as, Artechouse and teamLab Borderless. These spaces are built for immersive experiences where the artist works with technology as their canvas for displaying art (Haigney 2021). Yet, to date, Atlanta does not have a dedicated space for showcasing the melding of art, science and technology, and doing so would give the Atlanta community a place for questioning, critical dialogue and showcasing research and design that could improve the human condition and cultivate community. This thesis project considers the potential for such a venue. Specifically, this thesis is an interest study for an art museum and residency program at the intersection of science and technology in midtown Atlanta, at The Georgia Institute of Technology (Georgia Tech or GT).

1.1 Museum Practice

Museum practice has always reflected and influenced the wider social context in which it is undertaken (Alexander 1996; Bennett 1995). Whether it was showing the various conquests of the West and the roles of Imperialism and Colonization, or displaying various technological
advancements (Bennett 1995, 163-173; Chapman 1985; Glass 2011; Hinsley 1991), museums have never been neutral disseminators of content but are shaped by, reflect, and affirm perspectives, often dominant political ideologies (Arnoldi 1997; Bouquet 2000; Butler 2011; Porter 1996; Wodtke 2015).

Western European and North American museums shift in relation to the times, environment, and society in which they exist (Alexander 1996; Bennett 1995; Glass 2011; Quaintance et al. 2017). In the 1970s, some museum scholars critiqued museums as ivory towers that adopted exclusionary practices to the surrounding publics, although museums were originally opened for the public to be “accessible to all sections of the population” in the late seventeenth century (Bennett 1995, 8, 170). New Museology began as a critique of museums being elitist and exclusionary, which drove museums to incorporate more of their publics into their programs and practices (McCall & Gray 2014). In the early 21st century, museum changes are accelerated due to the speed of technology, our attention, and the market-driven economy (Addis 2005; Bueno 2017; Balloffet 2014).

1.2 Museum Landscape in the 21st Century

Due to new artistic practices and ways of broadcasting curation and collections, museum professionals are frequently called upon to balance the line between entertainment and education in their physical and virtual exhibits (Balloffet et al. 2014; Komara et al. 219; McCall & Gray 2014; Terrell 1991). Museums must raise enough money each year to keep the lights on and to implement edutainment practices, which typically include new technologies and immersive experiences (Addis 2005; Balloffet et al. 2014; Boxer 2017; Gelt & Cuthberson; Rose 2018). Edutainment is the collision of education and entertainment, creating educational experiences which are also entertaining (Komarac et al. 2019, 163).
With ever-increasing advancements in technology and the growing field of digital media and tech art, immersive experiences are being displayed all around the world, making their profits from ticket sales (Boxer 2017; Cornell & Halter 2015; Crow 2021; Gelt & Cuthbertson 2015; Haigney 2021; PR Newswire 2021; Rose 2018). The traveling exhibit, *Van Gogh: The Immersive Experience* is an example of an immersive art experience that incorporates technology, entertainment, and art to tell a story about Vincent Van Gogh and is profitable.\(^5\) Edutainment can be seen as a product of the market economy and neoliberalism, which fits well into the attention economy where the use of technology and social media within exhibits drive up the ticket sales and museum marketing (Addis 2005; Balloffet et al. 2014; Bueno 2017; Crow 2021; Ervin 2015; Harrison 2012; Haigney 2021; Komarac et al. 2019; McCall & Gray 2014; Smith & Fischer 2020).

### 1.3 Anthropological Frameworks and Methods

Museums are places for education, facilitating questioning and conversing on why the material culture on display is important and relevant to humanity (Alexander 1996; Bennett 1995; Porter 1996). A residency program embedded in a museum creates a space where scholars and artists from diverse disciplines can convene and collaborate, to explore societal questions and create a body of work that is then displayed for the public (Dziekan 2020; Lau et al. 2022; Schneider 2019). Thus, my research applies anthropological methodologies of participatory observations and semi-structured and open-ended interviews (Bernard 2011; Ryan & Bernard 2003; Spiggle 1994) to gauge interest, not only for a museum, but also for a residency program at the intersection of art, science and technology in Atlanta, GA. Georgia Tech is the location of

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\(^5\) A more in-depth analysis of immersive art experiences will be described in Chapters three and six.
interest due to it being a tier one research university for engineering, technology and sciences, with a growing potential for art cultivation and curation.

Within this research, I explore the possibility of applying anthropological practices of community engagement and co-curation practices to a museum at this intersection to ensure the incorporation of the community’s voice (McCloskey et al. 2011; Quaintance et al 2017, 13). This project adopts frameworks and methodologies from anthropology to assess interests and the potential for a museum showcasing art, science and technology in Atlanta. It considers possibilities for a venue that exhibits and demystifies science and technology through the vehicle of art, and that adopts anthropological practices such as community engagement and co-curation practices. A place to bring research out from behind closed doors and into the public for community participation and critique.

Driving questions of this research include;

- What is the current landscape of art, science and technology museums around the world?
- What is the landscape for art, science and technology in Atlanta and at Georgia Tech?
- What anthropological methodologies apply to building a sustainable and ethical museum in the 21st Century and how does a residency program fit in?
- Is a museum and residency program at the intersection of art, science and technology important for Atlanta and Georgia Tech and why?

In this thesis, I situate my participant observations, interviews, and autoethnography in current scholarship on art, science and tech in museums to argue for a museum and residency program in Atlanta at Georgia Tech.
1.4 Chapters Outlined

Chapter two reviews literature on museums and anthropology. It considers the history and anthropology of museums; community engagement and co-curation practices in museums; and the concepts of New Museology and Edutainment. This chapter reviews the various definitions for a museum while making claims to its continued state of motion (Alexander 1996, Findlen 2004, McCall & Gray 2014, Terrell 1991, Addis 2005, Komarac et al. 2019). This chapter also addresses residency programs and why they are important to interdisciplinary research (Dziekan 2020; Graham 2020; Lau et al. 2022; Schneider 2019).

Chapter three outlines the current and emerging landscape of art, science and technology museums and exhibits around the world; focusing on museums and exhibits of immersive technologies and digital culture. My suggestions for an art museum and residency program at the intersection of science and technology in Atlanta Georgia are informed, in part, by the scholarship and review of the current landscape of art and tech museums presented in chapters two and three.

Chapter four presents the research methods implemented for this interest study for a university museum at the intersection of art, science and technology. The data collection includes nine semi-structured and open-ended interviews with artists, as well as museum and university professionals in California, Georgia, Germany and Washington D.C. Sixteen site visits of exhibits and museums displaying art at the intersection of science and technology in Georgia, New York, Washington D.C., Portugal, and Florida are recorded as participant observations. Chapter five documents and analyzes the themes from these interviews, foregrounding themes on university museums, accessibility within museums, community engagement and residency programs. Chapter six is a continuation of the interview themes, focusing on themes highlighting
immersive exhibits and the potential for art at the intersection of science and technology, while considering my participant observations. Finally, chapter seven integrates the theory and my anthropological fieldwork to propose a model for a museum and residency program in Atlanta and at Georgia Tech. While acknowledging the limitations of the current research, I identify key steps to move forward for the realization of this museum.
2 MUSEUMS AND ANTHROPOLOGICAL PRAXIS

2.1 Introduction

The Metropolitan Museum of Art’s (MET) curator, Albert Ten Eyck Gardner said that the museum is so complex and that it is “‘[…] a modern hybrid, bred with mingled characteristics of the cathedral, the royal palace, the theater, the school, the library, and according to some critics, the department store’” (Gardner in Alexander 1996, 14). Gardner was a curator at the MET from 1956 – 1967 and he says museums are places to entertain and educate, that do not have a fixed definition (Alexander 1996, 14). In Edward Alexander’s *Museums in Motion*, museums are said to be a community of scholars, a building known for its collection, conservation, and research (Alexander 1996, 6-10; Glass 2011; Henry 2006; Hein 2006). This chapter will first address the various definitions of museums, with a brief history on displays of power and museum collections. Secondly, I address museums in relation to the roles of *new museology* and *edutainment* within museums. Lastly, this chapter discusses anthropological practices in museums and looks at residency programs as a form of anthropological praxis.

Humans and their collections of material culture have been on display in various ways throughout time, possibly as early as 500 BCE with the earliest ‘museum’ identified in the City of Ur in what is today Iraq (Trigger 2006). Private collections of art and antiquities really took off during the Renaissance (Alexander 1996; Findlen 2004; Butler 2011). Private collections and museums were created to showcase art and artifacts, which was a direct reflection of and a way to display wealth and cosmopolitanism (Butler 2011, 7). Western museums, particularly those which housed collections of material acquired during imperial campaigns and rule, became critical loci for displaying “the other”, “the exotic” and the places conquered during colonization (Alexander 1996; Arnoldi 1997; Bouquet 2000; Butler 2011; Chapman 1985; Glass 2011;
Hinsley 1991; Sandell 2005; Thomas 2010). As such they contributed to projects of national identity constructed in opposition to a ‘less civilized’ other (Arnoldi 1996; Bennett 1995; Butler 2011; Macdonald 2003).

Certain private collections opened to “the public, or more accurately, the cultural elite” in the 1600s, such as with the Ashmolean Museum in Oxford England in 1983 (Findlen 2004, 40; Butler 2011, 7). Museums for the public start around the 1600s and 1700s century in the West, such as with the British Museum in the 18th Century, however children were not allowed to enter, and visitors had to be “well dressed” (Bennett 1995, 99-102;). The public museum was a place to cultivate “good behavior” and a place to “expose the working class to the improving mental influence of middle-class culture” (Bennett 1995, 100). The architecture, rules (written and unwritten), and surveillance in a public museum became a form of “social management” for the public, particularly the working class (Bennett 1995, 99-100). The public soon “gained a sense of ownership over museum collections and began to demand that the objects be meaningful to them” (Alexander 1996; Butler 2011, 7).

New Museology of the 1970s focused on the visitor’s experience and how the museum was relevant to the public (McCall & Gray 2014; Terrell 1991; Thomas 2010). In Nicholas Thomas’s 2010 commentary, “the Museum as Method” he poses questions about the implementation of anthropology in museums and responds to the roles of new museology in the museum. Thomas re-examines the curator’s scholarly research and its importance for the contextualization and organizing of collections; “what kinds of knowledge underpin the interpretation of collections? What methods does that interpretation involve, and what knowledge does it generate?” (2010, 6-7). Thomas says that new museology was a move towards the public and community engagement within museums, which invokes museum professionals to
critically examine the exhibit agendas, wall text, visitor experience, and the museum’s public engagement (Thomas 2010, 6-7). Thomas participates in discourse about why engaging the public in the museum is important, while also applying scholarly research and anthropological methodologies to museum practice (Thomas 2010, 6-10).

No longer are museums solely sponsored by governments, they now must sell goods and services to survive in a tourist-based industry and within a market-oriented economy (Balloffett et al. 2014). Museums commercialize heritage due to the neoliberal turn of the 20th century (Bennett 1995; Balloffet et al. 2014; Ervin 2015; Harrison 2012). Edutainment is the museum shifting to better respond to an experience-based and attention economy of the 21st century, where visitors are searching for experiences that will have a great effect on their lives through the combination of goods and services (Addis 2005; Balloffet 2014; Bueno 2017; Komarac et al. 2019; Pine II & Gilmore 1998). In a market-oriented economy museums and collections are made relevant to their publics through catering to the cellphone and the attention economy, as well as competing with at-home technologies so more people come into the museum (Addis 2005; Boxer 2017; Bueno 2017; Crow 2021). Given the historical relationship between many Western museums and processes of colonialism, imperialism, and then the commercialization of collections with edutainment, the application of anthropological practices are seen by some scholars and stakeholders as ways to dismantle unjust museum practices (Butler 2011; Bennett 1995; Ervin 2015, 41; Finkelparle 2013; Kozaitis 2013; Lykes et al 2012; McCall & Gray 2014; McCloskey et al. 2011; McGuire 2008; Moser 2010; Porter 1996; Quaintance et al. 2017; Sandell 2005).

6 “[…] museums once depended on public funding or philanthropy for their survival, they now depend on fundraising efforts whose success hinges on the extent to which the museum is able to meet market expectations” (Balloffet et al. 2014, 9).
2.2 Definitions of a Museum

What is a museum? How is it defined throughout time, as well as today? The word, *Museum* is Latin, which translates to library or study, and came to symbolize a temple for the muses of music, love, poetry, history and all the arts (Alexander 1996, 6). In 1909, the founder of New Jersey’s Newark Museum, John Cotton Dana said;

A good museum attracts, entertains, arouses curiosity, leads to questioning and thus promotes learning. It is an educational institution that is set up and kept in motion – that it may help the members of the community to become happier wiser, and more effective human beings. Much can be done toward a realization of these objectives – with simple things – objects of nature and daily life – as well as with objects of great beauty. A museum should also reflect our industries – be stimulating and helpful to our workers and promote interest in the products of our own time. The Museum can help people only if they use it; they will use it only if they know about it and only if attention is given to the interpretation of its possessions in terms, they, the people, will understand (Quoted in Alexander 1996, 13).

In 1974, the International Council of Museums (ICOM) met in Copenhagen for their annual conference to discuss museums and their definition (Hudson 1999). The definition during that time was; “the museum is an institution which serves the community. It acquires, preserves, makes intelligible and, as an essential part of its function, presents to the public the material evidence concerning man and nature. […] provides opportunities for study, education and enjoyment” (Hudson 1999, 371). Museums in the 20th and 21st century focused more on serving the public and the community through education and entertainment versus sole focus on their collections (Balloffet 2014; Hudson 1999; Komarac et al. 2019; Terrell 1991; Thomas 2010).

Today’s definition of a museum according to ICOM is;

A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.\(^7\)

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However, the definition is up for amendment due to the changing world of museums (Alexander 1996; Hudson 1999; Thomas 2010). On September 7, 2019, ICOM met in Japan for their annual conference to vote on a new definition and code of ethics for museums (Small 2019). The proposed definition states:

Museums are democratising, inclusive and polyphonic spaces for critical dialogue about the pasts and the futures. Acknowledging and addressing the conflicts and challenges of the present, they hold artefacts and specimens in trust for society, safeguard diverse memories for future generations and guarantee equal rights and equal access to heritage for all people.

Museums are not for profit. They are participatory and transparent, and work in active partnership with and for diverse communities to collect, preserve, research, interpret, exhibit, and enhance understandings of the world, aiming to contribute to human dignity and social justice, global equality and planetary wellbeing (Small 2019).

This new definition is currently under debate due to criticism that it is an “ideological manifesto” versus a definition, according to the chair of ICOM in France, Juliette Raoul-Duval (Small 2019). Reading all these definitions of a museum written in a span of one hundred and ten years, one can see that there are universal commonalities to museums such as being places for education, questioning, having critical dialogue, and holding artifacts (Alexander 1996; Hein 2006; Henry 2006; Hudson 1999, 374; Small 2019; Thomas 2010).

Dana was smart when he said museums should be kept in motion (Alexander 1996, 13). The definition of a museum is not static but is a moving target that is hard to capture, as seen with ICOM’s difficulty rewriting today’s definition of a museum. However, the essence of museums, starting from the Latin word’s translation has not changed (Alexander 1996, 6). Museums are a place to study, learn, be entertained, and to question life. Education is at the heart of a museum’s purpose to its public (Alexander 1996; Hudson 1999; Small 2019; Thomas 2010).

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9 https://hyperallergic.com/513858/icom-museum-definition/
When Dana said all of this in 1909, museums were a place to instill patriotism, build nation-states, educate the public, teach public manners, and surveille the public (Alexander 1996; Bennett 1995, 99-102; Brady 2009, 89-105; Macdonald 2003). Dana mentions museums should “reflect our industries”, and during this time, museums were a place to promote the developments and innovations in America to its citizens and visitors (Alexander 1996; Bennett 1995). Today, museums call for the implementation of new technologies and immersive installations to gain visitors attention in a market and attention economy while showcasing the new innovations in art and technology (Bueno 2017; Balloffett et al. 2014; McCall & Gray 2013; Michael et al. 2010).

2.3 Museum Making: Displays of Power

Museums are said to “solidify culture, endow it with a tangibility, in a way few other things do. […] Museums have always featured displays of power: great men, great wealth, or great deeds” (Dublin 1999:3). When building or programming a museum, one must be conscious and careful of the power dynamics that museums have always played throughout history; museums are not neutral zones (Sandell 2005, 185). Museums have displayed people, cultures and lands conquered through imperialism and colonialism, which perpetuates past injustices (Alexander 1996; Bouquet 2000, 2012; Butler 2011; Sandell 2005, 187; Thomas 2019, 7-9). The way an exhibit is organized conveys a certain agenda, especially with the perpetuation of colonial histories (Glass 2011; Thomas 2010, 7-9). Applying anthropological practices to museum practice, such as multivocality, community engagement, co-curation, and other decolonizing practices allows for more democratic and inclusive experiences for visitors, the community, and descendent populations (Henry 2006, 229; Porter 1996; Quaintance et al. 2017; Thomas 2010). Some museum anthropologists seek to dismantle the power behind old museum
displays and recontextualized them for a new understanding (Glass 2011). Due to changing legal frameworks and codes of conduct, museum curators, anthropologists, and even artists take on the work of decolonizing the museum collection and displays (Dublin 1999; Glass 2011; Johnson 1993; Quaintance et al. 2017; Porter 1996).

Museum practices are shaped by international norms, codes of ethics as well as national and local laws, such as the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the North American Graves and Protection Rights Act (NAGPRA) (Bouquet 2012; Bruchac 2010; Childs 1999; Conn 2010; Felch & Frammolino 2011; Payne 2004; Smith 2004). It is very telling that the UNESCO convention of 1970 made the international trade of illicit (stolen and looted) objects from archaeological and cultural sites illegal before there was the passing of the NAGPRA in 1990. Objects and the illicit trading of artifacts and art took precedent over the bodies and sacred remains of humans (Bouquet 2012; Bruchac 2010; Childs 1999; Conn 2010; Payne 2004; Smith 2004). International and national codes and laws are not the only forces applied to changing museum practices and ethics; public facing art and activities from museum curators, anthropologists and artists are what change museum practices too (Dublin 1999; Glass 2011; Johnson 1993; Quaintance et al. 2017; Porter 1996).

Some museum exhibits display artists who subvert dominant forms of displays within museums, such as seen with Guillermo Gómez-Peña, Coco Fusco and Fred Wilson. *The Couple in the Cage*, a performative art piece executed by artists, Guillermo Gómez-Peña and Coco Fusco, was exhibited in museums during the early 90’s. This art performance critiques the colonial practices of museum displays (Johnson 1993). In this performance, Gómez-Peña and Fusco, are in a cage acting like “savages” from an undiscovered tribe (Johnson 1993). The museum visitors treat *the couple in the cage* as a spectacle and objectify them by paying to see
their genitals, taking photos with them, making them tell stories, sexualizing them, and feeding them while wearing sterile medical gloves (Johnson 1993). This performance by Gómez-Peña and Fusco overemphasized stereotypes taking on attributes of aboriginal people from the Gulf of Mexico to create an art form that examines the way museums display(ed) “the Other” (Bouquet 2012; Butler 2011; Chapman 1985; Larson 2015). Contemporary artist, Fred Wilson highlights how museums are biased and continue a colonial narrative through his materials and subject matter.\(^\text{10}\) Wilson’s work is an attack on museum practices and draws attention for change to occur (Dublin 1999, 13-14). These artists illustrate how to subvert and critique museum practices while being exhibited within the museum. This gives museums the opportunity to challenge dominant ideologies within their institutions and develop educational programming to dismantle the powers on display (Bouquet 2012; Bouquet 2000; Butler 2011; Glass 2011; Johnson 1993; Quaintance et al. 2017; Porter 1996).

2.4 **Museum Making: New Museology**

Historically, museums have been seen as “elitist, obsolete and a waste of public money” and there was a call for action in 1971 to repair the “failings of the original museology” (McCall & Gray 2014, 20; Balloffet et al. 2014; Butler 2011). ‘New museology’ “[…] emphasizes a people-centered approach” and to reexamine the relationship the museum has with society and their communities (McCall & Gray 2014, 19; Henry 2006; Terrell 1991). The changes during new museology’s people-centered approach affected the roles and responsibilities of the museum worker, such as traditional curatorial roles widening “to include less collection-based work and more directly ‘managerial’ and ‘administrative’ activities” (McCall and Gray 2014, 19, 30;

\(^\text{10}\) https://www.pacegallery.com/artists/fred-wilson/
Addis 2005; Balloffet et al. 2014; Komarac et al. 2019). New museology was a call to make museums more welcoming to the public.

‘new museology’ is a discourse around the social and political roles of museums, encouraging new communication and new styles of expression in contrast to classic, collections-centered museum models. It has become a theoretical and philosophical movement linked to a shift in focus and intention within the museum world, away from the functional idea of museums (McCall & Gray 2014, 20).

Soon, museum professionals change into bureaucratic employees, focusing on generating revenues, securing donors and getting more people in the door, while also trying to highlight the intellectual knowledge and precious materials/concepts on display (Balloffet et al. 2014; Terrell 1991). The changing landscape of appealing to the public is also wrapped up in politics and the economy; “museums once depended on public funding or philanthropy for their survival, they now depend on fundraising efforts whose success hinges on the extent to which the museum is able to meet market expectations” (Balloffet et al. 2014, 9; Bennett 1995). New museology was a critique of museums as elite institutions and sought for museum to be more relevant to their publics (McCall & Gray 2014). One response to new museology’s agenda for being more public facing leads to museums become firmly planted in the market economy in the 20th and 21st century.

2.5 Museum Making: Edutainment

As museums involve more of their public within the frameworks of new museology, and operate in a market-driven economy, one emergence of this critical analysis of museums is the implementation of edutainment (Addis 2005; Balloffet et al. 2014; Bueno 2017; Komarac et al. 2019; Terrell 1991). John Terrell comments that the “era of curator-driven exhibitions is dead” (1991, 149). Educational institutions and the entertainment industry have merged, which can be called edutainment. Edutainment takes the museum from an elite institution and changes it into a
more inviting and engaging space for the public (Addis 2005; Balloffet et al. 2014; Komarac et al. 2019; McCall & Gray 2014).

