

Air, Participation, and Collectivity in Rafael Lozano-Hemmer's Vicious Circular Breathing

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ABSTRACT

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This thesis examines the links between air and participation in Rafael Lozano-Hemmer's *Vicious Circular Breathing*. Created in 2013, *Vicious Circular Breathing* is a large-scale, participatory artwork that constantly recycles participants' breath. The ever-increasing carbon dioxide levels inside the work ultimately create an unhospitable environment for participants, however. The thesis argues that this toxicity creates a unique participatory condition where participation directly impacts air quality, which in turn acts as a repellent to participants.

Using an interdisciplinary approach, the thesis is separated into two sections. The first section looks at participatory art and the underlying democratic promises attached to this artistic practice. Looking at scholars who have contributed extensively to the field (Bishop, Kester, Manovich), the author establishes the parameters and limitations regarding participatory art. Ultimately, the air encapsulated inside *Vicious Circular Breathing* can be equated to the collective experience of sharing the public sphere. Participation thus has the potential to be democratic and idealistic, but it can quickly lead to a toxic social environment.

The thesis then turns to multiple readings of air as seen through the disciplines of new materialism and ecology (Irigaray, Bennett, Horn.) This scholarship implies that air is anything but static, and so it can be envisioned as a medium. By being trapped inside the same, but constantly-shifting structure, viewers and participants are reminded that air is a crucial element for life and biodiversity on Earth.

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INTRODUCTION

On a warm evening in August of 2018, I visited Rafael Lozano-Hemmer's first North American retrospective exhibition at the Musée d'art Contemporain of Montreal. I entered the doors of the Museum and as I continued to walk through the exhibition, participation quickly became a recurring trend among the artworks exhibited. This defies the usual museum etiquette, which asks visitors to not touch anything on display. Proceeding along, I entered a new gallery and immediately noticed an eerie sound that filled the room. I quickly came to the realization that this was coming from the creasing sound of paper bags that were attached to the massive installation in the room, featuring a transparent acrylic chamber. When I approached the installation, the wall label read as followed: "*Vicious Circular Breathing*" (2013) (fig. 1.) Below its description, warnings of asphyxiation, contagion, and panic advised visitors of the risks of entering the transparent structure. The wall label further explained that this toxic environment was created by the recirculation of participants' breaths inside the artwork thus creating an increase in carbon dioxide. Nevertheless, I decided to participate and enter the artwork. Immediately, I was struck by an undescribable smell of plastic, and the strangely humid air inside. I went in and decided to leave 30 seconds after I had entered. To this day, I still cannot put into words what went through my head when I breathed inside the transparent structure.

Initially, the format of the artwork appeared so different from other artworks in the exhibition. This is because the air inside *Vicious Circular Breathing* traps germs and bacteria into its system, and so we are reminded of the materiality of air. This first contact with the artwork initiated a series of questions on my part. After all, air is one of the key elements in the network of life on Earth, yet we are rarely reminded of it. But what exactly is the agency does air have? How does participation enable such a reading of the work? And, subsequently,

what are the limits of participation? With these questions in mind, it became evident that air and participation are inextricably linked to one another.

The *Oxford English Dictionary* defines participation: “the action or fact of having or forming part *of* something; the sharing *of* something. In early use: the fact of sharing or possessing the nature, quality, or substance *of* a person or thing.”¹ In this description, participation is not solely defined as a contribution. Rather, it is defined as the formation or sharing of an entity. Here, I wish to emphasize the action of sharing the nature and/or substance of something in the early use of the word. Specifically, when participants decide to enter *Vicious Circular Breathing*, they agree to share their breaths with the previous visitors. Therefore, by amassing a collectivity of breaths inside the artwork highlights the connection of participation and air. In this way, air becomes intrinsically connected to the participatory condition of the artwork. This thesis will argue that air and participation in *Vicious Circular Breathing* can be regarded as a metaphor for viewing the public sphere and our changing climate. Therefore, this paper will be separated into two distinct sections. The first will examine scholarship on participation and participatory art, while the second will grapple with the themes of air and ecology. Although the association between *Vicious Circular Breathing* and ecology might not seem evident at first glance, I argue that Lozano-Hemmer’s artwork succeeds in calling attention to air as an ambiguous medium. Regarding this case study, the rise of carbon dioxide in the air conducts anxiety, contagion, and most importantly, brings awareness about the materiality of air. Indeed, air can embody different meanings and reactions, but ultimately, I argue that the artwork’s reduced participatory lifespan calls to attention air as a collective and limited resource on Earth.

Before expanding on my main argument, a detailed overview of Lozano-Hemmer’s practice is required. This will allow for a proper contextualization of *Vicious Circular*

¹ “participation, n.”. OED Online. March 2020. *Oxford University Press*. <https://www-oed-com.lib-ezproxy.concordia.ca/view/Entry/138245?redirectedFrom=participation> (accessed May 15, 2020).

Breathing, its themes, characteristics, and distinct qualities, in relation to the artist's vast practice. Certainly, with over 25 years of experience in the field, Lozano-Hemmer's practice is diverse and cannot be defined by a handful of examples. Born in Mexico but now living and working in Montreal, Lozano-Hemmer was originally trained as a chemical engineer but is now acclaimed for his new media artworks, specifically his participatory artworks. Starting his practice in the early 1990s but gaining more critical acclaim later in the same decade, Lozano-Hemmer's practice encompasses many themes, such as the relationship between bodies and architecture, surveillance, public art, and biometrics. With his first major North American retrospective exhibition travelling from Montreal, to Mexico, and San Francisco, it is evident that Lozano-Hemmer is an established figure in the current international art scene.