Edutainment is defined as ‘an educational experience which is at the same time entertaining’ and ‘it is mainly used to define cases in which this convergence is driven by technology’ (Podestà and Addis in Carù and Cova 2007, 140). Edutainment heavily depends on technology, so it needs to be implemented via software or delivered via a cable network or the Internet (Oxford Reference 2017). At the same time ‘edutainment incorporates elements of entertainment and interactivity’ into museum offer with the aim of attracting new visitors, especially the young ones (Balloffet, Courvoisier, and Lagier 2014, 5) (Komarac et al. 2019, 163).

Museums implement a capitalistic business model, playing into the “experience-based economy” to increase museum admissions, which leads to the “blurring of the lines between entertainment and non-entertainment” [education] (Balloffet et al. 2014, 7-8). The “Disneyification” or “Disneyland” critique of museums is their focus on entertainment to disseminate information, gain new audience members, and raise admission numbers in the museum, which is critiqued as a spectacle and not rooted in sophisticated academic research (Balloffet et al. 2014; Haigney 2021; Terrell 1991). Balloffet et al. discuss the move from museum as a temple for learning to the museum as an amusement park (2014, 13). Edutainment approaches are a way to create “cultural democratization” and demystify the museum collections and exhibits for a broader audience (Balloffet et al. 2014, 10). Terrell comments that the dilution of academic research for the public is downplaying the publics’ realm of knowledge (1991, 151). Edutainment sensationalizes the content and curation to not only invite new publics in, but to entertain them (Balloffet et al. 2014, 9; Komarac et al. 2019, 175-177; McCall & Gray 2014; Terrell 1991, 151).

The museum is appealing to a visitor who wants to be entertained while they learn (Addis 2005, 730; Balloffet et al. 2014, 9; Camps-Ortueta et al. 2021; Komarac et al. 2019, 175-177; Michael et al. 2010; Terrell 1991, 151). In the 21st Century, museum exhibition practices are
more interactional and entertainment-driven to generate more ticket sales (Addis 2005, Balloffet et al. 2014; Camps-Ortueta et al. 2021; Carrizosa et al. 2020; Komarac et al. 2014; Michael et al. 2010). Edutainment’s attributes to the museum are further explained by Michela Addis (2005) as;

The convergence of education and entertainment, favoured by the diffusion of technology and its use, involves a very high risk for institutions that are trying to cling to their past history and their traditional managerial behaviour. Institutions like these need to use technological applications to increase the value of what they can offer to the consumer. For example, the learning process of the visitors of the museum will not be impaired by the entertaining use of new technologies. Instead, the memory of their experience will be reinforced and reinvigorated (729).

Edutainment “depends on technology, so it needs to be implemented via software to delivered via a cable network of the Internet” and is interactive (Komarac et al. 2019, 163). This convergence provides a learning experience that is entertaining, educational and impactful to the visitor (Addis 2005).

2.5.1 Edutainment and Immersive Exhibits

Museum professionals are worried about a crisis in cultural learning with edutainment because it focuses heavily on the “entertainment factor” and technology of exhibits to avoid “boredom” in the visitors (Addis 2005; Balloffet et al. 2014; Crow 2021; Komarac et al. 2019; Terrell 1991). However, studies show that the use of immersive and interactive technologies have the power to create lasting impressions and memorable events that “stimulate all the senses of the individual” (Addis 2005, 729-732; Balloffet et al. 2014, 4-8; Bonacchi 2017, 61; Komarac et al. 2019; Manksy 2018; Michael et al. 2010). Within these “enriched” experiences, museum visitors change from passive viewers to active agents in the exhibits, which is “participatory edutainment” (Addis 2005, 731-733; Komarac et al. 2019, 163). The visitor’s active interaction and participation with virtual reality, video kiosks, podcasts, and other interactive technologies
make them the “producer instead of a consumer” in the exhibit (Addis 2005, 733; Glass & Keramidas 2011; Michael et al 2010).

To provide “better experiences” and to draw more visitors to museums, especially young audience members, museums have implemented more technology into the viewer-experience, as well as curating more immersive and interactive experiences to better stimulate emotions and lasting impressions on visitor experiences (Addis 2005; Balloffet et al. 2014; Camps-Ortueta et al. 2021; Carrizosa et al. 2020; Komarac et al. 2019; Manksy 2018; Michael et al. 2010).

According to Sarah Roberts on Agora Digital Art’s website, immersive exhibits “[…] envelop their audience in a full-body experience, engaging with sight, touch and sometimes even smell” (2021). In today’s attention economy, where information and knowledge are central to our society’s capital (Bueno 2017; Ervin 2015, 120-123), museums are in competition with social media and other communication technologies that occupy one’s attention (Bueno 2017; Balloffet et al. 2014; Camps-Ortueta et al. 2021; Komarac et al. 2019 160-161; Michael et al. 2010; Smith & Fischer 2020, 259). Museums are changing their marketing approaches within their technology infrastructure, exhibition designs, and curation to better relate to their publics (Balloffet et al. 2014; Camps-Ortueta et al. 2021; Komarac et al. 2019 160-161; Michael et al. 2010; Smith & Fischer 2020, 259).

2.5.2 Attention Economy

In Claudio Celis Bueno’s The Attention Economy: Labour, Time and Power in Cognitive Capitalism, he argues that human attention has become a scarce resource and an “increasingly valuable commodity” (2017, 1). Attention is the labor of humans in a post-industrial society.

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11 https://agoradigital.art/blog-what-is-immersive-art/#:~:text=Immersive%20art%20is%20about%20becoming.term%20%E2%80%9Cvisitors%20to%20viewers%E2%80%9D.
where social media companies profit off the attention we give to them, selling our information to advertising agencies (Bueno 2017; Ervin 2015, 120-123). The Internet is the main reason for this attention economy, where “e-mail, digital television, social media” all exist (Bueno 2017, 3). And “the Internet provides instant analysis tools that offer rich feedback for measuring attention and manufacturing personalized audiences” (Bueno 2017, 3).

From their perspective, the audience appears as an active agent in the production of surplus value and human attention of users becomes a new territory of capitalist exploitation, which alienates the spectator from his or her own vision. By clicking ‘like’ on Facebook or searching for a term on Google, the attention of each user is being translated into a new form of knowledge that is then utilized by corporations and advertising agencies to make a profit (Bueno 2017, 1).

Applying Marx’s theories of labor in the political economy, Bueno sees that labor has moved from the factory into our homes (2017). Bueno clarifies that the new factory is information and one’s attention is the new labor force (Bueno 2017). Attention has become economized and exploited and sold at a high value (Bueno 2017). The idea of “engaged attention” in today’s digital world is attention that interacts, such as when someone “retweets” a link, “likes” a comment, or “hashtags” a company or theme into their post (Smith & Fischer 2020, 259). Museums are operating in the attention economy by designing exhibits that will keep visitors longer, exhibits that will “engage attention”, exhibits that will encourage visitors to post and share on social media (Komarac et al. 2019 160-161; Balloffet et al. 2014; Michael et al. 2010; Camps-Ortueta et al. 2021; Smith & Fischer 2020, 259).

Immersive and interactive exhibits are very appealing to museum visitors (Addis 2005, 731; Roberts 2021). The application of assistive technology in museums makes them more accessible to various publics (Addis 2005; Balloffet et al. 2014, 5-12; Camps-Ortueta 2021; Carrizosa 2020; Komarac et al. 2019). Exhibits and museums are more accessible and appeal to a broader audience when they apply edutainment practices, which tend to align with
neoliberalism’s agenda and a market economy (Addis 2005; Balloffet et al. 2014, 5-12; Camps-Ortueta 2021; Carrizosa 2020; Komarac et al. 2019; Kozaitis 2013). There is a shift from the “didactic to the spectacular” within exhibits implementing the “entertainment factor” (Balloffet et al. 2014, 7-12; Haigney 2021). The “e-factor, or entertainment factor, has become the driving force of the global economy” and the museum must keep up to be relevant to its community within a globalized world (Balloffet et al. 2014, 7-8; Komarac et al. 2019, 160-161).

2.5.3 Neoliberalism in Museums and Public Universities

Much like museums, public universities are also seen as businesses operating in a market-driven economy (Balloffet et al. 2014; Harrison 2012; Kozaitis 2013). The public university operates like a corporation, meeting industry interests with their research and programming (Kozaitis 2013; Rylko-Baur, et al. 2008). Neoliberalism is operationalized by Alexander Ervin (2015) in Cultural Transformations of Globalizations: Theory, Development and Social Change as “the ideological system […] that sees free market principles and the reduction of government services as the best ways of supporting prosperity and modernized development for all” (119). The emergence of globalization can be followed through capitalism, corporate neoliberalism, transnational corporations, establishment of the modern state and the rise of the culture of consumption (Ervin 2015, 116). Today, museums fall into the framework of a corporation and are a form of “cultural tourism”, a place to display certain cultures due to the “homogenization of culture which globalization is thought to produce” (Harrison 2012, 69). Museums display places and objects that are “transformed from functional ‘things’ into objects of display” for the consumption of the public (Harrison 2012, 69). Museums now commodify people, places and things for market gains. Praxis anthropologists attempt to address the disruptions of these macro
forces, such as globalization and neoliberalism within humanity (Ervin 2015; Kozaitis 2013; Harrison 2012).

A public institution, such as a museum or university, has a duty to its community and to the public to provide ethical education that serves the interests of the community, and not solely the interests of the private donors. However, the interests of the public university are fuzzy with the increase in private corporate funding for Research and Development (R&D).

Those working in academic settings often see their research as intellectually independent from such outside forces. However, this is a chimera, for the ongoing restructuring of academic institutions within the context of a global economy has created complex and problematic links between the academy and industry. [...] Hans Baer strikes a cautionary tone, noting that ‘the university is in the process of becoming more and more of an appendage of the corporate economy rather than a relatively autonomous space within which critical thinking can occur’ (2001:50) (Rylko-Baur, et al. 2008, 183)

The Massachusetts Institute of Technology (MIT) Media Labs continued to accept funding from Jeffrey Epstein, after he pleaded guilty to “procuring underage women for prostitution” and other sexual abuse charges. This shows how the university put aside humanitarian values for market gains (Halpern 2020, 16). Industry interests and the university become conflated in a market-economy.

In *Anthropological Praxis in Higher Education*, Kathryn Kozaitis argues that a public university can rectify its participation in neoliberalism by various forms of engagement, critical analysis and accountability (2013). There are at least four spheres of academic engagement; “[…] setting universities’ aims, purposes, and priorities; relating teaching and learning to the wider world; back and forth dialog between researchers and practitioners; and taking on wider responsibilities as neighbor and citizens” (Kozaitis 2013, 133). An engaged university is one that incorporates its public, while acknowledging its role in a market-driven economy (Kozaitis

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Kozaitis argues for a blurring of the lines between “[…] theory and practice, research and reform, academia and the public […]” to better address neoliberal forces in the university (2013, 133). There is no clear demarcation between academia and industry interests, as discussed in Halpern’s critique of the MIT Media Labs acceptance of Epstein’s money. However, with the application of praxis anthropology, there is the possibility to address situations that are questionable (Kozaitis 2013; McCloskey et al. 2011; Rylko-Baur, et al. 2008; Small 2019).

2.6 Anthropological Practice: Accessibility

Museum accessibility depends on who has a voice when it comes to museum practices and the making of a museum (Brady 2009; Chapman 1985; Dublin 1999; Ervin 2015; Finkelpearl 2013; Henry 2006, 229; Klarich 2014; McCloskey et al. 2011; McGuire 2008; Quaintance et al. 2017). Barbara Henry sees museum educators as foundational to civic engagement and argues that they are both “community liaison” and “cultural broker” for the museum and its publics (2006, 228-229). Involving the community and their multiple perspectives in exhibition practices allows for a more engaged and accessible museum (Henry 2006, 224-227). Henry says that “embracing the strong core values of accessibility, relevancy, and inclusiveness” are at the heart of museum education (2006, 229). In Stephanie Moser’s *The Devil is in the Detail: Museum Displays and the Creation of Knowledge*, she outlines a few questions museums might ask such as; will exhibits offer implicit or explicit knowledge? Will the text be for a K-12 and adult audience? Will the exhibits be interactive and allow for visitor interpretation? (Moser 2010, 27). These questions are important when designing accessible exhibits for various audiences (Hein 2015; Henry 2006; Moser 2010). The museum strives to be accessible physically, economically, and intellectually for their publics.
Other questions museums might ask are; can it operate solely on donations, various grants and sponsorships to ensure free admission; is the location of the museum close to public transit and have ample parking; and is the museum accessible physically and virtually to its public? (Brady 2009; Henry 2006; Moser 2010; Sandell 2005). Museums are responsible for inclusivity, accessibility, and civic engagement within a community, according to Henry (2006). Museums are cultural brokers between art, culture, science, technology, and an array of other disciplines for the community (Henry 2006). Incorporating the public through community engagement and co-curation practices ensures the museum is relevant to its community (Bennett 1995; Ervin 2015; Finkelpearl 2013; Lykes et al. 2012, 22; McCall & Gray 2014; McCloskey et al. 2011; Moser 2010, 30; Quaintance et al. 2017; Sheets 2022).

The very act of praxis anthropology can contribute to the process of the decolonization of dominant museum practices by allowing the community to have more involvement in museum practices (Ervin 2015, 41; Henry 2006, 225-227; Quaintance et al. 2017; Sheets 2022). Examples of this can be seen in Chicago’s Field Museum incorporating Filipino/a community members in the curation of their Philippine collection (Quaintance et al. 2017). Another example is at Oakland Museum of California and their incorporation of the “Latino Advisory Committee” and a guest curator from the Mexican Museum in San Francisco to “demystify the museum to community members and provide museum staff with a deeper understanding of local Latino communities” (Henry 2006, 226). One more example is at Baltimore’s Museum of Art and their co-curation with 17 museum guards since they know museum pieces better than anyone else yet often get overlooked due to their job responsibilities (Sheets 2022). These three examples of co-curation illustrate alternative paths for curation in the museum. Inviting descendent populations, museum guards and guest experts to curate specific
exhibits allows for ally building and knowledge building for the museum, community and greater public.

2.7 Anthropological Practice: Community Engagement

Something to be wary of is the top-down mode of information flow within a museum, which makes it difficult for power to be redistributed (Finkelpearch 2013; Klarich 2014). The top-down approach is when the power within museum curation and programming is held solely with the curators, museum professionals and director (Finkelpearch 2013; Klarich 2014, 125). Engagement from other institutions and various community members (Overholtzer & Argueta 2017, 508-509) allows for cross pollination within disciplines and thought processes; “the result of such engagements is the transformation of the museum from a space of unidirectional knowledge dissemination to one in which new knowledge is collaboratively produced by people of different generations and experience in the presence of objects of shared heritage” (Quaintance, et al. 2017, 23). To combat top-down modes of information flow, museums have implemented community engagement practices.

Community engagement, according to Donna Jo McCloskey, et al. in Community Engagement: Definitions and Organizing Concepts from the Literature, is;

The process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people. It is a powerful vehicle for bringing about environmental and behavioral changes that will improve the health of the community and its members. It often involves partnerships and coalitions that help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs and practices (Centers for Disease Control and Prevention [CDC], 1997, p. 9) (McCloskey, et al. 2011:7).

The principles of community engagement are, “[…] fairness, justice, empowerment, participation, and self-determination” (McCloskey et al. 2011, 4). When going about community engagement within museum building, one must acknowledge that community building is a long-
term process (McCloskey et al. 2011). The implementation of community engagement practices has the power to bring awareness to community issues and lead to policy or institutional changes (McCloskey et al. 2011; Finkelpearl 2013). Community engagement has the goals to “build trust, enlist new resources and allies, create better communication, and improve overall health outcomes as successful projects evolve into lasting collaborations” (McCloskey et al. 2011, 3; Henry 2006). Building long-lasting community relationships keeps the museum relevant to its public and engaged with their community. With community engagement, the museum becomes an advocate for the community.

An approach to community engagement research is analyzing museum visitor experiences through interviews and surveys with the visitors and community members (Moser 2010, 30). Another approach to the implementation of community engagement within the museum is through co-curation practices which is a way to bring in the community into exhibition curation and design as noted above (Quaintance, et al. 2017; Finkelpearl 2013; Henry 2006; Sheets 2022). Co-curation is a “collaborative or community-based museum practice, rooted in the idea that museum collections can gain greater meaning when decisions about their visibility, care, and interpretation are made together with interested individuals and descendant communities” (Quaintance et al. 2017, 17). Chicago’s Field Museum implemented co-curation practices for the care, curation and cataloging of their Philippine collection (Quaintance et al. 2017). From 2014 – 2017 various local, descendent communities of Filipina/o American community members took part in this co-curation practice to bring greater knowledge to the collection (Quaintance et al. 2017). Bringing in descendant community members for the curation of certain exhibits creates equitable knowledge building for museum programing and displays. This is a collective act where the museum shares responsibilities of knowledge production with
the community (Quaintance et al. 2017). When a museum involves the community, it has the potential of “[…] transforming it from one of knowledge consumption to one in which knowledge may be collectively created and shared, thus illuminating the relevance of objects from the past to conversations of heritage and identity in the present” (Quaintance, et al. 2017, 13). The main tenants of community engagement in museums are collaboration, collectivity, and coalition building (Finkelpearl 2013; McCloskey, et al. 2011, 16-17; Woodfill 2013, 108; Quaintance et al. 2017).

Like co-curation, museums can apply cooperative art practice within the community (Finkelpearl 2013, 343). Cooperative art “is created through shared action not by active artists for inactive spectators” (Finkelpearl 2013, 343). The former director of the Queens Museums, Tom Finkelpearl, states that cooperative artists find the creative process of activating local knowledge and imagination to be a mutually rewarding process to the community and themselves (Finkelpearl 2013, 343). Finkelpearl concludes that to have successful cooperative art, one must be more collective in the curation and art making process, to incorporate the community in the process (2013, 105). Cooperative art is a form of community engagement due to its artistic and creative involvement with the local community. In 1986, the Creedmoor Psychiatric Hospital in New York partnered with conceptual artist, Bolek Greczynski for an artist-in-residence program with the patients of the hospital (Finkelpearl 2013, 1). Greczynski and the patients of Creedmoor, who were all called artists during Greczynski’s residency, created a museum called “the Living Museum” which was a “long-term interactive process that was orchestrated (rather than authored) by Greczynski. The art projects that composed the Living Museum were created by Creedmoor patients working many hours a week over many years, interspersed with an occasional painting by Greczynski” (Finkelpearl 2013, 5). No longer is the
art and exhibit authored solely by the artist and curator; it is now a collective experience that is only possible because of community engagement (Finkelpearl 2013, 144; Henry 2006; Quaintance et al. 2017; Sheets 2022).

In Finkelpearl’s *What We Made: Conversations on Art and Social Cooperation*, he was inspired by the Living Museum, which coined the phrase “what we made” in the book’s title (2013, 5). Finkelpearl applies Sherry Arnstein’s “ladder of citizen participation” to figure out the level of community engagement taking place within a certain organization (11-12). There are eight forms of citizen participation, which are on a scale from not very participatory to completely participatory, “1. manipulation, 2. therapy, 3. informing, 4. consultation, 5. placation, 6. partnership, 7. delegated power, 8. citizen control” (Finkelpearl 2013, 11-12). The scale goes from manipulation of citizens, which is the “distortion of participation into a public relations vehicle by powerholders”, all the way up to citizen control, which is when “power and funds go directly to a ‘neighborhood corporation with no intermediaries between it and the source of funds’” (Finkelpearl 2013, 11-12). Arnstein’s ladder of citizen participation is familiar to McCloskey et al.’s “community engagement continuum” (McCloskey et al. 2011, 8). McCloskey et al.’s continuum moves from “outreach and consult”, all the way to “involve, collaborate and shared leadership” when engagement is activated between researcher and community (2011, 8). The inclusion of a diverse range of people in the building and programming of a museum has the potential to create lasting partnerships and aspire to be a citizen-controlled endeavor (Finkelpearl 2013; McCloskey, et al. 2011, Woodfill 2013; Quaintance et al. 2017). Once a community is cultivated around a museum, one must realize that the community is not fixed, it is fluid, in constant motion, just like one’s identity and culture (Clarke 2014; Ervin 2016; Klarich 2014, 124; McCloskey et al. 2011; McGuire 2008, 76).
Communities are not homogeneous entities. To really understand a community is a complex process with complex individuals. Communities have diverse backgrounds, and one must remain open to community engagement as a never-ending process (McCloskey et al. 2011, 10). When discussing a community’s background, Christie Kiefer says it is important to understand the culture of a community (McCloskey et al. 2011, 10). Kiefer defines culture as, “a complex integrated system of thought and behavior shared by members of a group – a system whose whole pattern allows us to understand the meanings that people attach to specific facts and observations” (Quoted in McCloskey, et al. 2011, 10). Cultural Competence, which is “having knowledge of a group’s cultural differences and typical behaviors or beliefs”, helps when building trust and partnership between a community and museum (McCloskey et al. 2011, 11).

Community Based Participatory Research (CBPR) has the “potential to bridge gaps between research and practice, to address social and environmental links to health, and to empower communities by preparing them to participate in the research process and to gain control over their lives” (Boston et al. 2015, 29). Museums accepting diverse viewpoints and the participation of the community “[...] may give a clearer understanding of a specific issue [...], but no one standpoint will give a complete or ‘true’ picture of the world. We thus gain by including multiple standpoints in our construction of knowledge” (McGuire 2008, 76). Residency programs for artists and scientists have the same potential for bridging gaps between disciplines, the community and museum, the community and research university (Lau et al. 2022, 3; Schneider 2019).
2.8 Anthropological Practice: Residency Program

Artistic residency programs that are interdisciplinary in content and collaborators provide dedicated funding, space, time, and access to certain resources that an artist or scientist might not typically have (Dziekan 2020, 511; Lau et al. 2022, 3). These programs allow for knowledge exchange, interdisciplinary collaboration, and building partnerships with new perspectives of science, technology and art, for example (Dziekan 2020 511-512; Lau et al. 2022; Schneider 2019). Artistic residency programs are incubators for new ideas and a way to research outside the walls of academia (Dziekan 2020; Lau et al. 2022; Graham 2020; Schneider 2019). For example, when an artist spends time with a scientist in the lab, they become a “foreign agent” and a new collective experience between artist and scientist reexamines the production and thought process of certain disciplines, such as art and science (Dziekan 2020, 512; Lau et al. 2022).

The format of the artistic research residency might turn out today as a leverage that could also enable a radical rethinking of the role of art in society. In a sense that a residency never emerges for its own sake, but connects various different spaces of creative production, it proposes an understanding of innovation in artistic research that is no longer constituted by the disruptive character of the new, but by its capacity to reinvent connection between disconnected spaces across different layers of time (Schneider 2019, 67).

Residencies allow for “disconnected” disciplines to connect. Universities, museums, corporations and startups are taking advantage of artist-in-residency programs to create new avenues for idea generation and possibly new ways of viewing (Aguera y Arcas 2016; Lau et al. 2022, 3; McCloskey et al. 2011, 13; Rose 2018; Schneider 2019, 67).

In 2016, Google officially set up their Artists and Machine Intelligence (AMI) residency program, which selects six artists working at the intersection of machine intelligence in their creative practice (Aguera y Arcas 2016). The AMI residency program “brings together artists

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and thinkers, researchers, engineers, and of course, the machine intelligences these researchers and engineers are building” (Aguera y Arcas 2016). This program invites and pays artists upwards of $10,000 each to work with Google’s researchers and engineers for a period of five months and then display their work on the Google Arts and Culture platform. In 2016, artist and data scientist, Refik Anadol was selected for an AMI residency which gave him time and space to “ponder big questions, like the nature of intelligence and the relationship between humans and machines” (Anadol quoted in Rose 2018).

A more recent artist recipient of Google’s AMI residency is Martin Syms, with “Neural Swamp” where she “examines representations of Blackness across generations, geographies, mediums and traditions” (The Team at AMI 2021). Syms generates a play with five characters on five different screens, each in their own “box” all shown together and acting together, yet at a distant. Two of the characters’ voices are generated by machine intelligence (Syms quoted on Google’s Arts and Culture website 2021). This project is an extension of her work on “how the racialized and gendered self is mediated by technology” (Syms quoted on Google’s Arts and Culture 2021). Anadol and Syms are examples of artists who implement technology into their work to understand what it means to live in a digital world. Google’s AMI is an example of the benefits of partnering artists and scientists. Their partnership can break down silos and broadcast to a larger audience through various modes of communication (Aguera y Arcas 2016; Lau et al. 2022). These collaborations can demystify the research and art to offer new approaches and access points for art making and science research, while cultivating a community of people interested in these intersections (Aguera y Arcas 2016; Graham 2020; Lau et al. 2022).

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16 https://artsandculture.google.com/story/_QWxHHXcmCBDxw
The findings in a Canadian study on residency programs for scientists and artists show positive impacts for engagement and communication with the public (Lau et al. 2022). Catherine Lau, Chantal Barriault and Julia Krolik confirm that when an artist collaborates with a scientist it allows for different perspectives and questions to be posed (2022). The cross-pollination between disciplines bridge “the gap between research scientists in academic settings, artists interested in science, and the public, who typically have very little access to scientific research” (2022, 2-3). Their study used qualitative and quantitative methods to collect data on the learning impacts, engagement, and communication benefits of a cross-disciplinary program for an artist and scientist (Lau et al. 2022, 1-2).

Residency programs are an opportunity for scientists and artists to collaborate in a designated space with funding, and a timeline (Aguera y Arcas 2016; Lau et al 2022, 2; Schneider 2019). Artistic residency programs have the potential to question “economies of knowledge production” within an organization or institution to provide a “capitalist self-criticism” to address and change certain issues, much like Guillermo Gómez-Peña, Coco Fusco and Fred Wilson’s art (Schneider 2019, 68). When an institution offers a residency program for artists and researchers at the intersection of art, science and technology, they provide space to critique the institutions’ practices (Bouquet 2012; Bouquet 2000; Butler 2011; Glass 2011; Johnson 1993; Quaintance 2017; Porter 1996; Schneider 2019). Residency programs are inherently interdisciplinary in nature, and they question, create, and build new ways of seeing (Lau et al. 2022; Sommer 2014). Inviting an outsider’s perspective into a corporation, museum, or university, can be a form of accountability for that institution (Schneider 2019, 68; Lau et al. 2022, 2). Community engagement along with residency programs are dedicated practices for the
collaboration and cross-pollination of knowledge making (Kozaitis 2013; Lau et al. 2022; Quaintance et al. 2017; Schneider 2019).

### 2.9 Conclusion

No longer are museums solely for the rich and wealthy individuals funded by the government; museums must compete for funding and market themselves to the general public in order to survive in a market economy (Bennett 1995; Harrison 2012). There has been a move of “museum professionals from ‘legislator’ to ‘interpreter,’ and towards a more visitor orientated ethos” (McCall & Gray 2014, 21). Museums were once places for colonial narratives and dominant voices, now they focus on interpreting versus dictating information and knowledge which puts the curator and the visitor on a more level field (Bouquet 2000, 225; Quaintance et al. 2017; Sheets 2022).\(^\text{17}\)

Currently, the museum is responding to the experience-based economy and practices of edutainment within the museum. The expanding roles of museum professionals is in direct response to museums’ survival in a market-based economy (Balloffet et al. 2014; Harrison 2012; Kozaitis 2013; McCall & Gray 2014; Terrell 1991). Museums implement praxis methodologies when they involve their publics and communities (Henry 2006; Kozaitis 2013; McCloskey et al. 2011; Quaintance et al. 2017). The visitor becomes a participant in the exhibit, and even a contributor to the exhibit’s success depending on their social media engagement with the exhibit and museum (Addis 2005; Bueno 2017; Crow 2021; Gelt & Cuthbertson 2015; Roberts 2021).

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\(^\text{17}\) The exhibit “informed the use of space, the modelling of the narrative, the distribution of objects, inviting the public to think about the cultural nature of evolutionary theory rather than just instructing them about it” (Bouquet 2000, 225).
3 CURRENT LANDSCAPE OF ART, SCIENCE AND TECHNOLOGY MUSEUMS AND EXHIBITS

3.1 Introduction

Museums have been pivoting in response to the fast-developing technologies, virtual worlds, and the attention economy to better reflect the digital world within their institutions (Addis 2005; Camps-Ortueta 2021; Bueno 2017; Gelt & Cutherfordson 2015; Michael et al. 2010). The following list is a few of the emerging changes within the art world due to technology. First, artists are now selling art made from nonfungible tokens (NFTs) which only exist virtually and are bought and sold with blockchain technology (Merritt 2022). The NFT is a cryptocurrency that is unique, nonfungible, and becomes the new canvas for the artist to paint and sell (Merritt 2022; Stern 2021). Second, generative adversarial network (GAN) software is now considered to be the artist, such as with the GAN painted Portrait of Edmond de Belamy, from la Famille de Belamy painting that sold at Christie’s for $432,500 in 2019 (Bailey 2020; Goodman 2020). Third, art markets are using blockchain technologies to buy and sell art, overemphasized as a more “democratic” way to do business and conducive to the trading of NFTs (Merrit 2022; Stern 2021). Fourth, some museums only exist in virtual space, such as the Museum of Crypto Art. Finally, digital technologies are becoming vital to the structure of museums (Charr 2020). Art at the intersection of science and technology within museums is an emerging field that is still being theorized and written about today. In this commentary on the

20 VR All Art is an art market platform where you can buy and sell art with blockchain technology; https://vrallart.com/
21 Museum of Crypto Art, a virtual museum; https://museumofcryptoart.com/
22 Technologies use in museums; https://www.museumnext.com/article/how-technology-is-bringing-museums-back-to-life/; https://www.aam-us.org/category/technology/?gclid=Cj0KCQiw8p2MBhCiARIsADDUFVGkLTI-KmDODan-aFBa-ODSgzPehJKVju7wMK4J780leFWNc4FRvtdkaApC6EALw_wcB.
emerging landscape of the intersection between art, science, and technology, I draw from magazines, websites, exhibition reviews, blog posts, as well as academic literature. I also relate my personal observations of exhibits displaying art intersected with science and technology in chapter six. The present chapter interrogates various mission statements of art and tech museums and maps the current landscape of art, science and tech museums.

Museums have shifted during the 21st century, adapting and changing with emerging technologies (Addis 2005; Balloffet et al. 2014; Crow 2021; Gelt & Cutherbertson 2015; Haigney 2019, 2020, 2021; Komarac et al. 2020; Michael et al 2010; Roberts 2021). These shifts can be characterized by a number of developments. First, museums are displaying work at the intersection of art, science and technology, such as shown at the Whitney Museum of American Art with Programmed: Rules, Codes, and Choreographies in Art, 1965-2018 in 2019; Vitra Museum with Hello Robot. Design between Human and Machine in 2017; Smithsonian Design Museum, Copper Hewitt with Face Values: Exploring Artificial Intelligence in 2020. Second, museums are implementing digital technologies into their exhibition displays and archiving systems, such as seen with QR codes and museum digital applications (Camps-Ortueta et al. 2021; Carrizosa et al. 2020; Glass et al. 2011; Michael et al. 2010). Third, museums are now built to house and showcase art at this intersection, such as the Futurium Museum in Berlin, the Museum of the Future in Dubai, and teamLab Borderless in Tokyo. Fourth, more and more artists are moving outside traditional modes of art making and are creating art in virtual spaces with various technologies (Cornell & Halter 2015), such as Marina Abramovic, Tabita Rezaire,

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and Bojana Ginn (see figure 3). Ginn merges science and technology to create multimedia installations, such as seen in figure 3, which “explores contemporary existence in the age of digital and biotech” (Ginn, n.d.).

![Bojana Ginn, Bio-Pixels, installation at MOCA GA, 2018, photo by author](image)

Figure 3 Bojana Ginn, Bio-Pixels, installation at MOCA GA, 2018, photo by author

Lastly, research universities, like museums, are adapting to virtual worlds and the attention economy to create spaces to question research and technology through art, such as documented by research undertaken by the Alliance for Art in Research Universities (Bueno 2017; Crow 2021; Harp et al. 2019). The Science Gallery Network, existing at eight universities around the world, is one initiative addressing science, technology, engineering, art, and math (STEAM) at research universities through dedicated programming highlighting the creative intersection between all these disciplines to engage a young audience.

The roles of edutainment play a key part in museums within an experience-based economy where visitors want to be immersed in technologically designed exhibits, such as with Refik Anadol’s work (see figure 2) (Addis 2005, 730; Balloffet et al. 2014; Gelt & Cutherbertson

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25 [https://bojanaginn.com/art-statement/](https://bojanaginn.com/art-statement/)
26 Science Gallery: [https://sciencegallery.org/about-network](https://sciencegallery.org/about-network)
The museum creates experiences through their combination of “services as the stage, and goods as props, to engage individual customers in a way that creates a memorable event” (Pine II & Gilmore 1998). Edutainment offers an experience to the museum visitor. Michela Addis summarizes the emergence of technologies within art and how they are categorized as edutainment.

Emerging applications in the artistic world have, amongst others, the effect of emphasizing the convergence between education and entertainment. The consumption of art therefore seems subject to considerable evolution, and this requires a new analysis of the ways in which the individual and the work of art interact through the mediation of technological applications (Addis 2005, 730).

Museums in the 21st century are providing more entertaining and immersive experiences that can last in one’s minds and within their social media history (Addis 2005; Bueno 2017; Haigney 2021; Manksy 2018; Pine II & Gilmore 1998). No longer is the museum exhibit purely about the object, but it is a combination of the object, a service, and the visitor’s attention that create a dynamic immersive experience (Addis 2005; Bueno 2017; Haigney 2021; Pine II & Gilmore 1998). Examining the field of art, science and technology within museums, this chapter outlines the current landscape beyond Atlanta to gauge the interest and investments in art museums at the intersection of science and technology.

3.2 Museum Exhibits at the Intersection of Art, Science and Technology

Contemporary museums exhibit art that reflects the current day and even a future time (Cornell & Halter 2015; de Botton & Armstrong 2013; Finkelparl 2013; Sommer 2018). There is a surge in art exhibits that incorporate new media, digital, and virtual technologies (Addis 2005; Boxer 2017; Crow 2021; Gelt & Cuthbertson 2015; Haigney 2019, 2020, 2021; Rose 2018). A whole issue of the journal Art in America was dedicated to generative art, its history,
and its future (2020). Museums, such as the New Museum in New York City assert that, “contemporary art is a vital social force that advances questioning, learning, and working towards a better society” (n.d.). The New Museum prioritizes digital art within the museum and created an incubator, Rhizome, which “facilitates collaboration and dialogue between the fields of art and technology […] it enriches the public’s understanding of digital culture’s past through both discursive and technology initiatives” (n.d.).

Institutions such as the Whitney Museum, Vitra Design Museum, and Cooper Hewitt are exhibiting work at the intersection of art, science, and technology. The Whitney’s Programmed: Rules, Codes, and Choreographies in Art, 1965-2018 is a retrospective of art made from 1965 until 2018 that incorporates “instructions, sets of rules, and code […] and address the use of programming” (see figure 4) (n.d.). This exhibit, which showcases a retrospective of computing and tech art, illustrates the evolution of this interdisciplinary artwork in museum institutions.

Figure 4 Nam June Paik, Fin de Siéle II, 1989 at Whitney Museum of American Art, 2019, photo by author

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27 Quoted from the “values” section on their webpage; https://www.newmuseum.org/pages/view/values
28 Quoted from the “initiatives; rhizome” section on their webpage; https://www.newmuseum.org/pages/view/rhizome
29 Quoted on Whitney Museum’s website under “exhibitions” section https://whitney.org/exhibitions/programmed
Hello Robot. Design between Human and Machine, at the Vitra Design Museum, exhibits the evolution of robotic design, the Internet of Things, and questions this presence in our daily lives; “where [does] the boundary lie between work that can be automated and human creativity? [...] and] the increasing blurring of the boundaries between humans and robots” (n.d.).30 The exhibit Face Values: Exploring Artificial Intelligence, at the Cooper Hewitt Museum, is an immersive and interactive experience created by four different artists. This exhibit questions the role of facial recognition software in today’s society; “Using their own faces to control cameras and software, viewers experience the power and limitations of emotion recognition technologies through playful interactions that encourage awareness of these often-hidden tools” (https://www.cooperhewitt.org/events/current-exhibitions/face-values/, n.d.; Buolamwini 2017). These three exhibits at the Whitney, Vitra, and Cooper Hewitt illustrate how museums are questioning the ethics and responsibilities of technology through the medium of art.

3.3 Museums and Digital Technologies

Museums now use technologies to better display and utilize their collections to be relevant to their populations (Addis 2005; Balloffet 2014; Bueno 2017; Camps-Ortueta 2021; Glass & Keramidas 2011; Gelt & Cutherbertson 2015; Komarac 2019; Manksy 2018; Michael et al. 2010). This shift correlates with museums addressing new museology’s critique of elitism in museums, and tries to engage more of their publics through accessible and relevant technologies (Addis 2005; Balloffet et al. 2014; Gelt & Cutherbertson 2015; McCall & Gray 2014). Within the changes and shifts of museums during new museology, known as critical museology (Camps-Ortueta 2021), edutainment emerged as a possible solution to elitism in museums, which

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“transformed [museums] into places of encounter and experience” with greater relevance to the public (193). Museums that use new technologies stimulate all the senses, which is a way to re-contextualize the content on display for a more educational and entertaining experience (Addis 2005, 729; Gelt & Cutherbertson 2015; Manksy 2018; Michael et al. 2010).

Museum professionals and anthropologists study how new technologies can improve visitor experiences, as well as improve the organization of the museum (Camps-Ortueta 2021; Glass & Keramidas 2011; Michael et al. 2010). Research by Michael et al. (2010) analyses interactive systems used within a museum in Cyprus to understand how visitors engage the technology (250-261). Museums have traditionally displayed objects solely on pedestals and within frames, but they are shifting into more interactive installations which incorporate technology such as, VR, AR, and haptics as companion pieces to the objects on display (Camps-Ortueta 2021; Manksy 2018; Michael et al. 2010). Michael et al. find that the use of interactive Information and Communication Technologies (ICT) in the museum has a more positive experience on viewers, especially school children, compared to an analog experience (2010, 259-260).

The Massachusetts’s Peabody Essex Museum is also implementing technology into their museum (Manksy 2018). However, this technology comes in the form of partnering with neuroscientist, Tedi Asher, to figure out what exhibits are most impactful to the visitor through collecting biosensing data of the visitors during certain exhibits (Manksy 2018). During Asher’s research, Peabody Essex Museum visitors volunteered to be hooked up to “eye-tracking glasses and biometric sensors” which would capture what they were looking at, as well as measure their sweat response to a particular experience in the museum (Manksy 2018). The visitor’s biological data was then analyzed to determine what museum exhibit was most impactful for the visitors.
This partnership with a neuroscientist is a way the museum can collect visitor experiences to meet viewers’ wants and desires more “accurately”. This incorporation of neuroscience, behavioral psychology and biosensing technologies is a form of the museum capitalizing on consumer behaviors to better perform in a market-driven economy (Bueno 2017; Gelt & Cuthbertson 2015; Manksy 2018). Bringing this type of science into the art museum is another way to understand the visitor and incorporate them in decision making process of what exhibits will be on view at the Peabody Essex Museum (Manksy 2018).

Immersive and interactive exhibits are stimulating according to research by Michael et al. (2010) and Jacki Manksy (2018). As previously stated, immersive exhibits “[…] envelop their audience in a full-body experience, engaging with sight, touch and sometimes even smell” (Roberts 2021).31 New interactive world traveling experiences such as, Van Gogh: The Immersive Experience also prove to be stimulating and sought out by the public (Crow 2021; Gelt & Cuthbertson 2015; PR Newswire 2021). However, not all interactive and immersive exhibits are inclusive, especially in terms of ADA compliance (Brady 2009; Carrizosa 2020; Lesser 2017). Miranda J. Brady discusses the barriers of technology in museums, when they are driven by commercialized and consumer-based mentalities (2009, 143). Brady’s research into the National Museum of the American Indian and the Internet finds that “many Native and non-Native people have difficulty accessing the Internet” (2009, 143). She goes on to say that even though the Internet is being used more frequently by Indigenous People, the Internet is problematic because it is “touted as a democratic panacea to social inequalities” (Brady 2009, 143). Museums that use technology and the Internet to improve their visitor’s experience can

31 https://agoradigital.art/blog-what-is-immersive-art/#:%7E:text=Immersive%20art%20is%20about%20becoming.term%20%E2%80%9Cvisitors%20to%20viewers%E2%80%9D.
exclude certain people with disabilities or people without access to certain technologies and broadband Internet (Bonacchi 2017, 62-67). The museum must be cautious when moving into the edutainment realm with their tech-focused exhibit designs, especially when considering ADA codes and ethics.

3.4 Museums at the Intersection of Art, Science and Technology

New museums (and residency programs) are being developed to preserve and give a platform to art being created in the digital 21st century. These include Artechouse in Washington D.C., New York City, and Miami; the New Museum in New York City and its digital incubators, Rhizome and New Inc; The Futurium in Berlin; Dubai’s Museum of the Future; Superblue in Miami and London; and the teamLab Borderless Museum in Tokyo and Shanghai.32 I will only discuss a few in this section. Museums also exist that preserve the history of digital material of the 21st century, such as the Computer History Museum in Mountain View California, The Computer Museum of America in Roswell Georgia, and RetroTECH33 at Georgia Tech in Atlanta.

Artechouse is based in D.C. and has two other locations in New York City and Miami. In a 2020 interview, Sandro Kereselidze, the co-founder and art director, said “every city has a venue for fine arts, theater, music, or film. Our goal is to be a destination in every city for an innovative, 21st-century art that is created at the intersection of art, science, and technology” (Quoted in Art in America 2020, 31). In the fall of 2018, I visited D.C.’s Artechouse to see Refik Anadol’s34 immersive digital installation (see figure 2). Anadol is a data artist who works in new media and machine learning to create abstract data-driven art (Rose 2018). In 2014, Anadol

33 http://library.gatech.edu/retrotech
34 https://refikanadol.com/about
designed *WDCH Dreams* which was projected onto the exterior of Los Angeles’s Walt Disney Concert Hall, designed by architect Frank Gehry (Rose 2018). The data and images mapped onto the exterior of the concert hall morphed and changed based on the live performance by the L.A. philharmonic inside the concert hall (Rose 2018). The L.A. community were able to collectively experience the philharmonic, whether in the concert hall or outside. The actual materials Anadol and his team collected for data mapping were, “millions of photographs, printed programs and audio and video recordings, each one digitized, microcrunched and algorithmically activated to play in abstract form across the building’s dynamic metal surface” (Rose 2018). This explores technology, images, machine learning and music in ways that the whole L.A. community could experience.

The two incubators at the New Museum, Rhizome and New Inc, provide support and residencies for artists at the intersection of art, science and technology. The New Inc incubator is the “first museum-led cultural incubator dedicated to supporting innovation, collaboration, and entrepreneurship across art, design, and technology” (n.d.).35 These two incubators at the New Museum illustrate how museums can provide nurturing residency programs for interdisciplinary arts, which are a direct pipeline to the museum and future exhibits. These incubators and residency programs are spaces for artists, scientists, and researchers to question emerging technologies and then to exhibit and interact with museum audiences (Graham 2020; Lau et al. 2022; Schneider 2019). Google created a residency program for artists and engineers to collaborate, learn and create together.36 This residency program is called, Google’s Artists and Machine Intelligence and in 2016, Anadol took up residency with them which allowed him to

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35 Quoted from New Museum website under “Initiatives; New Inc” section https://www.newmuseum.org/pages/view/new-inc-1
“ponder questions, like the nature of intelligence and the relationship between human and machine” (Rose 2018).

Two museums, recently built to house and showcase technology and art of the 21st century are the Futurium in Berlin and the Museum of the Future in Dubai. The Futurium is a museum and lab for questioning and designing the future (n.d.). In the Futurium lab, visitors can learn how the technology works, perform experiments, and be creative (n.d.). The exhibitions that Futurium display are at the intersection of science, technology, with themes of what it means to be human, questioning the benefits and harms of technology to humans, society and nature (n.d.). However, a critique of the museum in the journal Nature states, that the exhibit organization is problematic with the division of technology, people and nature being linked yet distant; “these separations are deeply misleading. To portray technology as unconnected to humans, fuels technological determinism; to portray it as separate from nature is to perpetuate the Western myth that technology exists to dominate an unruly Earth” (Cave 2019, 205). The curation of an exhibit is very important and curators must be careful of perpetuating a colonial narrative of progress (Bennett 1995; Bouquet 2012; Cave 2019; Conn 2010; Dublin 1999).

The Museum of the Future imagines a world in 2071 (Batycka 2022). The Museum of the Future’s building is of futuristic architecture; a circular building symbolizing humanity with a hole in the middle “representing the unknown future” (Batycka 2022) and set upon a green mount to symbolize earth, which signifies the content, curation and agenda inside the building (Moser 2010, 24). National Geographic named the museum’s architecture as one of the “most

37 https://futurium.de/en/about-us
38 https://futurium.de/en/about-us
39 https://futurium.de/en/entire-exhibition#what-are-all-these-things-doing
40 https://museumofthefuture.ae/en/about-us
beautiful buildings” in 2021 with “a unique curvilinear shape [that is] covered in poetry by Sheikh Maktoum” (Batycka 2022). The content on display encourages visitors to question and imagine the future in 2071; “visitors to the museum begin by taking an elevator to a makeshift space station. Looking out over the earth, they are presented with a problem: the earth is sick. Each visitor is given a role to play (doctor, teacher) and tasked with unpacking the world’s problems” (Batycka 2022). The Museum of the Future’s mission claims that “things can and must progress”, which has dangers of a colonizing agenda, claiming that progress is inherently good (Dublin 1999; Bennett 1995). This museum is a great example of how a museum is used to promote nation-state building, especially with Sheikh Mohammed Bin Rashid Al Maktoum’s poetry that decorates the exterior of the museum. This museum is an initiative by Dubai’s Future Foundation, which was founded in 2008 that “combines different government ministries (such as […] healthcare and engineering) to act as incubator for private startups, artists, technologists, and designers” (Batycka 2022). The Museum of the Future is important to the United Arab Emirates as it shifts from an oil-based economy to a tourist-based economy, according to ARTnews (Batycka 2022).

Museums exhibiting art, science and technology can promote an agenda of “progress”, which puts the museum right back into a colonial era, focusing on “development” and “progress” in society (Bouquet 2000; Bouquet 2012; Butler 2011; Chapman 1985; Turkle 2007). However, immersive installations provide alternative avenues for understanding how science and technology merge with art (Crow 2021; Graham 2020; Lau et al. 2022; Schneider 2019). Interdisciplinary work has the potential to expose issues within the digital age and bring
awareness to how humans can be more responsible and ethical when it comes to science and technology (Graham 2020; Lau et al. 2022; Schneider 2019; Sommer 2014).  

3.5 Artists at the Intersection of Art, Science and Technology

In 2015 Lauren Cornell and Ed Halter edited a compilation of essays by artists, art historians and curators about art and the internet within the 21st Century titled, Mass Effect Art: Art and the Internet in the Twenty-First Century. Many artists are working at the intersection of science and technology. It has become hard to decipher between artist and technology, such as with Obvious’s Portrait of Edmond de Belamy, from la Famille de Belamy (2018) created with a generative adversarial network (GAN) and Mike Winklemann’s (aka Beeple) The First 5,000 Days created online, bought and sold online, and viewed online all by a nonfungible digital token (NFT) (Goodman 2020, 44; The Week 2021). Paris-based collective, Obvious, created a painting which is “painted” by an algorithm, powered by GAN, which scans the internet for famous portraits to learn and then paint (Goodman 2020, 43-47). This painting sold for $432,500 at Christie’s in October of 2018 (Goodman 2020, 43-47). Mike Winkelmann, whose art moniker is Beeple, created a collage of digital images and minted them all into an NFT. An NFT is “a line of code that’s entered into the ledger of a blockchain network, definitively proving […] who owns the image” (The Week 2021, 25). Beeple’s work sold at Christie’s for $69.3 million in March of 2021, which is “the third-highest price ever paid at auction for a work by a living artist” (The Week 2021, 25). 

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42 A few artists can be found here; https://aiartists.org/about
43 Obvious and Beeple selling their work at such high prices is shocking, especially when, in 2020, 37.2 million people were reported as living below the poverty line, according to the U.S. Census Bureau. (https://www.census.gov/library/publications/2021/demo/p60-273.html).
In January 2020, *Art in America* published a whole journal dedicated to artists creating generative art. For this issue, associate editor and online editor, Brian Droitcour defines generative art as employing “[…] computer code to introduce automation into the artistic process” (2020, 32). Jason Bailey, of *Art in America*, writes that generative art might be “the art that best reflects our time” (2020, 36). So, artwork that is created by machines and autonomous algorithms, as well as mediated and intervened with human creativity, illustrates the age in which we live, according to the January 2020 journal, *Art in America*.

Artist Mario Klingemann uses GANs as a “tool for making art” as seen in *Memories of Passerby I* (2018). *Memories of Passerby I* is a series of portraits “based on training images of historical paintings” which can be compared to Obvious’ *Portrait of Edmond de Belamy* (Bailey 2020, 39). However, Klingemann’s work uses hardware and a screen for its display while Obvious’ piece is created with paint on a canvas. GAN art could train our eye to discriminate between what is real and not, “GANs trained on photos tend to introduce bizarre quirks as they struggle to produce something like the input images, and Klingemann relishes the results” (Bailey 2020, 39). Exhibitions of GAN art could help us understand how to identify deep fake videos, photos, and even articles generated by artificial intelligence when it comes to news and information we read on the internet (Bailey 2020).

Within these highly technological art pieces one can train GANs on their specific artwork, such as Sougwen Chung does. Chung is a former researcher at MIT Media Lab and is currently an artist in resident at Bell Labs and New York’s New Museum (Bailey 2020, 34-41). She “sees her practice as a model for human-machine interaction. She dramatizes the process in performances where robots draw alongside her on large canvases” (Bailey 2020, 33). Chung is using her own paintings and drawings to teach technology, which then creates personalized data
sets. The technology and machinery Chung utilizes then applies her art making practices to create new art (Bailey 2020, 41). The artist and technology blur together to create and learn from each other. Artwork at this intersection questions “how to define the values that shape our relationship with technology” and if technology can have the agency of being an artist (Bailey 2020, 33).

Tabita Rezaire’s art falls under the category of digital art and claims that cyberspace is a new frontier for the West to conquer (n.d.).44 Rezaire says, in an interview with Rhizome’s blog, that the Internet is another form of colonization because it exploits the Global South for its resources to manufacture technological devices and exploits the people for cheap labor; “electronic colonialism is that shift of former colonized countries in to electronic colonies, of colonial subjects into global Westernized subjects and cyber slave” (Ford 2018). In Rezaire’s video, Deep Down Tidal45, she makes direct connections between the middle passage slave trade routes (the triangle trade) and the pathways of fiber optics laid on the ocean floor for internet communication technologies (Ford 2018). Rezaire argues that the same pathways of the triangle trade are utilized for the same exploitation of natural resources and bodies in the 21st century (Ford 2018).

There are countless artists working at the intersection of science and technology to create works of art that provide alternative routes for understanding science and technology (Art in America 2020). Some artists are gaining a lot of traction in the art market as seen with Obvious and Beeple (Art in America 2020). Old master pieces are now being digitized and augmented in ways that recontextualize them for the digital age. One can also see this through the hyper sensationalized Van Gogh: The Immersive Experience exhibits that have been visiting various

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44 https://tabitarezaire.com/info
45 https://www.youtube.com/watch?v=V9ElywuH-LM.
cities around the world. And artists are questioning our relationship with technology and the ethics of technology through their art practice (Bailey 2020; Ford 2018).

3.6 Research Universities and the Art, Science and Technology Landscape

Research universities are also responding to art in the digital age with their interdisciplinary programs for art, design, science, humanities and computer science collaborations (Harp et al. 2019). Research universities are integrating art within their science and engineering curriculums, such as seen with the Science Gallery Network and the research in Alliance for the Arts in Research University program (A2RU) (Harp et al. 2019). A2RU sees the importance of “arts-integrative research, curricula, [and] programs” and undergoes continual research on this integration of art in research universities (https://www.a2ru.org/). A2RU values “the arts as core to higher education” (https://www.a2ru.org/). The Science Gallery Network is located at eight universities around the world and is a place to cultivate the collision between science, art, design and technology. Dedicated programming and exhibits displaying research and art at the intersection or science, design and technology, particularly for young people, is the main focus of the Science Gallery Network on university campuses (https://sciencegallery.org/about-network).

The leading mission of the Science Gallery Network is fostering the intersection of science and art to create a dedicated space for this convergence at various universities around the world. A university setting is required for a partnership with Science Gallery and a recent partner is Emory University in Atlanta, scheduled to open in Spring 2022. Science Gallery is geared towards young people, ages 15 to 25, to foster the interdisciplinary and transdisciplinary practice between the arts, science, technology, and design (Science Gallery website, n.d.). Their programs

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46 See figures 10-16.
feature “emerging research and ideas from the worlds of science, art, design and technology, presented in connective, participative, and surprising ways” (Science Gallery Website, n.d.). These programs give young people experiences to help them “develop the skills they need for the 21st century, equipping them to thrive in the knowledge economy through the skills of STEAM” (Science Gallery website, n.d.). However, Science Gallery is not set up as a museum and specifically says they are not a museum (Science Gallery website, n.d.). It is a dedicated exhibition space for showcasing art and science, hosting various programs for the public, and creating conversations and partnerships between the arts and sciences.

The 2019 A2RU conference was titled, The Case for Arts Integration within research universities and states, “Integrating the art with STEM fields engenders excellence in teaching, research, scholarship, and creative endeavors - - avenues that intersect and ultimately lead to knowledge diversity” (Harp et al. 2019, 26). A2RU goes on to say that when a research university integrates the arts it “improves research, promotes student success, and engages and serves the public” (Harp et al. 2019, 26). According to Harp et al. integration is acknowledging the importance and connection between all fields and the potential their integration could have on society (2019, 6). Massachusetts Institute of Technology’s Center for Art, Science and Technology (CAST) and Carnegie Mellon’s School of Art Frank-Ratchye STUDIO for Creative Inquiry are two of many examples of top engineering and research universities integrating the arts with science and technology. MIT provides established spaces to artists and researchers at the intersection between science, art, and technology. MIT has two dedicated programs for artists and scientists to work in the Media Lab and CAST. However, some of MIT’s funding from Jeffrey Epstein has been quite controversial as stated in chapter two (Halpern 2020, 16).

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47 https://sciencegallery.org/what-sg-does
Museums and Universities should always question their funding from various benefactors and patrons (Halpern 2020). These institutions also need to be questioned and held accountable as responsible community entities.

### 3.7 Conclusion

Art and tech museums, exhibits, and artists are intersecting disciplines and research that question and discover what it means to be human in a digital age (Aguera y Arcas 2016; Batycka 2022; Lau et al. 2022; Schneider 2019). Art and tech museums can offer an array of engagement for their publics in ways that go beyond merely broadcasting. Art and tech museums and exhibits are interactive labs, classrooms, and immersive experiences that provoke conversation for the visitors and public (Batycka 2022; Graham 2020; Harp et al. 2019; Lau et al. 2022; Schneider 2019).

The Internet makes it so that artists, museums, and galleries can have a “store front” and take-up real estate in cyberspace (Bonnachi 2017; Forte 2010). The Internet has given a platform for Beeple and Obvious to sell their computer-generated art at Christie’s for extreme amounts of money, which would not be possible without the internet. One must be cautious with what one sees and hears online, which is why art and tech museums are places that can cultivate responsibility such as learning about deep fakes. Museums can provide space for questioning the power dynamics within science and technology (Ford 2018; Porter 1996). The Internet creates new avenues for exhibiting, dispersing, and making art. However, the information might not all be equal, nor accessible, which is why we need institutions and communities to also question these online practices.
4 RESEARCH DESIGN

4.1 Motivation for the Project

Over the past three years I have been researching and investigating if a university art museum and residency program at the intersection of science and technology would be of interest for Georgia Tech in midtown Atlanta. The first spark of interest for this research came during a site visit to the newly built Coda building, in Tech Square at 756 West Peachtree Street, in midtown Atlanta on March 19, 2019.\footnote{https://codatechsquare.com/} Due to my work as an event coordinator for Georgia Tech’s College of Computing, my colleague and I were scouting out locations for our advisory board spring meeting. The building and events manager of Coda showed us around all the Georgia Tech spaces within the building, since the whole building does not belong to Georgia Tech. The last space she showed us was not finished and did not have a clear direction for its purpose. This 10,000 square foot industrial-looking space on the second floor of the newly built coda building got me excited for a potential art-tech space (see figures 5 & 6). The moment I had this thought is when my three-year journey within the anthropology department at Georgia State University (GSU) began.
Scholarship on anthropological praxis, museum history, art residency programs, and current magazine and newspaper articles gave me key concepts and theories that shape how an
art museum and residency program operate at the intersection of science and technology. A triangulation of theory, empirical research (interviews and participant observations) and my own experiences provide the content for this thesis (Spiggle 1994; Komarac et al. 2014). At the inception of my research, there was no museum and residency program at the intersection of art, science, and technology in Atlanta GA.\textsuperscript{50}

### 4.1.1 Research Goals Restated

The research goals for this thesis were to 1) explore the landscape of museums at intersection of art, science and technology and 2) to establish an interest study for a university art museum and residency program at the intersection of science and technology in Atlanta. The university of interest for this research is Georgia Tech. The literature review and the current art, science and tech landscape help shape this thesis and provide background for the interviews and observations.

### 4.2 Setting for Interest Study

Located in the heart of Atlanta is midtown. Midtown is home to many art and tech institutions. One institution is the Georgia Institute of Technology (GT), which is a tier one research university that educates over 40,000 undergraduate and graduate students and employs over 8,000 faculty and staff members (https://irp.gatech.edu/fact-book\textsuperscript{2021}).\textsuperscript{51} GT houses the Ferst Center for the Arts, the Paper Museum, and the Stubbins Gallery. Another institution is the Woodruff Arts Center (WAC), which is home for the High Museum of Art, the Atlanta

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\textsuperscript{50} In 2020, Emory announced their partnership with Science Gallery Network and are opening a gallery in Atlanta Spring 2022 (https://www.atlanta.sciencegallery.com/news/science-gallery-atlanta-names-cocurators-for-inaugural-exhibition-on-addiction). In 2022, Fulton County Arts and Culture announced their Future Labs residency program for artists at the intersection of technology (https://fultoncountyga.gov/news/2022/02/17/fulton-county-arts--culture-to-launch-public-art-futures-lab). Also new developments in Pullman Yards and Underground Atlanta are making dedicated spaces for immersive experiences. All these developments will be discussed in chapter seven.

\textsuperscript{51} https://www.gatech.edu/about
Symphony Orchestra, and the Alliance Theater. There is also the Savannah College of Art and Design, Atlanta (SCAD), the Museum of Design Atlanta (MODA), the Center for Puppetry Arts, the William Bremen Jewish Heritage Museum, the Atlanta Contemporary Art Center (ACAC), and the Goat farm, which will soon be the campus of the Museum of Contemporary Art Georgia (MOCA GA). In addition to these art museums and centers, there are many commercial art galleries located in midtown. Midtown Atlanta is a center for the arts, and a partnership between Georgia Tech could create a designated tech and arts district (see figure 7 for a map of midtown Atlanta). Georgia Tech is within a one to three-mile radius to all these art centers.
4.3 Methods

I use qualitative analysis and interpretation for the research methods in this paper (Bernard 2011; Bernard & Gravlee 2014; Ryan & Bernard 2003; Spiggle 1994; Wutich et al. 2014, 507). In the following, I discuss the qualitative analysis and interpretation of the data.
collected using grounded theory from interviews and observations (Spiggle 1994; Wutich et al. 2014, 507). Nine semi-structured and open-ended interviews of museum and art professionals (museum directors, educators, curators and artists) were performed over a seven-month period (August 2021 to March 2022). These informants work in either Georgia, Washington D.C., California, or Germany.

The questions I asked were open-ended and adapted to each informant (see Appendix A for interview guide). Along with interviews, I physically and virtually observed art museums and exhibits displaying work at the intersection of science and technology. My research process also applied a reflexive practice due to my background in art, gallery management, and academia (Bernard 2011; Ryan & Bernard 2003; Spiggle 1994; Wutich et al. 2014). Chapter five describes the interview data and identifies themes. Chapter six also captures interview data and themes while weaving in a few of my 16 participant observations. Chapter seven discusses my findings, limitations, and future research for this project, while relating it back to the theory within the literature review.

Exploratory qualitative research is applied to the data collection (Ryan & Bernard 2003; Spiggle 1994). I apply five of Spiggle’s seven operations for data manipulation, “categorization, abstraction, comparison, “dimensionalization”, [and] integration” during my analysis of the data (Spiggle 2014, 493-497). These operations are “fundamental, basic analytical operations” to develop a framework for my field work (Spiggle 1994, 495). “An a priori approach” was taken for this research, because of prior knowledge in theory, museums, and various exhibits on this subject matter of art intersected with science and technology (Ryan & Bernard 2003, 88; Wutich et al. 2015, 507-509). I used an inductive and deductive approach within the content analysis and
empirical research to support my research topic (Ryan & Bernard 2003; Wutich et al. 2015, 507-509).

Themes were then discovered and categorized through “open coding” of the empirical data from various interviews and participant observations (Ryan & Bernard 2003, 88; Spiggle 2014, 493). Categorized themes are then abstracted into “[…] fewer more general ones [themes]” (Spiggle 1994, 493). I then compared the abstracted and categorized themes for similarities and differences, which provided “guidelines for collecting additional data” (Ryan & Bernard 2003, 91; Spiggle 1994, 493). Integration is where I look at how the empirical field work integrates into the theory and builds new theory; “to build theory that is grounded in data” (Spiggle 1994, 494).

4.4 Sample

I interviewed nine museum and art professionals living in the US, and one in Germany for this research (see table 1). Informants were chosen through prior knowledge and “purposive sampling”, which is the personal selection of informants (Bernard 2011, 145; Spiggle 1994, 494). After approval and permission was given, interviews were scheduled with each informant. These “experts were chosen because they have knowledge, experience, and influence in museums operations” (Komarac et al. 2014, 168; Levy & Hollan 2014, 300). All nine informants remain anonymous throughout this thesis and have been assigned pseudonyms. These nine interviews provide a “conceptual depth that allowed sufficient depth and understanding” to the research questions (Komarac et al. 2014, 168).

Table 1 Interview Data - Pseudonyms used

<table>
<thead>
<tr>
<th>Respondents (pseudonyms used for privacy)</th>
<th>Institution Type</th>
<th>Job Title</th>
<th>Work Experience</th>
<th>Gender, Race</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Position</th>
<th>Experience</th>
<th>Gender, Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobby</td>
<td>University Museum of Art, GA – 501C3 Non-Profit</td>
<td>Director</td>
<td>30+</td>
<td>Male, White</td>
</tr>
<tr>
<td>Eva</td>
<td>Museum of Art and Design, Germany – Private</td>
<td>Curator</td>
<td>5+</td>
<td>Female, White</td>
</tr>
<tr>
<td>Mitchell</td>
<td>Museum of Art, GA – Non-profit</td>
<td>Curator</td>
<td>10+</td>
<td>Male, White</td>
</tr>
<tr>
<td>Carol</td>
<td>Arts Federal Funding, Washington D.C. – Non-profit</td>
<td>(former) Grant manager</td>
<td>5</td>
<td>Female, White</td>
</tr>
<tr>
<td>Victoria</td>
<td>Contemporary Art Center, GA – 501C3 Non-Profit</td>
<td>Director</td>
<td>5</td>
<td>Female, White</td>
</tr>
<tr>
<td>Barbara</td>
<td>University Museum of Art, CA</td>
<td>Museum educator and consultant</td>
<td>10+</td>
<td>Female, White</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(mix between working at University Museums and Art Museums)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sarah</td>
<td>University Art and Science Gallery, GA - Private</td>
<td>Director</td>
<td>Less than a year</td>
<td>Female, Asian</td>
</tr>
<tr>
<td>Marzia</td>
<td>Engineer and Tech University - Public</td>
<td>Artist and assistant professor</td>
<td>2 years – assistant professor 5 years - artist</td>
<td>Female, White</td>
</tr>
<tr>
<td>Ana</td>
<td>Artist and professor</td>
<td>Artist and former M.D.</td>
<td>10+ years (as artist)</td>
<td>Female, White</td>
</tr>
</tbody>
</table>

Bobby, Victoria and Sarah are directors at museums in Georgia. Mitchell is a curator in an art museum in Georgia and Eva is a curator at a design museum in Germany. Carol is a former grant manager at an arts federal funding agency, where she managed 600-700 grant applications per year, and now works in California. Barbara is a former museum director and is now a museum educator and consultant in California. Lastly, Marzia and Ana are both artists working at the intersection of technology and science. Marzia is an assistant professor at a tier one research university in Georgia and Ana is an art professor in Georgia and holds a Medical Degree.
Along with nine interviews, I observed 16 museums and exhibits showcasing art at the intersection of science and technology (see table 2). These participant observations were conducted over a span of five years and occurred in Atlanta; New York City; Washington, DC.; Lisbon, Portugal and Miami. Nine interviews paired with 16 participant observation gave me a saturated sample for the landscape of museums.

4.5 Data Collection

Interviews were semi-structured and open-ended for this research (see Appendix A). Interviews lasted 60-120 minutes and all occurred online via video conferencing software (i.e. Zoom, BlueJeans, and Microsoft Teams), due to the COVID-19 pandemic. Prior to interviewing these nine informants, I briefed them on my research and asked for permission to record and transcribe the interviews for my thesis. All the informants agreed, and no one asked to remain anonymous. However, I have kept the informants anonymous within this thesis. Data were also collected through personal observations of 16 museums and exhibits that showcased art at the intersection of science and technology.

4.6 Limitations

Limitations of this research are related to a lack in racial diversity and employment diversity in the nine informants. Eight out of the nine informants identify as White, and one as Asian. Having more representation that reflects racial diversity would have influenced my research differently. However, these data does reveal the lack of diversity within top positions at various museums in Georgia and elsewhere. The lack of racial diversity within the informants illustrates how it is important to critique these institutions. Diversity is vital to a museum, and as seen through the interview data, a lack of racial diversity leads to a lack of engagement within
the university and the museum.\textsuperscript{52} Having a diverse museum organization leads to diverse thought processes on various museum programs and community engagement practices (Graham 2020; Kozaitis 2013, 150; Schneider 2019). The makeup of the museum staff is important in how the museum will operate with the greater public. Active consultation with various stakeholders, community members, and experts will also help diversify the museum’s voice from one of unidirectional to multivocality (Quaintance et al. 2017, 23). The potential of applying co-curation and other community engagement practices to a museum is the transformation of it being “unidirectional knowledge dissemination to one in which new knowledge is collaboratively produced by people of different generations and experiences” (Quaintance et al. 2017, 23). If the museum staff does not reflect a diverse set of people, why would a diverse population want to visit the museum? To diversify a museum’s public, the museum must be diverse internally and not be a homogenous body of professionals (Bennett 1995).

All the informants selected for these interviews are museum and art professionals. A diverse range of informants, in terms of employment, would be important for future research to discover what non-museum professionals would like for a museum and residency program in Atlanta. Museum professionals are likely to be supportive of a university museum and residency program due to the nature of their work. People without a museum background might question the relevance of the museum in their daily life, which would be good insight when designing a museum for the public.

\textsuperscript{52} In my interview with Eva, there was a lack of sensitivity for the Papanek design exhibit, due to the lack of diversity within their museum leadership.
<table>
<thead>
<tr>
<th>Museum Name and Location</th>
<th>Exhibit title</th>
<th>Date Visited</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Whitney Museum of American Art, New York, NY</td>
<td>Programmed: Rules, Codes and Choreographies in Art, 1965-2018, various artists</td>
<td>January 14, 2019</td>
<td>“Programmed: Rules, Codes, and Choreographies in Art, 1965–2018 establishes connections between works of art based on instructions, spanning over fifty years of conceptual, video, and computational art. The pieces in the exhibition are all “programmed” using instructions, sets of rules, and code, but they also address the use of programming in their creation” (<a href="https://whitney.org/exhibitions/programmed">https://whitney.org/exhibitions/programmed</a>)</td>
</tr>
<tr>
<td>Museum</td>
<td>Artist/Title</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
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<td>-------------</td>
</tr>
<tr>
<td>The High Museum of Art, Atlanta GA</td>
<td>Yayoi Kusama <em>Infinity Mirror Rooms</em></td>
<td>January 16, 2019</td>
<td>“Organized by the Hirshhorn Museum and Sculpture Garden, this show will take visitors on an expansive journey across six decades of Kusama’s creative output and will explore the development of the artist’s <em>Infinity Mirror Rooms</em>, her iconic, kaleidoscopic environments” <a href="https://high.org/exhibition/yayoi-kusama-infinity-mirrors/">https://high.org/exhibition/yayoi-kusama-infinity-mirrors/</a></td>
</tr>
<tr>
<td>Location</td>
<td>Event Details</td>
<td>Date</td>
<td>Description</td>
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<tr>
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</tr>
<tr>
<td>ARTECHOUSE, Washington, DC</td>
<td>Infinity Space, Refik Anadol</td>
<td>August 23, 2019</td>
<td>Infinity Space is an immersive experience use of visual projection mapping and machine learning <a href="https://www.artechouse.com/program/infinite-space/">https://www.artechouse.com/program/infinite-space/</a></td>
</tr>
<tr>
<td>Hirshhorn Museum, Washington, DC</td>
<td>Ed Atkins pieces in The Posthuman Body exhibit</td>
<td>August 23, 2019</td>
<td>“Atkins is one of the most promising artists of his generation, utilizing emerging technologies and generating works primarily with his own self as a model. He uses motion-capture technology to combine video footage with computer-generated 3D models, playing visual conventions and using sound composition and editing to subvert notions of the traditional narrative” <a href="https://hirshhorn.si.edu/explore/meet-artist-ed-atkins/">https://hirshhorn.si.edu/explore/meet-artist-ed-atkins/</a></td>
</tr>
<tr>
<td>Carpenters Workshop Gallery, New York, NY</td>
<td>DRIFT pieces on display</td>
<td>February 28, 2020</td>
<td>“DRIFT manifests the phenomena and hidden properties of nature with the use of technology in order to learn from the Earth’s underlying mechanisms and to re-establish our connection to it” <a href="https://studiodrift.com/">https://studiodrift.com/</a></td>
</tr>
<tr>
<td>The Shed, New York, NY</td>
<td>Various artists</td>
<td>February 29, 2020</td>
<td>“The Shed is a new cultural institution of and for the 21st century. We produce and welcome innovative art and ideas, across all forms of creativity, to build a shared understanding of our rapidly changing world and a more equitable society” <a href="https://theshed.org/">https://theshed.org/</a></td>
</tr>
<tr>
<td>Location</td>
<td>Exhibition Details</td>
<td>Date</td>
<td>Description</td>
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</tr>
<tr>
<td>The New Museum, New York, NY</td>
<td>Kate Cooper’s Screens Series</td>
<td>March 1, 2020</td>
<td>“Kate Cooper deploys computer generated imagery (CGI), a technology typically used in commercial production, to create worlds populated by digital figures who perform everyday human actions. Using an uncanny mix of photographic and pixel-built images, Cooper explores how new visual languages complicate divisions between physical and virtual selves.”</td>
</tr>
<tr>
<td>Emory Visual Arts Gallery, Atlanta GA</td>
<td>Stephanie Koziej’s Tender Rhythms</td>
<td>July 30, 2021</td>
<td>“Tender Rhythms is a BCI or Brain-Computer Interface Installation based on recent neuroscientific research which shows that when people deeply connect with each other, their alpha brainwaves synchronize. Our installation invites two participants to sit down in front of each other while wearing EEG-headbands. When connecting and brainwaves synchronize, our installation will start to make music and project visuals — literally giving a voice to the connection between us”</td>
</tr>
<tr>
<td>Pullman Yards, Atlanta GA</td>
<td>Van Gogh: The Immersive Experience</td>
<td>August 20, 2021</td>
<td>“Van Gogh: The Immersive Experience is a 20,000 square foot light and sound spectacular featuring two-story projections of the artist’s most compelling works”</td>
</tr>
<tr>
<td>Superblue, Miami FL</td>
<td>Artists on view; teamLab, DRIFT, James Turell, Es Devlin and Sebastião Salgado</td>
<td>December 4, 2021</td>
<td>An immersive space displaying five artists. Each of the five artists had their own exhibit space, creating an immersive experience for the viewer.</td>
</tr>
<tr>
<td>Venue</td>
<td>Event</td>
<td>Date</td>
<td>Text</td>
</tr>
<tr>
<td>------------------------------------------</td>
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</tr>
<tr>
<td>Georgia Tech Caddell Building Gallery, Atlanta GA</td>
<td><em>FOREST</em></td>
<td>December 11, 2021</td>
<td>“Researchers at the Georgia Institute of Technology found that embedding emotion-driven sounds and gestures in robotic arms help establish trust and likability between humans and their AI counterparts. They have explored these connections not only in the lab but also on the live-performance stage in a unique collaboration with Kennesaw State University” <a href="research.gatech.edu/finding-their-groove?utm_medium=email&amp;utm_source=daily-digest&amp;utm_campaign=2021-12-06&amp;utm_content=news">research.gatech.edu/finding-their-groove?utm_medium=email&amp;utm_source=daily-digest&amp;utm_campaign=2021-12-06&amp;utm_content=news</a></td>
</tr>
<tr>
<td>South River Art Studios, Atlanta GA</td>
<td>Mika Fengler’s <em>Alternative Memory</em></td>
<td>January 15, 2022</td>
<td>An immersive audio-visual installation. Artist comments, “I’m interested in how memory is informed and enforced through the American and Japanese education system and government/corporate narratives of history. Stories are often conflicting; memory becomes soft and malleable at the whim of the collective narrative. Manipulating photos and intaglio on kozo paper allows for a meditative state to connect with the mythology of history in Georgia and Okinawa” <a href="www.southriverartstudios.com/copy-of-events?pgid=kyx59bne-5fdadede-f191-4943-89f0-b67340f2dc8f">www.southriverartstudios.com/copy-of-events?pgid=kyx59bne-5fdadede-f191-4943-89f0-b67340f2dc8f</a></td>
</tr>
</tbody>
</table>
5 FINDINGS - INTERVIEWS

5.1 Introduction

For this thesis project, I interviewed nine museum and art professionals in California, Georgia, Germany and Washington D.C. (see table 1). I found this portion of my research, along with my sixteen participant observations to be greatly informative for generating a model for an art and tech museum at Georgia Tech. Collecting various perspectives on museums, university museums, and the landscape of art, science and technology offers me insight into museum operations and the current landscape. I am aware that universities and museums are businesses that exist during neoliberalism, which influences the informants’ opinions, as well as mine in terms of operation and content matter (Haigney 2021; Harrison 2012; Bennett 1995; Bueno 2017). I cannot turn my attention away from the profit-seeking mentalities of these institutions within the 21st century. However, applying an anthropological lens to museum building, which is the theoretical foundation for my work at GSU, has the potential to make a more informed and responsible museum for the public (Kozaitis 2013; McCloskey et al. 2011; Quaintance et al. 2017). This chapter addresses four themes found in the interviews; university museums, their benefits, and barriers; accessibility and museums; community engagement; and residency programs.

5.2 University Museums

This section begins with insights from Barbara. I met Barbara in 2008 at my first job out of college, a temporary employee for donor-level events at a research university. There, Barbara was the curator of the university library gallery. She was my favorite person to work with. Barbara never put on an act for wealthy donors, she was always humble and extremely well
versed when it came to her curations. Barbara is currently working in California at a university museum, and prior to that spent many years working in Georgia.

Barbara: Being at a research university that prioritizes medicine, public health, science, mathematics, and technology over the humanities, I have seen the value, and continue to believe in the benefits of, the humanities and what a liberal arts education and experience adds to the students’ development as whole human beings.

Barbara argues the importance art museums have at research universities.

Barbara: University art museums are places where classes can convene, ideas can be exchanged, knowledge can be built, communities can converge, observational skills can be developed, communication skills can be improved, students can look at the same thing together and learn that they see and interpret it differently.

The arts and humanities are ways to heal according to Dorris Sommer in *The Work of Art in the World* and Frederick Turner (Sommer 2014; Little 2007, 4). Orit Halpern states in her article in *Art in America*, that “the role of liberal arts education in the post-WWII period was to provide students with the skills to be economically independent, but also to thrive in a diverse society” (2020, 18). Halpern goes on to say that the liberal arts education hoped to “evade totalitarianism, but also to comprehend and come to care about individuals different from themselves in sex, gender, race, ethnicity, and class” (2020, 18). An art museum and residency within a research university allows for a space where the community can create and display art at the intersection of science, engineering and technology, which can address the current socio-political-environmental climate, the market economy and question the research conducted in the university (Dziekan 2020; Lau et al 2022; Little 2007; Kozaitis 2013; Sommer 2014).

Barbara: I believe they [university art museums] serve an important purpose in the education of students, but also benefit faculty, staff and the local community. […] they are places of dialogue and interrogation, where ideas are generated, and knowledge is built.

The art museum embedded in the research university can be an avenue for the university to address its neoliberal agenda as an institution operating in a free market economy (Kozaitis
A university museum can address some of the research being funded by industry partners, corporations, and private donors. With their massive endowments and industry partners, tier one research university museums are said to bring “tremendous infrastructure and resources to museums that non-university museums envy” according to Sarah, who is the director of a science and art university museum in Georgia. I met Sarah late last year in December of 2021, first through email and then over coffee and sandwiches. She moved to Georgia to be the director of a new science and art museum at the intersection of social justice, which anticipates opening in Spring 2022. Sarah goes on to discuss her museum and its role with the university.

Sarah: […] because we are an extension, or we are by relation, connected to the research enterprise, that means a lot of the focus of the work that we do is about amplifying the role of research in improving the human condition. […] you can push original research in a different way.

Displaying university research in a museum setting, and applying an approach grounded in anthropological praxis, is more accessible and open to a broader audience (Harp et al. 2019; Moser 2010; Quaintance et al. 2017). This approach of disseminating research to the broader public through showcasing art and science at the intersection of social justice could be an access point for anthropological praxis. Sarah talks a lot about how the role of her museum is to lower the barrier to entry into the sciences and even the arts.

5.2.1 University Museum as an Appendage

Another university museum director I interviewed is Bobby. I have known Bobby for many years and started discussing the idea of a university museum for art, science, and technology with him in June of 2019. Bobby was very interested and said the place for a museum of this subject matter should be at Georgia Tech. Working 30+ years in a university museum, Bobby has many opinions about university art museums and how they operate. He passionately said that the museum needs to be more of an integral unit to the university; “[I am] adamant that
I want this to be an academic unit. Right now, we are considered auxiliary or ancillary.” The university museum where Bobby works has around 75 students a year who are enrolled in their museum studies certificate program. Bobby says, “the certificate shows that the students are well aware of the structure and issues of an academic museum.” As Bobby told me about this certificate program, I became very interested in enrolling myself for my future research. A certificate program embedded into a university museum activates the museum further for the benefit of the university community, as well as for anyone interested in museum studies. This certificate program justifies, as well as quantifies, the museums’ existence at a university and fulfills a market value when the university is measuring the return-on-investment of a university museum. However, with a program such as a certificate program, comes a lot of overhead costs, such as dedicated employees, resources, and support. Bobby discussed recently having to make a proposal to his committee for why this certificate program should receive free information technology (IT) services from the university instead of paying a fee given the number of students enrolled.

The theme of university museums as an appendage to the university was salient within these interviews. Barbara also said that “museums are sometimes seen as an add on, as entertainment venues, however, museums are being leaders, not add ons.” Museums do not see themselves as anchor institutions according to research that Carol, former employee of an arts federal funding agency, told me. Carol and I grew up together in the same neighborhood. She went to school for urban planning and then curatorial studies.

Carol: Within an economic development plan [in a city], there are ‘anchor institutions’; like a university brings a lot of commerce, or a hospital – there are anchors to plan around. […] it was weird that museums were very apprehensive to this idea of thinking of themselves as anchors and as connected to the urban fabric and community in this kind of way.
According to the literature outlining museum definitions and the purpose of museums, the theme of museums being integral to education and for critical dialogues is prominent. So, it seems obvious that a museum embedded in a university would go hand in hand, as well as being an anchor institution (Alexander 1996; Hein 2006; Henry 2006; Hudson 1999; ICOM website n.d.). The shift of an art museum’s identity from one of an appendage and ancillary to one of an anchor institution to a city and university are what these interviews argue for.

5.2.2 Barriers at University Museums

There are barriers to university museums along with all the positive reasons for university museums. The main barriers voiced in these interviews are about access and location.

Universities can typically be seen as unwelcoming to the non-university public.

Sarah: I think the concern is always that if you house it [a museum] on a university then many people will not go because they do not feel that they belong, or they have been told they do not belong. No matter where we put it [the permanent location for her university’s science and art museum], there will be some segment of the population that can’t access it, full stop.

Barbara admits that a challenge for the university museum is communicating to the public that they are not just for those affiliated with the university. Marzia, who is an assistant professor in digital media at a research university in Georgia, and an artist, said a museum located on a university campus can “be harder to find because the addressing system is sometimes more confusing”. I met Marzia in December of 2021, while researching artists at the intersection of tech and science. We met online a few times to discuss her art, teaching interests, and my research.

Along with access and location, museum barriers can also be attributed to their various boards of governance as Victoria points out in her interview. Victoria is the director of a contemporary art museum in Georgia. I met Victoria many years ago since I enjoy visiting the
museum where she works and met her there. Victoria and I also collaborated once when I was working for a contemporary art gallery.

Victoria: I’ve seen institutions get censored because they can’t show a work of art. But I also think there is movement among universities to prioritize the health and wellness of their students and I think, that if they continue to censor institutions that are bastions of free speech, they are just going to rob themselves.

Art can be political and cause controversy depending on what is on view and who is funding the exhibit. A great example of this was when the National Endowment for the Arts (NEA) stopped funding individual artists in the late 1980s due to Andres Serrano’s *Piss Christ*, a photograph of a small plastic crucifix submerged in Serrano’s piss taken in 1987 (Phelan 1990). Serrano received a fellowship of $15,000 from the Southeastern Center for Contemporary Arts Awards for the Visual Arts. This money came from the NEA and after Serrano’s piece, *Piss Christ* was announced as a winner, members of the church started protesting his work and the NEA’s funding of it (Phelan 1990). Some say Serrano was making a commentary on the “alienation of the physical body in the age of AIDS, as a comment on religious alienation” (Phelan 1990). Senators and congress soon got involved and pressured the NEA to change their guidelines so that art like *Piss Christ* would not happen again (Phelan 1990).

Art museums and funding agencies have a history of censoring content that is too radical or controversial, as seen with Serrano’s *Piss Christ* photo (Phelan 1990). Carol mentions, that “the classic issue in anthropology, and within museum institutions, is this idea of ‘expert’, which is tied up with the colonizer.” Museums are not neutral institutions and there is always an agenda behind the displays (Alexander 1996; Butler 2011; Bouquet 2000; Dublin 1999; Sandall 2005,185). Museum practice and their displays are a direct reflection of the wider social context and the dominant ideologies, such as when time is displayed as linear and humans are categorized as moving from “uncivilized” to “civilized” along a line of “progress” (Brady 2009;
5.3 **Funding – Museums and the Nexus of Art, Science and Technology**

Museums are typically set up as non-profit organizations and bear a lot of pressures to build new audience members, fundraise for more money, and keep everyone entertained (McCall & Gray 2014; https://icom.museum/en/resources/standards-guidelines/museum-definition/ n.d.). In August, I reached out to Mitchell, contemporary art curator of an art museum in Georgia, to learn more. Mitchell and I know each other from when I worked at a contemporary art gallery in Georgia. Mitchell would stop by from time to time and buy pieces for the museum’s collection. He told me that fewer and fewer people are working in museums due to “late-stage capitalism that we find these types of institutions operating within and being run by directors who have to answer to boards of people from industry.” Mitchell goes on to say that business approaches cannot be applied to running a non-profit arts organization. However, museums are a business as we have seen through edutainment approaches in museums of the 21st century (Balloffet et al. 2014; Komarac et al. 2019; McCall & Gray 2014; Terrell 1991). Museums need to be relevant in today’s economy, so they incorporate more immersive and experience-based exhibits (Addis 2005; Balloffet et al. 2014; Komarac et al. 2019; McCall & Gray 2014; Terrell 1991).

Much like universities, museums are now vying for industry money to support their organization (Halpern 2020; Kozaitis 2013). Funding for the arts and for research can be controversial when the source is from a questionable donor or organization (Halpin 2020; Rylko-Baur, et al. 2008). However, in Europe, universities are still heavily dependent on public funding, Eva told me. Eva is a curator at a private design museum in Germany, and when I asked
her about funding for university museums, she responded that a public university funding would be less controversial, since it is State money.

Eva: The funding seems to be less controversial because it would be the funding that would go into the university and then the university would allot those funds to the museum. So, it’s like state money – so, it is ‘official’.

I then go on to tell Eva that universities in the US depend on a lot of corporate and private sponsorship for their various research pursuits.

Eva: I think it is really different in Europe. Yeah, because the university model in the US is so capitalistic and money-driven and then universities in Europe and Germany, you hardly have to pay anything, and you have access to really cheap and good education.

Eva is not as familiar with US university funding due to residing in Germany for 10+ years. However, that is not to say museums in Europe do not run into funding issues. Eva goes on to tell me about how they had to pivot an exhibit about plastic due to the financial sponsors. Eva was co-curating this exhibit with another museum, when that other museum said they would not participate in the exhibit if the chemical company was a sponsor because people would then protest the exhibit.

Eva: I mean it is tough because the type of industry that is going to give you money is always going to be controversial to some extent. […] It has to be transparent and clear that you have to fundraise and where the money comes from. The whole premise of the plastic exhibit was saying that they are both good and bad and that we need to find an alternative resource.

There is a long history of controversial funding and displays in museums, such as when Shell Oil company sponsored an exhibit titled *The Spirit Sings: Artistic Traditions of Canada’s First Peoples* in 1988 (Butler 2011). An exhibit celebrating Indigenous People in Canada sponsored by Shell seems hypocritical, since Shell drills for oil violating sacred land, according to Indigenous People (Ames & Trigger 1988 and Harrison et al. 1988 both cited in Butler 2011; Cruinkshank 1992). Museums taking controversial money is not uncommon due to the lack of
public funding for the arts, and funding for the arts in general (Halpern 2020; Shapiro 2021; Voytko 2019; Weiner 2018).

When asked about the controversies over Jeffrey Epstein’s funding for MIT Media Lab, one museum director I interviewed said, “If Jeffry Epstein’s estate said, ‘we would like to donate 300 million’, that would be a hard conversation to have. Because couldn’t we use that money for good or would it taint us?” The arts are not as heavily funded like the sciences, so when they get offered a lot of money, it is hard to refuse (Halpern 2020; Shapiro 2021; Voytko 2019; Weiner 2018).

Funding for the arts is not as lucrative as funding for technology and science research, according to the informants interviewed. There is more funding for tech and science than for art, which is why there are benefits to combining art with science and technology. More funding opportunities are available for arts and arts organizations when they partner with science and technology (Graham 2020; Lau et al 2022; Schneider 2019)

Marzia: I feel like science and technology get put on this societal pedestal where they get more money. They’re considered more authoritative.

Sarah says that “when you work in art and science you can dip into multiple pots,” which supports this idea of more funding opportunities for the arts when combined with science and tech. This combination also has new avenues for science and tech research to be more humane and accountable to its citizens, according to Bobby.

Bobby: If I were applying to the NSF [National Science Foundation], I would say I am wanting to look at art, science and technology. But with art, I want to put the humanity back in the technology and science.

Funding and the transparency of money is an issue within museums as seen with copious amounts of donations from the Sackler family, who are associated with OxyContin, to high profile art institutions, such as the Louvre in Paris, the Tate Modern in London, and the MET in
New York City. Protests for the removal of questionable museum board members, such as Warren Kanders of Safariland, which makes crowd-control products such as tear gas, and Larry Fink, who profits off private prison and detention centers, have been occurring at the Whitney and MoMA in New York City (Halpern 2020; Shapiro 2021; Voytko 2019; Weiner 2018).

5.4 Accessibility and Museums

As mentioned previously, museums and university museums can be seen as elite institutions, not applicable to the public (Brady 2009; Chapman 1985; Dublin 1999; Henry 2006; Moser 2010; Porter 1996). Extending on this topic about accessibility and museums, all informants were asked about accessibility in terms of a museum’s building and exhibitions (Lesser 2017). Bobby said that “accessibility means that the museum is available, open and easy to negotiate for people with specific physical or mental disabilities.”

Barbara: First it is about physical access or what folks refer to as ADA compliance. I think about parking spaces, ramps, doorways, […]. I also think about intellectual access – printed collateral in multiply languages. Accessibility is not only providing equal access, it is about equity.

Barbara discusses the physical and intellectual barriers a museum director must think about when developing a place for equity among the community. Mitchell comments that accessibility is “making works and ideas available to people by demystifying processes, but not putting up language that is exclusionary.”

Language was a common response to accessibility and museums. Museum wall text can be seen as exclusionary and full of academic jargon that might not be relatable to the viewer.

This type of language can make certain visitors feel out of place in a museum.

Victoria: I think you have to meet people where they’re at in order to talk about art, you have to be able to listen to the person you are talking to. So, I think language is really important […]. We have text that is available in Spanish and Korean [due to a high number of Latinx and Korean visitors].
The language that the museum text is in is important when you live in an international city or area where multiple languages are spoken. Another response to accessibility and museums was free admission. Economic accessibility is important when making an equitable museum for the community, according to the interview responses.

5.4.1 Black Lives Matter, COVID-19, land acknowledgements and performative acts

Most of the nine informants brought up how museums are elite institutions, such as when Victoria says, “museums already have a negative stigma of being for an esoteric elite community of people, but most of the artists were not elite, including da Vinci.” However, Bobby says that museums are “no longer, and nor should we want them to be only available to elite White folks.” Bobby goes on to discuss Black Lives Matter (BLM) and COVID-19’s effects on the museum world. He says museums have been changed due to these events.

Bobby: Covid and BLM have transformed the museum in ways that they will not be able to go back to being ivory towers that are only accessible by certain elites. It is also not possible to ignore what the pandemic and BLM movements have done to museums. [My museum] is proud to be open to all, open to free inspiration. Museums used to be very closed societies, but now museums are open. […] Museums must be more attuned to ways in which they can help sustain a suffering planet and suffering populations as well.

Victoria also noticed changes in museums due to COVID-19 and the BLM movement. Victoria’s museum had a dance canvas in the summer during the BLM protests. This performance at Victoria’s museum was a way for artists to process pain and suffering caused by racism. BLM and COVID-19 are two seismic shifts that have affected museum practices. Museums have been participating in critical conversations surrounding social injustice during these times of BLM and COVID-19. During Covid, the Baltimore Museum of Art invited their museum guards to the “curatorial table” to curate an exhibit, since they are an integral part of the museum community, just like the museum curators (Sheets 2022). Baltimore Museum of Art showcases a form of co-curation practices in the museum (Quaintance et al. 2017; Sheets 2022). Museums are making
public land acknowledgments to make reparations for past and current injustices to Indigenous People, which also falls under the accessibility of the museum to its public.

Victoria: I learned that we are on Muscogee Creek land, and I reached out to Muscogee (Creek) Nation Peoples, and they are in Oklahoma, and so they are very removed from us here. So, I did my homework on how to acknowledge the land and then the statement was written after doing that research. So, the burden has to be on us as an institution to make sure it is not performative.

Much like the Shell Oil sponsored exhibit in Canada (Butler 2011), institutions must be sure that their reparations are not performative says Victoria. The museum where Victoria works also documents all the demographic background of their artists on their website as a testament to their ongoing work in accountability, inclusivity and equity.

Another example of performative exhibits is when Eva’s museum did a retrospective exhibit on Victor Papanek designs. Papanek was an innovator in social and inclusive design in the 70s and 80s. During this exhibit the local train stop was being renovated, Eva told me, and there was “no lift for people who have a stroller or who are in a wheelchair.” Eva went on to say how hypocritical the museum was to have an exhibit on inclusive design when a certain population would not be able to access it due to the train lift renovations. The museum where Eva works is mostly male dominated and has all White European staff members, so it lacks a diverse set of minds and bodies for decision making. A diverse set of museum professionals might have been able to delay this exhibit opening until after the train lift was renovated. The literature and interviews demonstrate that, when a museum lacks a diverse museum staff, poor decisions can be made (Butler 2011).

5.5 Community and Residency Programs

When ensuring the museum is inclusive of the community, it is also important to make sure the community is included and given a voice. The museum where Sarah works is now
looking for a permanent location for their institution. Sarah talks about how community input is extremely important when finding their location.

Sarah: How is an organization that places equity and social impact at their intersection having conversations with external stakeholders and community members that we want to eventually have relationships with? I think we need to grapple with that and have input from communities before we can really think about what a long-term site would be.

Museums must do more than just gather input from their communities, they must involve their communities, for the long-haul, if their museum is about equity and community (Finkelpearl 2013; McCloskey et al. 2011). Applying Sherry Arnstein’s “ladder of citizen participation” can help an organization gauge where they are on the ladder according to their community engagement (Finkelpearl 2013, 11-12). Using community engagement and co-curation practices within museum building have shown to have more positive effects on the community surrounding the museum (Finkelpearl 2013; Quaintance et al. 2017; McCloskey et al. 2011; McGuire 2008; Sheets 2022; Sommer 2014).

Instead of creating audience building initiatives for certain populations of the museum, Tom Finkelpearl, former director of the Queens Museum in New York City, built the museum programming around the demographics and needs of the surrounding community. Queens Museum is in Corona New York and is predominately a Latinx and Hispanic population, says Carol. Carol, who is a big fan of Finkelpearl’s work, goes on to tell me more about the Queens Museum under Finkelpearl’s directorship. Carol says, in reference to the Queens Museum, that they are not interested in a tourist public, “[Their] public is this neighborhood of Corona, which is a lot of immigrants […]” Finkelpearl’s leadership at the Queens Museum is a useful example of how a museum can incorporate community engagement practices (Finkelpearl 2013). Mitchell applies community engagement practices within his curation by being an ambassador from his
museum to the community, so connections are made. Mitchell goes on to say that he “wants to meet people where they are.”

An extension of community engagement within museums can be residency programs due to their involvement with non-museum employees to help shape their programming and presence. Residency programs offer funding, space and time to artists and researchers within the community (Lau et al. 2022; Schneider 2019). When artists and researchers have the time and space to create and collaborate within a residency program, they can then show off their concepts and designs within the museum (Lau et al. 2022; Schneider 2019).

Barbara: As someone who has been on advisory boards for multiple artist residency programs, I am certainly a proponent [of them]. […] bringing together people across all disciplines is valuable and the cross pollination of ideas and points of view benefits all. Everyone I interviewed was in support of residency programs and their interdisciplinary nature. However, no one informant had a great length of opinions to share on residency programs because they are not common to the structure of museums (Aguera y Arcas 2016; Dziekan 2020; Lau et al. 2022; Schneider 2019). A residency program would support researchers and artists that are working in this interdisciplinary field. A museum exhibit (of the final products from a residency program) offers an alternative way to showcase work and research when compared to academic modes of showcasing research, such as publishing papers, participating in poster sessions or presenting at conferences.

Ana, a practicing artist and professor at the intersection of science and technology has participated in many art residencies around the world. I also know Ana from when I worked at a contemporary art gallery. Ana would often visit me since I predominately worked alone. A new
organization offering residencies for artists using science and tech in Atlanta is the Fulton County Future Labs, Ana told me.\(^53\)

Ana: Positive aspects [of residency programs] are [the] development of artists, stipend, visibility of sci-art-tech work. The downside of residencies, from my opinion, can be that art calls are organized about specific themes, chosen by organizers and not artists themselves.

Residencies, much like museums and universities can present certain agendas, which need to be addressed by the visitor and artist (Porter 1996).

5.6 Conclusion

In conclusion, the themes addressed within these interviews are: university museums, the funding within museums and universities, accessibility, community, and residency programs. University museums can both create and lower barriers to the arts, science and technology. The common barriers to a university museum are the location and a sense of belonging to a non-university public. University museums can lower barriers to entry into the arts, science, and technology through the manner they showcase and disseminate the research. Funding for the arts is not as consistent and steady as it is for tech and science, which is why an art and science museum has alternative funding opportunities when integrated, as well as a broader audience (Harp et al. 2019).

Accessibility is another theme within these interviews, in which the informants discussed their thoughts on accessibility in terms of the museum. The informants spoke about physical and intellectual accessibility within the museum. For a museum to best represent its public, it must have a diverse staff, as well as acknowledge historical elitism and become an inclusive space to all (Dublin 1999; Johnson 1993; Porter 1996; Quaintance et al. 2017; Sheets 2022). Community

\(^{53}\) In February 2022, the Fulton County Arts and Culture launched their Future Labs residency program. This is another organization that developed during my research (https://fultoncountyga.gov/news/2022/02/17/fulton-county-arts--culture-to-launch-public-art-futures-lab).
engagement, as well as residency programs, are seen as ways for the museum to be an inclusive institution. Residency programs are a way to interact with the community and give artists and community members dedicated space, time and money to have a voice within the institution (Aguera y Arcas 2016; Dziekan 2020; Lau et al. 2022; Schneider 2019). These themes continue into the next chapter, while being paired alongside some of my participant observations.
6 IMMERSIVE EXHIBITS, EDUTAINMENT AND THE ATTENTION ECONOMY – FINDINGS

This chapter discusses three additional themes that recur in the interviews, as well as in my participant observations. The three themes are, cell phones and the attention economy; Van Gogh: The Immersive Experience, which is also one of my observations; and the intersection of art, science and technology. These themes are discussed in juxtaposition to my observations of exhibits and museums displaying art at the intersection of science and technology. Between 2018 and 2022, I visited 16 museums and exhibits showcasing immersive and tech-based art (see table 2). The observations I focus on in this chapter are: Yayoi Kusama’s Infinity Mirror Rooms, Van Gogh: The Immersive Experience, and the exhibits at Superblue. I make the argument that edutainment practices and the attention economy, especially with the rise of the ‘selfie culture’, are the main driving forces behind immersive experiences in museums today (Bueno 2017; Collins 2021; Gelt & Cuthbertson 2015; Haigney 2021; Smith & Fischer 2020).

6.1 Immersive Exhibits, Yayoi Kusama and the Cell Phone

A definition of immersive art is helpful when understanding exhibits at the intersection of art, science, and technology because they tend to be immersive experiences, due to the incorporation of Virtual Reality or projection mapping technologies (Boxer 2017; Roberts 2021; Rose 2018). According to Sarah Roberts on Agora Digital Art’s website, immersive or experiential art engages the whole body;

[...] envelops their audience in a full-body experience, engaging with sight, touch and sometimes even smell. Using New Media processes, including video projection mapping, sound technologies, VR headset and light shows, artists can create environments surrounding the viewer, making them an active part of the experience (Roberts 2021).\textsuperscript{54}

\textsuperscript{54} https://agoradigital.art/blog-what-is-immersive-art/#:~:text=Immersive%20art%20is%20about%20becoming,term%20%E2%80%9Cvisitors%20to%20viewers%E2%80%9D.
Boundaries between the viewer and the art seem to disappear within immersive experiences, according to Marc Glimcher, president and CEO of Pace Gallery (Haigney 2021). Immersive art also tends to be entertaining and educational, a practice of edutainment (Addis 2005; Balloffet et al. 2014; Boxer 2017; Komarac et al. 2019; Roberts 2021). One of the leading artists of immersive experiences is Yayoi Kusama with her *Infinity Mirror Rooms* which were first created in the 1960s.

Atlanta’s High Museum of Art had an exhibit of her work, which I attended in January 2019 (see figure 8). Timed tickets were administered for Kusama’s exhibit to manage the crowds, due to its high demand. Tickets went on presale and sold out quickly due to its entertainment-like qualities (Boxer 2017; Gelt & Cuthbertson 2015; Lesser 2017). Kusama builds small room installations that are filled with mirrors, lights, colors, and objects. Two to four people can fit in Kusama’s immersive rooms and so there were lines at every one of Kusama’s six mirrored rooms. The waiting lines are now part of immersive experiences (Boxer

![Figure 8 Yayoi Kusama, Infinity Mirror Rooms installation at the High Museum of Art, 2019, photo by author](image)
Cell phones are also part of the experience and they are what makes Kusama’s *Infinity Mirror Rooms* a success in today’s attention economy; “‘Infinity Mirrors’ offers the chance to capture the lonely existential experience of infinity and send it to others as a selfie” (Gelt & Cuthbertson 2015). Visitors to Kusama’s exhibit upload their photos to various social media platforms, which in turn become beneficial for the marketing of the museum (Boxer 2017; Gelt & Cuthbertson 2015; Bueno 2017).

The visitor’s personal social media activity is a source of labor in today’s society, which museums use to their benefit (Bueno 2017). Eva, curator of a design museum in Germany, says, “of course their phone is going to be ‘instagramming’ the space and taking photos constantly.” Museums are now turning to their visitors to draw attention to the museum and build new audience members by making exhibits “instagrammable”. Instagram is one answer for why Kusama’s 1960s *Infinity Mirror Rooms* are so popular now (Boxer 2017, 101). Museum marketing is taken over by the personal social media accounts of museum visitors posting, reposting, and tagging the museum during immersive exhibits (Boxer 2017; Bueno 2017; Gelt & Cuthbertson 2015). Exhibits are made irresistible to the public as they appear on multiple social media feeds.

A criticism of Kusama’s *Infinity Mirror Rooms* is their lack of ADA accessibility. The detailed assemblage instructions made it so altering the doorway and ramp sizes was not an option (Lesser, 2017) (see figure 9). However, the Hirshhorn museum, being “a public institution legally bound and ideologically driven to exhibit art that can be accessed by all”, designed an onsite VR component for people unable to physically access the rooms (Lesser 2017). In
February 2017, The Hirshhorn Museum was Kusama’s first stop in its US tour and the High Museum was its last destination in the US tour, in February 2019.  

Figure 9 Yayoi Kusama, Infinity Mirror Rooms installation at the High Museum of Art, 2019, photo altered to show doorway width, photo by author

At first, the rise of edutainment and the “Disneyfication” of exhibits was a response to the critique of museums as being elite institutions. Edutainment was implemented to make museums appealing and relevant to the public (Addis 2005; Balloffet et al. 2014; Komarac et al. 2019). Now, edutainment and the rise of immersive exhibits are recontextualized with the cell phone, attention economy, and a market-oriented society (Addis 2005, 730; Balloffet et al. 2014, 9; Boxer 2017; Bueno 2017; Camps-Ortueta et al. 2021; Gelt & Cuthbertson 2015; Haigney 2021; Komarac et al. 2019, 175-177; Michael et al. 2010; Terrell 1991, 151). Immersive exhibits, and

55 https://hirshhorn.si.edu/kusama/the-exhibition/
the arrival of the “selfie culture” in museums, has indeed opened the museum to a broader public, because of their crowd appeal and people wanting to document their experiences (Boxer 2017; Bueno 2017; Gelt & Cutherton 2015).

Museums are in competition with technologies when it comes to gaining visitors’ attention, which is why museums encourage cell phone use. Permitting cell phone usage in museums might engage visitors more and encourage them to stay longer in the museum; “museums and galleries are currently trying to attract visitors by engineering immersive environments and interactions” (Boxer 2017, 101; Bueno 2017; Gelt & Cuthbertson 2015).

Former grants manager Carol tells me about how museums want more curb appeal, so they encourage photos and selfies. Carol tells me about the Renwick Gallery of the Smithsonian American Art Museum in D.C. and how they encourage photos; “the Renwick is right by the White House and it encourages visitors to take as many photos as they want; to take selfies photos. Visitors are looking at the art through their phones.” In response to all the photos and selfies taken within museums, museum educator and curator, Barbara wishes, “that visitors spent more time looking [at art] than staging a photograph.” Another way that museums compete with people’s attention is by offering them something they cannot get at home, such as seen with Van Gogh: The Immersive Experience, and also Kusama’s Infinity Mirror Rooms (Boxer 2017; Bueno 2017; Crow 2021; Gelt & Cuthbertson 2015).

6.2 Van Gogh: The Immersive Experience

Eva: as museums, we have to compete with people’s sofas and what people do on their sofas is look at their tv or phone screens. I think that means the challenges are that we have to offer them something different that they can’t do in their own homes. […] The Van Gogh [Experience] was so successful because […] it was a technological exhibit [that] was a competitor [to someone’s couch].
Much like a circus, the *Van Gogh: The Immersive Experience* is on the road and coming to a city near you (PR Newswire 2021). This traveling immersive experience is similar to Kusama’s in its popularity. However, the Van Gogh experience is technology-based and cannot be housed in a traditional museum like Kusama’s pieces, this exhibit needs a large warehouse-like building for showcasing (Boxer 2017; Crow 2021; PR Newswire 2021). *Van Gogh: The Immersive Experience* needs a lot of space and tech to ensure a successful staging and set-up.

This exhibit came to Atlanta and was on view for several months in the 20,000 square foot space at Pullman Yards (Franklin 2021). This exhibit makes Van Gogh’s work accessible in another format, as opposed to displaying his oil paintings in various art institutions. Albeit comes at a high cost with general admission starting at $32.20 and children at $19.10, and this doesn’t include certain add-ons, such as a VR experience and poster (Franklin 2021). Within this exhibit, there are no original oil on canvas Van Gogh paintings, just digital reproductions either printed-on-canvas or projected-on-walls with projection mapping technology. There was also an area staged like a Van Gogh painting where visitors were guided by a sign to “Step inside and take a photo! Don’t forget to tag us!” (see figure 10). There were four sections to this exhibit, and then a gift shop upon exiting.
As I walked up to the ticket counter at the entrance of the exhibit, I felt like I was about to go into a theater performance. The area was darkened, and the walls were painted black or had black velvet drapes hung to darken the space like a theater. I then walked around the corner, after getting my pre-paid ticket, and was in a room full of Van Gogh paintings printed-on-canvases (see figure 11). While in the exhibit, I was struck by the number of wheelchairs and stroller observed, there were six illustrating this exhibit to be accessible to wheelchair users and children in strollers. In the first exhibition space, there was a large screen with a 3D vase assembled and both mounted on the wall which then had a projector mapping various flower images by Van Gogh (see figure 12).
The majority of the work in the first two exhibit spaces were Van Gogh paintings digitally reprinted on canvases. Music and a Van Gogh voice-over play throughout the space, heightening my senses to an imagined time and place of when Vincent Van Gogh was alive (Manksy 2018). At one point the Van Gogh voice-over says, “I put my heart and soul into art and lost my mind in the process.” This music paired with storytelling immersed me in another mental
state, much like theater does to me. Excerpts from Vivaldi’s *Four Season* play at one point, and then eerie atonal music plays at another, which captures the psychotic episodes Van Gogh experienced during his lifetime, according to the wall text in the exhibit.

The third room of this exhibit was the most immersive and impressive. The ceiling of this section was around 40 ft tall, or higher! The room was carpeted in white carpet, so digital renderings would show up on the floor. 360-degree projection mapping\(^{56}\) of various Van Gogh paintings, were all over the walls and floor. I felt like I was in the paintings, the boundaries between me and Van Gogh’s art dissolved (Collins 2021; Haigney 2021). The music and voice-over are also heard in this room, which makes the story about Van Gogh even more vivid, playing in tandem with the projection mappings of his paintings. Visitors are encouraged to sit or lie down on the carpet or benches and experience Van Gogh’s paintings in digital renderings (see figures 13, 14, 15).

\(^{56}\) https://newsandviews.dataton.com/what-is-projection-mapping#:~:text=At%20its%20very%20simplest%2C%20projection,movement%20over%20previously%20static%20objects.
Figure 13 Van Gogh: The Immersive Experience at The Pullman Yards, 2021, photo by author

Figure 14 Van Gogh: The Immersive Experience, 2021, photo of on of Van Gogh's night paintings, photo by author
During this exhibit, most people (including myself) had their phone in hand recording and taking photos of the experience, much like in *Infinity Mirror Rooms* at the High Museum. Not only is this exhibit created from replicas and digital projections, but viewers tend to look at this exhibit through the filter of their cell phone screens. The ways of seeing Van Gogh’s work are layered; there is art of art, while the visitor is taking photos of the art – photography being another form of art making.

There was an initial sense of snobbery while looking at these replicas and wall text in the first two sections. I have high expectations of how art should be displayed due to my museum background. My snobbery started to melt away while watching other attendees around me enjoying the exhibit. I think museum expectations of how art is displayed should be challenged and overturned because art can be seen in many ways and means something different to everyone, as Barbara tells me (de Botton & Armstrong 2013; Dewey 1934; Sommer 2014). If digital renderings, projection mapping, and virtual reality get someone to enjoy and understand a certain artist, then I do not see the problem. Immersive exhibits on the great masters of painting
might give someone a memorable experience that takes them into the museum to see an actual Van Gogh painting, for example.

The last section of this exhibit was a huge room filled with VR headsets mounted at stations with stools (see figure 16). For an extra five dollars, I experienced a cartoon rendering of what Van Gogh would have seen in the French countryside.

![Figure 16 Van Gogh: The Immersive Experience, 2021, photo of VR portion of exhibit, photo by author](image)

This experience caused me some nausea and was not that great. It is ironic that I am so far removed from Van Gogh’s time of birth, and his actual paintings in this exhibit, and yet this immersive experience puts me right in the middle of Van Gogh’s paintings, through digital technology. The exhibit is self-centered and focuses on the viewer alongside Van Gogh. This immersive exhibit simulates moments of angst, joy, and sadness (maybe emotions Van Gogh experienced) all through technology of visual mapping overlaid with sound and storytelling, as well as Virtual Reality. I am so far away from the paints of Van Gogh, yet so close. This immersive experience is as much about us as it is about Van Gogh, it is an embodied experience for our senses (Boxer 2017; Crow 2021; Gelt & Cuthbertson 2015; Manksy 2018). My visit
would not have been complete without purchasing a few Van Gogh: The Immersive Experience branded memorabilia from the gift shop, my last experience before exiting the building.

Victoria, director of an art museum in Georgia, is disheartened that Georgia’s arts organizations are suffering financially while Van Gogh: The Immersive Experience, containing no “original” art, is thriving.

Victoria: it’s a spectacle in that sense, and it is not really about nourishing the soul. And I think about this a lot because we are free admission […] I remember seeing how much tickets were and the arts organizations in the city were dying.

Victoria makes this statement in direct reference to the COVID-19 pandemic and the fallout that it has created, especially within arts organizations in Georgia. Mitchell, curator of an art museum in Georgia, said Van Gogh: The Immersive Experience is not edutainment, but simply entertainment. However, both Victoria and Mitchell did not visit The Immersive Experience. A Wall Street Journal review from December 14, 2021 stated:

The dilemma is that museums – even those offering free admission – are struggling to rebuild their audiences amid the pandemic, so it irks that multisensory art events are selling out shows even when tickets rival rock concerts, topping $100. ‘These multisensory experiences are not art – they’re a form of entertainment,’ said Max Hollein, director of New York’s Metropolitan Museum of Art, where attendance currently hovers around half the museum’s pre-pandemic levels (Crow 2021). 57

From this same review, interactive and immersive arts organization, Meow Wolf’s co-founder and director is quoted saying, “if the general public likes a thing, it’s entertainment, and that’s seen as a dirty word to people who cling to the idea that art needs an air of specialness or exclusivity” (Crow 2021). The director of Meow Wolf wants more people to realize that immersive exhibits are works of art and should not be seen as threats to art (Crow 2021). I too had my own negative judgements about the Van Gogh: The Immersive Experience and as I

57 http://wsj.com/articles/art-museums-vs-immersives-do-you-want-to-see-a-van-gogh-or-be-in-one-11639324801
experienced it and observed visitors around me, I was impressed by the excitement, engagement, and education the exhibit produced.

I wonder what happens to the Van Gogh exhibits and paintings at museums around the world – will the originals go unseen in preference for digital renderings? The company that oversees and produces *Van Gogh: The Immersive Experience* is Exhibition Hub, and they plan to bring many works by famous artists into the digital age (Crow 2021). The producer and artistic director of Exhibition Hub, Mario Iacampo, has a lot of respect for museums, but thinks “they’re a cold environment where you’re expected to know about art when you walk in […] there’s no learning curve with us. You come in and you hear the story” (Crow 2021).

### 6.3 Art, Science, Technology within Museums

This shift in museum practice to exhibit immersive and interactive experiences (Boxer 2017) has also led to new museums being built for art, science and technology that immerse the visitor in an experience, such as with Superblue, Artechouse, and teamLab Borderless. A hurdle for more “traditional” art museums, is that immersive exhibits take a lot of technology and space that they might not have (Addis 2005; Balloffet et al. 2014; Camps-Ortueta 2020; Crow 2021; Komarac et al. 2020; Michael 2010). Mitchell tells me that space limitations and a lack of expertise are reasons why his museum does not have more tech-based artwork.

Mitchell: There are very few spaces for video art – you can’t darken the space. The walls stop at 17 feet, and you can’t take the wall up to the ceiling because of the fire detection system. So, the light and sound spills over the walls.

When asked if his museum will adapt and display more tech-based artwork, Mitchell said it is not a priority of the museum which needs to change. The museum where Mitchell works does not have an experienced team in tech-art and production, “trouble shooting technologies is hard here, just even with video.” It is common for museums to contract out web designers and IT
services. The art and science museum where Sarah is the director, contracted out all their tech work. Sarah goes on to tell me about the contractors they have.

Sarah: We have a graphic designer/3D designer, we have a technical producer who is helping us stand up the space and to help us with the integrations of AV and technology systems for the [upcoming] exhibit.

However, this contract structure of Sarah’s museum might change after they get settled and find a permanent residence in Georgia.

6.3.1 Superblue

Unlike Mitchell’s museum, Superblue is an art space fully dedicated to immersive and tech art and has extensive expertise for showcasing art at the intersection of science and technology. I visited Superblue in Miami during the December 2021 Art Basel convention. There, I saw teamLab’s immersive and experiential art installations. TeamLab is an art collective, which includes an extensive team of programmers, engineers, computer generated (CG) animators, mathematicians, artists, and architects that produce their exhibits. TeamLab also has two permanent museums dedicated to their work, one in Tokyo and another in Shanghai (Haigney 2021). Superblue Miami consists of a 50,000 square foot space, which showcases immersive and interactive art by artists, such as James Turrell, Es Devlin, teamLab, Drift, and Sabastião Salgado. I spent two hours soaking up the various installations, some of which were disorienting in good and bad ways. Just like the Van Gogh and Kusama exhibits, tickets were timed, but you could stay as long as you wanted once inside. Timed tickets and immersive experiences go together, which has been the case prior to the COVID-19 pandemic and social distancing guidelines (Boxer 2017).

58 https://www.teamlab.art/about/
After checking in and getting my ticket, I was led to the first immersive installation by teamLab titled, *Every Wall is a Door*, which consisted of four experiences. The first part titled, *Massless Clouds Between Sculpture and Life*, cost an additional ten dollars and was a room filled with foam (or suds) lite with a soft blue light (see figure 17). Once let into the room by a Superblue attendant, I slowly navigated through the foam filled room, wearing a raincoat, goggles and shoe covers provided by a Superblue staff member. I was not able to see much because of the thick suds all the way from the ground to the ceiling. I felt a bit trapped and sort of panicked because I did not know where the walls were and feared I would not be able to find my way out, which was all very disorienting. As I quickly left *Massless Clouds*, I was then relieved and in awe over teamLab’s second installation, which was in a large room (see figure 18).

*Figure 17 teamLab "massless clouds" installation, at Superblue Miami, 2021, photo by author*
I stayed 30-40 minutes in this room, which consisted of projection mapping on the floor and two solid walls while paired with a peaceful soundtrack playing over the house speakers. The ambiance of this room was calming and relaxing for me, unlike the disorienting Massless Clouds installation. The projection mapping of various flowers from Japan would bloom and grow as people moved around the room, the more I moved the more blooms appeared at my feet. Rain would also fall along the walls and floor while the sound of rain could be heard mixed in with the ambient music. When I put my hand on the wall, the rain pattern would follow the outline of my hand, such as seen in figures 19 and 20. The rain outlines the visitor against the wall and on the floor (see figures 19 & 20). If you did not know that touching the wall or moving around in certain patterns would disrupt or interact with the images projected, you might miss that the images are interacting with you. I liked how I was not told to interact, I discovered it on my own.
Figure 19 teamLab, "flowers and people cannot be controlled but live together - transcending boundaries, a whole year per hour, 2017, at Superblue Miami, 2021, photo by author

Figure 20 teamLab, "flowers and people cannot be controlled but live together - transcending boundaries, a whole year per hour, 2017, at Superblue Miami, 2021, photo by author
I later found out that teamLab had a certain number of images and content on a loop, but the loop of images would change and morph faster or slower and according to certain parameters, depending on the activity in the room. In a review of teamLab’s Borderless Museum, Sophie Haigney says, “the work is rendered in real time by a computer program, using sensors that respond to visitors’ movement. No moment in the space will ever be replicated” (2021), making no one experience the same. The technology and algorithms used to create this installation fascinated me, but I was disappointed in the lack of education provided by Superblue for the viewer. I would have liked to understand the technology behind the projection mapping interacting with me, instead I found a Superblue employee and asked them, as well as googled teamLab’s process after my visit to find out more.

Another disorienting experience was James Turrell’s immersive light-based art installation, Ganzfeld AKHU. Before arriving to Turrell’s installation, I had to walk through Drift’s Meadow, which was an installation of various motorized sculptures installed on the ceiling with 13 large round plush seats on the floor to lie or sit on. Superblue calls Meadow an “upside down landscape [that] evokes the impermanence of nature and the sense of wonder that comes from being immersed in it” (see figures 21 & 22).59

59 https://www.superblue.com/miami/
I took a seat on one of the large round seats, lay back, and enjoyed the graceful up and down, opening and closing movements of *Meadow*. After a few minutes of relaxation, I got up and made my way to the James Turrell portion of Superblue. After passing three pieces of Turrell’s, I was soon in a waiting area, along with a few other visitors, with four benches and a screen
playing a short Turrell documentary on loop. I sat down, in line, as I waited my turn to go see Turrell’s immersive space, *Ganzfeld AKHU*.

There was a bit of a wait to see this installation because only fifteen people were allowed in the space at one time. The wait reminded me of Kusama’s *Infinity Mirror Rooms*. After waiting for fifteen or so minutes, a Superblue attendant led fifteen of us into a room and then explained that we could not take photos and we had a total of seven minutes in the space. Everyone had to put on shoe covers and were led up seven carpeted stairs, which was inaccessible to anyone in a wheelchair or unable to climb stairs. However, when I later asked, I was told that there was a chair lift for this installation. At first, I thought I was walking up to a blue rectangle painting, but as I got closer, I realized it is the entrance to the Turrell light room installation. I walked through the blue rectangle painting illusion and into *Ganzfeld AKHU*. I did not know where the room ended due to the curvature of the space and light, which was disorienting, but not unpleasant or panicky like *Massless Clouds*. The installation was one large white cube with the floor and walls slightly angled and the back wall as the source of light. There was no text to explain this phenomenon of perception manipulation, which was disappointing.

The last disorienting experience was Es Devlin’s video and installation piece, *Forest of Us*. Again, I walked into a small area with four others where there were four benches and a screen for watching a short video. There was a Superblue attendant in this room who started the two-minute video, produced by Devlin, when we all sat down. As soon as the video was over, the Superblue employee pushed a button and the wall where the screen was mounted turned out to be two doors and opened. The doors opened into a large mirrored room (including the ceiling), which was organized into a maze-like pattern and had two floors mimicking the images shown in the short film (see figures 23 & 24).
Figure 23 Es Devlin, "Forest of Us", at Superblue Miami, 2021, photo by author
I later found out that the mirrored room was shaped like the “bronchial tree of human lungs” (Haigney 2021). Much like the Van Gogh, Kusama, and Refik Anadol experiences, Devlin’s piece (along with other Superblue installations) encouraged the viewer to capture it with their cell phones. This installation was not fully ADA compliant because the second level was not accessible by wheelchair, stroller or anyone who could not climb stairs (see image 25).
At the back wall of this mirrored maze were motion-sensors and interactive technology that were embedded into the mirrors. This technology would mimic your moves with blue branch-like images (see figure 26). As I was leaving Superblue, I visited the giftshop to buy more experience memorabilia before exiting Superblue’s space. Superblue Miami is a lot like Artechouse D.C. Both these spaces are essentially large shells, specifically outfitted for tech-driven art, and they have multiple locations. Superblue is in Miami and London, while Artechouse is in D.C., Miami and New York City. Both these companies exhibit art that is fully immersive and interactive, which has been a growing trend in museum exhibits (Boxer 2017).
6.4 Power of Art Intersected with Science and Technology

One year, the German museum where Eva works had an exhibit dedicated to robots and technology, titled Hello Robot. Design between Human and Machine. Eva said this was, and still is, one of the most successful shows they have exhibited. They sell their exhibits to various museums around the world and Hello Robot was recently in South Korea at the Hyundai Motor Studio in Busan, where it was a huge success Eva said. To be a successful tech-focused exhibit in South Korea is impressive considering Seoul South Korea has been deemed the city of the future (Downey 2012). Eva goes on to tell me about why the Hello Robot exhibit was and is such a success.
Eva: When I’m working on exhibits, I always want to have a historical lens to the present day. […] It was not really about the newest coolest [technology] that is on the market – it is more about how have we always dealt with technology and what does it mean about us? What does it tell us about ourselves? […]

We need to understand nuance and [that] technology is neither a good or bad thing. […] Robots are both good and bad – right? Plastic is good and bad – it can be an amazing tool for healthcare and transplants, but then, do we really need to have furniture made out of plastic?

While listening to Eva I was fascinated by how important it is to have a historical lens on technology when curating a tech exhibit. Eva discusses how one should always look to the past for what people were doing and what mistakes they were making, so as not to reinvent the wheel nor repeat past mistakes.

Eva: An exhibition about robotics and our relationship with technology is completely updated within 30 seconds, so it has to be a reflection on how has this always been and we showed [material and objects] from the 1950s, like Jacques Tati’s [film] Mon Oncle, […] where he [the uncle] moves into a house that is technologically advanced […] and it is really funny because nothing works the way it is supposed to work […] it’s just a reflection of how we are with a lot of technology now and how it is supposed to be helping us but actually it is completely arbitrary […].

Museums are not only exhibiting artists working at this intersection of science and technology, but they are also exhibiting designs in the 21st century that deal with the technology, such as seen in Eva’s design museum. The Computer History Museum in Mountain View, CA 60 and the Computer Museum of America in Roswell, GA 61 are two other museums preserving and showcasing digital materials of the 21st century.

Curating exhibits with themes of technology, or with tech-based artists, are trending in today’s digital world (Aguera y Arcas 2016; Boxer 2017; Crow 2021; Gelt & Cuthbertson 2015; Rose 2018). At one point in the late 18th century, “Europeans flocked to see panoramic paintings, thrilled to be immersed in a 360-degree experience,” today people rush to exhibits with VR or

60 https://computerhistory.org/
61 https://www.computermuseumofamerica.org/
projection mapping (Boxer 2017, 101; Collins 2021; Haigney 2021). When studying these shifting trends in museums, it is always important to apply a historical lens when curating, such as Eva says and does. The Whitney’s *Programmed* exhibit is a good example of applying a historical lens to art at the intersection of technology and computing given its retrospective theme.

Artists working at this intersection of science and technology are numerous and my nine informants were able to list several. The field of art at this intersection is growing quickly, much like the developments in technology (Aguera y Arcas 2016; Cornell & Halter 2015). There are artists working at this intersection in Atlanta and three of my participant observations are of Atlanta tech-based artists (see table 2). I asked each informant if they thought art at the intersection of science and technology was important and why.

Victoria: I think [tech-based art] is so important because it is a vehicle, just as much as paint is a vehicle. And it might even be more accessible given that it is a tv screen or a computer or an iphone.

Sarah knows of numerous artists at this intersection due to the nature of her work. She thinks this intersection of art, science and technology is important because it lowers barriers for entry into the sciences, as well as into the arts.

Sarah: science can’t tell a story that everyone can access – science isn’t always right. Art has its own reputation of being inaccessible – right? […] But I think one thing, if you do it really well, art and science can help lower that barrier to entry to either. […] If we examine Newtonian physics through a performative piece that leaves a lot of fuzzy edges, that leaves a lot unsaid, we might be able to allow people to have a different relationship with Newtonian physics.

Lowering the barrier is a key concept for an art, science and tech museum and residency program. The demystification of science, technology, and art through collaborative exhibits, such as Sarah claims, could help one better understand Newtonian physics, for example.
Marzia uses science and tech research in her art installations to expose the issues behind big data. Marzia creates immersive art experiences from scientific research on various consumer products that collect personal biosensing data. She is critiquing these consumer products and how they collect and use our data for product development, as well as to promote “normative” values for wellness (Marzia, in conversation with author, January 20, 2022).

Marzia: Instead of focusing on individual interpretation and individual behavior change, I often invited pairs to experience some of the bio data sensing and display technologies that I had built. So, pairs experience it together and they talk to each other about how [they are] feeling. (See figures 27 & 28).

Marzia references postcolonial philosopher, Édouard Glissant and his concept of opacity in her research. Marzia says, “I think biosensing technology should respect people’s right to be opaque, unknowable, to exist outside and beyond what is possible to know via data” (Howell, Chuang, De Kosnik, Niemeyer, Ryokai 2018). Figures 27 and 28 showcase the Heart Sound Bench, which is a public installation where visitors can come listen to each other’s intimate heartbeats to discover their “shared vitality and shared vulnerability” (Howell, Chuang, De Kosnik, Niemeyer, Ryokai 2018).

Within her research and art installations, Marzia brings awareness to how these apps and products make us more productive in the workplace.

Marzia: [...] A lot of times it’s [individual emotional management] very much tied to being able to manage the stress in the workplace and to be happy and productive despite that. So, it is more about individuals coping with what are essentially unfair labor practices or another kind of bigger problem, like systemic inequity.

The power of art at this intersection of science and technology can expose the agenda of technology and possibly subvert dominant ideologies. Barbara says that “art is a doorway to subversively have conversations of what technology is doing to us and society.” Carol then
elaborates that “if the museum is anything, it is a space to step – it is like a frame – to re-
understand what is going on outside.”

Carol: We just have a lot of problems emanating from the presence and proliferation of
technology, such as communications technology, social media, devices, surveillance,
biosensing […] . The role of art is to help us remember to ask questions and keep a
healthy skepticism and also be able to envision positive possibilities and alternatives that
we can then mobilize on demand.

Art exhibits have the power to question science and technology, as well as have a dialogue with
them. Art can be a vehicle to discuss some of these complex subjects, such as surveillance,
algorithm bias, artificial intelligence, and privacy. Marzia and Tabita Rezaire are two examples
of artists doing this in their work (Ford 2018; Johnson 1993; Porter 1996; Sommer 1992). To use
Eva’s phrasing, science and tech are both good and bad. Traditional exhibits of art have not
always been welcoming, and immersive exhibits could lower the barrier to entry for art, science,
and technology, according to Sarah.
7 A MUSEUM AND RESIDENCY PROGRAM FOR ATLANTA AND GEORGIA TECH

7.1 Intro

Museums are in motion from the moment they were created up until the present (Alexander 1996; Bennett 1995; Handler 1993; Nicholas 2010; Small 2019). Museums are transitioning from elite institutions into dynamic and inclusive spaces that engage visitors in full-body experiences (Bennett 1995; Quaintance et al. 2017; Small 2019). Today, the implementation of technology and immersive exhibits have played roles in lowering the barrier for entry into museums. New museology of the 1970s critiqued museums as being elite institutions, which helped transform museums into places for and of the public (McCall & Gray 2014). The implementation of edutainment programing within the 1990s, which is the combination of educational exhibits with entertaining features in hopes to engage more visitors, could be seen as one response to new museology’s critique (Addis 2005; Balloffet et al. 2014; Komarac et al. 2019).

Yet, edutainment is itself critiqued by museum professionals as being a “Disneyfication” of the museum that risks the quality and credibility of the museum (Terrell 1991). Immersive exhibits have been categorized by some scholars as edutainment, although some would say they are just entertainment (Crow 2021; Mitchell, interviewed by author, November 8, 2021; Roberts 2021; Victoria, interviewed by author, November 12, 2021). The digital age and the attention economy are what museums face in the early 21st century (Bueno 2017; Collins 2021; Crow 2020; Gelt & Cuthberson 2015). That technology is not going anywhere and if museums do not learn to collaborate and integrate with it, their institutions risk being left behind. So, how can we learn to grow with technology? How can we learn to use it responsibly, ethically and in an accessible and educational way within the museum and the community?
An alternative to both museum elitism and the risks of exhibits being too entertaining and not educational enough, would be the application of anthropological praxis. The application of anthropological praxis is what I argue for within a university museum and residency program at the intersection of art, science and technology at Georgia Tech. People want to be entertained in this experience-based and attention economy and we cannot ignore that. However, we can learn to entertain in an educational manner that engages the visitor in a way that makes them critically think and question the research and developments undertaken at Georgia Tech, as well as within corporations and governments.

As observed in my research, an emerging and pre-existing landscape for art, science and technology is apparent in many cities and museums around the world. Even since the beginning of my research, the Atlanta art, science, and technology scene has changed (Franklin 2021; Green 2021). Atlanta has changed dramatically over the past five years with Google expanding and building a sky scraper in midtown, the Beltline coming closer to completion, and older developments, such as Pullman Yards and Underground Atlanta being renovated for immersive and experiential art (Franklin 2021; Green 2021). The core principles of a university museum and residency program at Georgia Tech will be: accessibility, collaboration, community, diversity, education, equity, inclusivity, and transparency. Anthropological praxis will fulfill these six core principles, as well as fulfill Georgia Tech’s nine values listed within their strategic plan (https://strategicplan.gatech.edu/values).62

Again, this research is an interest study and a robust proposal, for an art museum and residency program at the intersection of science and technology at Georgia Tech, in midtown Atlanta. Conducting a number of interviews, making many participant observations, and

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62 I will list these values later in the chapter.
researching the historical and emerging content within museums, I have generated my proposals for this endeavor. My research particularly utilizes concepts of anthropological praxis and considers how to apply those when building, organizing and programming a museum and residency program. The practices of community engagement, co-curation, collaborative art, and bottom-up initiatives are applied to this study for a museum and residency program at Georgia Tech. The outline of this chapter is: 1) how to create a museum and residency program at Georgia Tech; 2) implementing anthropological praxis within this museum and residency program; 3) the content and curation of exhibits in this museum; 4) addressing the current and emerging art, tech and science landscape within Atlanta; and 5) my current and future research and how it fits into the broader vision for Georgia Tech and midtown Atlanta.

7.2 Creating the Museum and Residency Program

New spaces are being built for these collaborations of art, science and technology. Immersive exhibits are fashionable and highly attended experiences, but what are they doing for the public and community other than entertaining them? What about including the community in the curation and programming process? The mission of Superblue and Artechouse is to generate hype, entertain, and make a profit. They are not set up as places for education and critical dialogue. Creating a space at a university, such as Georgia Tech, dedicated to exhibiting science and tech research through art would be a multi-directional learning space for critical dialogue. Not just a place for entertainment and excitement, but a place for education, creation, and “lowering the barrier to entry”, as Sarah, director of an art and science gallery says. Addressing the educational components of these exhibits is a core principle of a university museum at Georgia Tech.

7.2.1 Architecture and Location
The architecture and location of a museum and residency program are important to the message this endeavor will convey to the surrounding public. This museum and residency program are for art and science created in the 21st century, so the building’s architecture must be contemporary and relevant to the curation and content on display. The Coda building, at 756 West Peachtree Street in midtown Atlanta, would serve as an appropriate venue for this endeavor given its contemporary structure and location to public transit. Not only is this location on the outskirts of Georgia Tech’s campus, but it is right in the middle of the city (see figure 29).

Figure 29 Coda Building, Second Floor, photo by author

As mentioned in the interviews, university museums are not easily accessible due to their location, which is why this museum must be on the outskirts of campus, versus in the middle of campus. Ample parking, as well as drop-off and pick-up areas by the entrance are important to this museum’s design and location. Being located within a short walking distance of the Marta train station is important for visitors not planning to arrive via car. It is important to develop a task force with various Georgia Tech units, neighboring art institutions, and Atlanta community
members when going about building a museum and residency program in midtown. Involving
the community in the building process is vital for building community around this enterprise, as
well as addressing core principles of accessibility and inclusivity. It is important to make this
museum and residency program available and welcoming to the public to encourage community
engagement.

A building like Coda is also relevant for a museum given the content and materials that
make up this building. The industrial-looking, contemporary space of the second floor in Coda
reflects elements of futurism, as well as dystopia, which will align with some of the content on
display in this museum (Moser 2010, 24). Not only does the coda building invoke a
contemporary atmosphere, but the purpose and use of the building is for contemporary
undertakings, such as high-performance computing. The building and architecture are
important for this endeavor because it sets the tone from the moment the visitor is in contact with
the space (Wodtke 2015, 2017).

7.2.2 Technology within the Museums

I traveled to Superblue in Miami with an architect, and they said that the space for an
initiative such as Superblue is merely a shell to hold all the installations. The architecture of this
university museum would also be a shell (such as the second floor of Coda – see figure 29), due
to all the technology that is implemented for the art installations. This space would easily darken
to show video projections and immersive video art. According to Mitchell, curator of an art
museum, his museum cannot exhibit video and immersive art because of all the natural light that
floods into the gallery spaces due to the skylights and architecture. Careful consideration of the

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63 The building also has “smart” technology built in to make it LEED certified (with hopes to achieve platinum
LEED certification with its chilled beams and automated shading system). LEED certification and a contemporary
design, both coincide with an art and tech museum showcasing cutting edge technology
(https://codatechsquare.com/building/).
lighting and technology will be part of the planning process for a building to house this undertaking. The staff in a museum and residency program for art, science and technology need to include tech experts, such as a technical producer, 3D designer, and digital media specialist. When finding a space and building it to ensure accessibility, it is vital to involve the community.

Another avenue where museums and technology collide is when museums use technologies to better display and utilize their collections to be relevant to their populations. A museum at Georgia Tech would utilize digital displays, websites, and QR codes, which are easily editable in terms of content in real time, which will cut down on printing costs. This museum would also apply technology to better organize and connect the surrounding community, such as seen at the Bard Graduate Center in New York. Aaron Glass and Kimon Keramidas at Bard Graduate Center built a “relational” database to show how interests collide and intersect in the museum (Glass & Keramidas 2011, 216). They utilize the wiki, “[…] a Web site that allows multiple users to contribute content and easily edit individual pages” (Glass & Keramidas 2011, 217-219). As more information was added to Glass and Keramidas’s database for the exhibit Objects of Exchange, “[…] the cloud itself began to reveal more fully unanticipated relationships between different objects in the exhibit” (Glass & Keramidas 2011, 220). This same process of a “relational” database would be applied to a university museum at Georgia Tech which would create unanticipated relationships between the diverse array of people, concepts, and objects within Georgia Tech and the Atlanta community. This would be a way that faculty, staff, students, and Atlanta community members could access people with similar interests, which might lead to future collaborations and possible exhibits in the museum at Georgia Tech.

64 “By using the term ‘relational,’ we invoke the obvious fact of social relations between people as well as cultural, stylistic, and conceptual relations between objects” (Glass & Karamidas 2011, 216).
7.2.3 Funding

Funding for a building and university museum would be executed through Georgia Tech’s finance, legal, and development departments. This would be a space where donors could give back to their alma mater, or for industry partners to support the research and interdisciplinary practices occurring at Georgia Tech and in Atlanta. This museum would exhibit research that donor and stakeholder funding is supporting, which would give Georgia Tech a physical space to showcase research for their donors. Funding transparency is a core principle of this initiative, and no money will be accepted that puts aside humanitarian values for profit gains (Halpern 2020; Shapiro et al. 2021; Voytko 2019; Weiner 2018). Funding for a university museum will require additional research, since this thesis did not focus specifically on funding tactics and ethics. For future research, the feasibility and business development of this project will be highlighted.

In a market-oriented economy, a university museum would have to prove itself to be beneficial and relevant to students, as well as demonstrate its economic benefits and relevance to the university system. Universities want to graduate as many students as possible, so if the museum is set up as an academic unit, such as Bobby argues for, then it would have relevancy within the academy. Being an academic unit would attract more students at the intersection of art, science, and technology that want more creative careers. A university museum and residency program is a dedicated space and academic unit where students can develop their skills and crafts at the intersection of art, science and technology (Dziekan 2020; Lau et al. 2022; Schneider 2019).

A university museum and residency program displaying art that encompasses science and technology would not be solely about profit and generating admission, especially since this
museum would be free admission. As mentioned in the interviews, there are more funding opportunities for research within technology and science versus the arts. This disparity in funding reflects socially sanctioned concepts of value and what is deemed important in society (Halpern 2020; Sommer 2014). This museum and residency program will open alternative funding avenues for artists and the arts that are at the intersection of tech and science.

7.3 Implementations of Anthropological Praxis within this Museum and Residency Program

Cultivating community around and within this museum and residency program is a long-term and ongoing process grounded in anthropological praxis (Quaintance et al. 2017; Kirsch 2018; Klarich 2014; McCloskey et al. 2011). The practices of community engagement, co-curation, and collaborative art will be utilized to cultivate community in the proposed museum. The community, much like the museum, is always in motion and never static nor fixed (Klarich 2014, 124). A Georgia Tech museum will incorporate diverse viewpoints and gain expertise from local knowledge in the community, along with providing a platform for multivocality. As Quaintance et al. discovered within their research into co-curation practices at Chicago’s Field Museum, when you involve the community, the museum has the potential to become not only a place to consume knowledge, but one where knowledge can be collaborative and “collectively created and shared,” which makes the museum relevant to its public (Quaintance et al. 2017, 13; Klarich 2014).

This museum and residency program would ask the public what they would like to see on display, as well as incorporate guest curators for programming to ensure relevancy and inclusivity. The ladder of citizen participation outlined in Finkelpearl’s What We Made: Conversations on Art and Social Cooperation, as well as McCloskey et al.’s community
engagement continuum, will be applied to this museum and residency program in order to perform outreach, consultation, involvement, collaboration, and shared leadership with community members of the museum (Finkelpearl 2013, 11; McCloskey et al. 2011, 8). One way to collect visitor and stakeholder feedback will be through surveys, as stated previously, to make certain the museum stays relevant to their public.

7.3.1 Implementation of the Residency Program

The residency program of this museum will interact and keep the museum open as a lab and workshop, not a shrine nor temple (Alexander 1996; Porter 1996, 113-114). The residency program will be a public application-based program open twice a year to the Georgia Tech, Atlanta, and the broader Southeastern public. This program will highlight research focused on the collision of art, science, and art which will give artists and researchers dedicated space, time, and money to produce a body of work for an exhibit at the university museum. Each residency will last five months, and the work produced during this residency will then be exhibited in the museum for the following five months. There will be two cohorts per year and two exhibits per year. Five months is an ideal creation and exhibiting time according to preexisting models researched (Lau et al. 2022).

A selection committee of Georgia Tech and Atlanta community members will review all the submissions and make selections based on a list of core values that the applicants must meet, such as accessibility, collaboration, community, diversity, education, equity, inclusivity, and transparency. Georgia Tech has nine values outlined in their strategic plan. Those values are “1) students are our top priority, 2) we strive for excellence, 3) we thrive on diversity, 4) we celebrate collaboration, 5) we champion innovation, 6) we safeguard freedom of inquiry and expression, 7) we nurture the well-being of our community, 8) we act ethically, and 9) we are
responsible stewards” (https://strategicplan.gatech.edu/values). This museum and residency program would follow Georgia Tech’s values, along with upholding the eight core principles of accessibility, collaboration, community, diversity, education, equity, inclusivity, and transparency. The selected residency cohort will meet once a month with the museum leadership for progress reports on their project.

7.3.2 Staff, Stakeholders and Visitor Analysis

When museums lack a diverse museum staff, poor decisions can be made (Butler 2011; Eva interviewed by author, November 10, 2021). Examples include continuing the exhibit of a leader in accessible design while the town’s public transit’s lift is out of service (Eva interviewed by author, November 10, 2021), or having an exhibit on Indigenous People of Canada sponsored by Shell Oil (Butler 2011). This museum and residency program will be made up of a diverse set of staff members that would uphold the eight core principles of accessibility, collaboration, community, diversity, education, equity, inclusivity, and transparency, so that the curation is inclusive and accessible to the public. To ensure diversity among the museum and residency program employees and allies, Georgia Tech employees would encompass different racial, cultural and gendered backgrounds, as well as represent various units on campus. Collaborative practices among Georgia Tech, neighboring universities, Atlanta art institutions, and the public will nurture and showcase a science and arts community within Atlanta (Kirsch 2018, 176). This museum will be in active conversations with their peer institutions, community, and the public to embrace collaboration over competition (Kirsch 2018, 171).

To engage and involve the public, this museum will have an active panel and task force of Georgia Tech students (undergraduate and graduate), faculty and staff members, as well as non-Georgia Tech members (i.e. gallery and museum employees, artists, and active participants
in the art/tech/science scene). This panel would be application-based and will rotate every four years to ensure a democratic process. This museum and residency program will have an advisory board to guarantee due diligence and core principles are being met. The residency program will also have a selection committee to avoid any conflict of interest during the application process to the residency. Once a museum and residency are created, the museum visitors will be a main stakeholder. This museum and residency program will have biannual townhall meetings for the community, as well as solicit feedback from visitors, donors, and potential stakeholders through paper and electronic surveys given after visitors experience the space and exhibits.

7.4 Content and Curation of Exhibits

Museum practices have the potential to question past and current injustices happening in museums, universities, corporations, and society (Ford 2018; Halpern 2020; Porter 1996; Glass 2011). Gómez-Peña and Fusco questioned past and current injustices in museum displays through their performance, *Couple in the Cage* (Ford 2018; Johnson 1993; Porter 1996; Sommers 1992). Art exhibits have the potential to dismantle dominant ideologies and persuade the visitor to question practices within the institution and research. This university museum will center around education and community to create a space for artists and researchers to be self-reflexive and subversive about today’s developments in science and technology (Ford 2018; Lau et al. 2022; Schneider 2019).

Building a university museum for art at the critical junction of science and technology elicits dialogues about the past and future through specific exhibits of art and technology on display (Addis 2005; Camps-Orueta 2021; de Botton & Armstrong 2013; Graham 2020; Lau et al. 2022; Sommer 2014). Exhibits at Georgia Tech have the possibility to critically analyze technology in our day-to-day lives, such as with algorithm bias, cyber-crime, surveillance
capitalism and digital manipulation (Cornell & Halter 2015; Graham 2020, 9). These exhibits will showcase technology that is improving and harming the human condition. Art can serve as an avenue to challenge the status quo and subvert dominant ideologies for the university museum (Ford 2018; Johnson 1993; Graham 2020, 9). The content and curation for this museum of art, science and technology will be relevant to the digital and information age in which we live (Aguera y Arcas 2016; Bueno 2017; Cornell & Halter 2015; Graham 2020; Lau et al. 2022; Roberts 2021). According to ICOM, an important element of museums is to provide a space where multiple voices are reflected and where critical conversations can be facilitated, these exhibits will be a space for multivocality among the Georgia Tech and Atlanta community.

Once residencies are selected, the museum’s leadership will work with the selected cohort to further understand their research interest. Residency themes will then be curated around shared interests, as well as considering what the public is interested in seeing, according to task force conversations and visitor feedback analysis with the public. The exhibit curation will be a collaborative effort for inclusivity and engagement with the community. Possible exhibit themes this museum could address are; surveillance technology, such as seen with Trevor Paglen’s work and Rafael Lorenzo Hemmer’s work, as well as Marzia’s research on companies that track your intimate biological data for productivity efforts; the internet as a form of colonization, digital manipulation, and algorithm bias, such as captured by Tabita Rezaire and Joy Buolamwini’s work; what it means to be human in a digital world such as addressed in Mario Klingemann and Sougwen Chung’s work.

65 “Art often focuses on radical critique and can be dangerous, disorderly, and disruptive. [...] ‘I think the job of an artist is to go against the grain of dominant culture, to challenge perception, prejudice, and convention’ (Dion, n.d., para. 5)” (Graham 2020, 9).
67 https://paglen.studio/
68 https://www.lozano-hemmer.com/
69 https://www.media.mit.edu/people/joyab/overview/
This museum and residency program at Georgia Tech would call into question the attention economy and surveillance capitalism, while also accepting that visitors will want to broadcast their whereabouts and interests on social media platforms such as Instagram, Twitter, Snapchat, TikTok, Facebook, and others. An exhibit critiquing the attention economy would not demonize the use of cell phones, social media and selfies, but it would help the viewer be self-reflexive about their usage of cell phones, social media, and taking selfies to understand the underlying harms and joys within the attention economy (Bueno 2017). Educating the viewer about the technology, research and concepts behind the exhibits is the main mission of Georgia Tech’s university art museum for tech and science.

7.5 Current and Emerging Landscape in Atlanta

Everyone I interviewed said there was no permanent museum space for art, science and technology in Atlanta. However, over the course of this research the landscape has changed drastically. The arrival of Science Gallery Emory, Fulton County Arts and Culture Future Labs, and the revitalization of Underground Atlanta and Pullman Yards are all part of this emerging ecosystem of art, science, and tech in Atlanta. A few arts institutions in Atlanta are showcasing art at this intersection, such as at South River Arts Studios and Emory’s Visual Arts Gallery. South River Arts Studios, and their exhibit of Mika Fengler’s *Alternative Memory* in 2022, is a good example of a presenter in immersive art here in Atlanta (see figure 30).70 Emory’s Visual Arts Gallery is also a nice gallery space for presenting immersive art, such as seen with Stephanie Koziej’s *Tender Rhythms* installation in 2021, which is the sonification and

70 https://www.southriverartstudios.com/copy-of-events?pgid=kyx59bne-5fdadede-f191-4943-89f0-b67340f2dc8f
visualization of two people’s brainwaves projected onto screens as they each wear an
electroencephalography (EEG) headset (see figure 31).71

Figure 30 Mika Fengler, Alternative Memory, 2022, Installation at South River Arts Studio,
photo by author

Figure 31 Stephanie Koziej, Tender Rhythms, 2021, Installation at Emory’s Visual Arts Gallery,
photo by author

71 https://koziejstephanie.com/music-sound/sound-installations/tender-rhythms/
The changing landscape shows that art, science, and technology spaces and residency programs are topical and of interest in Atlanta. Announced in 2020, Science Gallery Network\(^ {72}\) partnered with Emory University. Emory will open their Science Gallery in Spring 2022 at the renovated historic Pullman Yards, in Kirkwood Atlanta.\(^ {73}\) Science Gallery Network started in Dublin Ireland, at Trinity College, and has grown to over eight campuses at universities around the world. Science Gallery is a place where science and art collide at the university. Pullman Yards is the temporary location for Science Gallery Emory while they find a permanent location in Atlanta.

In 2017, Pullman Yards was renovated into the future location for art and entertainment in Atlanta.\(^ {74}\) Pullman Yards is home to immersive experiences, such as *Van Gogh: The Immersive Experience*, which was on view in 2021, presented by Exhibit Hub and Fever. *Imagine Picasso: The Immersive Exhibit*, curated by Annabelle Mauger and Julian Baron, will exhibit in 2022 at Pullman Yards. Underground Atlanta, located in downtown Atlanta, has also been undergoing renovations as a space dedicated to artists, cuisine, and immersive exhibits (Green 2021).\(^ {75}\) In February 2022, the Fulton County Arts and Culture initiative announced a residency program dedicated to artists working in tech called Future Labs. In a partnership with the newly renovated Underground Atlanta, Future Labs will take up residency there. Future Labs will also be partnering with various arts organizations and universities in Atlanta (such as Georgia Tech), as well as Microsoft. The emergence of Future Labs and Science Gallery Atlanta

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\(^{72}\) [https://sciencegallery.org/]


\(^{74}\) [https://www.pullmanyards.com/](https://www.pullmanyards.com/)

are pivotal to the art, science and tech scene in Atlanta and have hopes to support artists at this intersection.76

Various exhibits and endeavors at the intersection of art, science and technology in Atlanta, such as Science Gallery Emory, Pullman Yards, Underground, and Future Labs are all proof of the interest and activity around this intersection. The creation of an art university museum for science and technology at Georgia Tech would be dedicated to education within art, science and technology which would be beneficial to the current and emerging landscape and communities in Atlanta. There is no reason why every research university should not have an art museum dedicated to “contributing to human dignity and social justice, global equality and planetary wellbeing” (Small 2019). The potential partnerships between Georgia Tech and the greater Atlanta region are endless when a museum and residency program are put into practice.

7.6  Current and Future Research

In September 2021, I was awarded an accessibility grant of $40,000 from Georgia Tech’s Center for 21st Century Universities (C21U) and Microsoft. This accessibility grant will be used to curate two exhibits of art, science, and technology at the intersection of accessibility on Georgia Tech’s campus. These exhibits will each have an open call for submissions, directed towards artists with disabilities, artists working with assistive technologies and artists working at the intersection of science, technology, and accessibility (https://art.c21u.gatech.edu/). When the open call for submissions is closed, a selected committee of ten professionals in art, accessibility and tech will review each submission. Once submissions are selected, each artist will be paid $2,000. During each exhibition, visitor analysis will be observed and collected to better understand what improvements can be made for future exhibits (Moser 2010). This grant paired

76 https://fultoncountyga.gov/news/2022/02/17/fulton-county-arts--culture-to-launch-public-art-futures-lab
with my museum anthropology research will help me understand and navigate the field of art, science, and tech museums and exhibits to make them accessible, diverse, and welcoming experiences for learning.

As the qualitative data within this thesis shows, it is harder to get funding for art compared to science and tech research. However, when art is linked to science and technology, more revenue streams appear. I took advantage of the science and tech component of my research and applied for Microsoft funding for these art exhibits. I will be applying a typically science and tech-focused Georgia Tech and Microsoft grant towards art at the intersection of tech and science. This is an example of a new avenue for art funding when it is paired with science and technology. The programming and curation of these two exhibits will be a beta test, as well as a feasibility study, for the future undertaking of a Georgia Tech museum and residency program.

Coming back to the proposed definition of museums by ICOM in 2019, this definition serves as the guideline for the Georgia Tech art museum and residency program at the intersection of science and technology. This definition is a great guideline for how the museum should operate. This museum would “acknowledge and address the conflicts and challenges of the present” and it would be an “inclusive and polyphonic space for critical dialogue about the pasts and the futures” (Small 2019). The application of anthropological practices, such as community engagement would make this museum a “participatory and transparent” place that would “work in active partnership with and for diverse communities” (Small 2019). The overall mission of this museum would align with ICOM’s proposed definition to “enhance understandings of the world, aiming to contribute to human dignity and social justice, global equality and planetary wellbeing” (Small 2019).
Exhibits at Georgia Tech’s art, science and tech museum and residency program would give the community alternative ways of showcasing their work and research when compared to the traditional modes of publishing papers, participating in poster sessions or presenting at conferences. An exhibit might be more appropriate for one’s research and this museum and residency program will give dedicated space and time for this interdisciplinary research and art. These exhibits would bring the research outside of the often-private laboratory and into the public domain, to be consumed by the general public and community. Georgia Tech’s museum and residency program would give the research and art a more active role in the community, hoping to cultivate conversation and questions around the pieces so that it becomes a shared endeavor with the visitors. Giving access to the public is what this museum and residency program strives for in hopes to have the community engaged as an active participant and leader for its future; to be a place to show donors, stakeholders, and taxpayers what their money is funding and to give them an opportunity to engage and become an active participant in the development and ever-evolving space of Georgia Tech’s art, science and tech museum and residency program.
APPENDICES

Appendix A

Interview Questions*

*Please note these interview questions were slightly altered depending on interlocuter. These were open-ended and semi-structured interviews.

1. How long have you been in your current position?
2. What are your roles and responsibilities in the museum?
3. Do you find yourself doing more administrative and marketing work, or more research and curatorial work? (Depending on informant)
   a. Could you elaborate?
4. How do you see new museology working in your organization, such as the “bureau-professional”?
5. How often do you frequent museums and galleries in Georgia?
6. Do you think there is representation of contemporary art at the intersection science and technology here in Atlanta?
   a. If “yes”, where have you seen this innovative intersection of art, science and technology displayed in Atlanta?
   b. If “no”, would you like to see this representation in Atlanta and would you visit a museum dedicated to the intersection of contemporary art, science, and technology?
7. Are you familiar with any benefits of incorporating the arts with science and technology, such as STEAM education?
   a. If “yes” to question 7, please elaborate.
8. Do you think art at the intersection of science and technology is important or interesting and why?
9. Do you have any examples of artists or scientists working at this intersection that you have personally worked with or will work with?

10. When you hear the word *accessibility* and *museum*, what comes to mind?

11. How do you think museums could be more accessible to the public?

12. How do you feel about university museums?

13. What are the barriers (if any) with university museums?
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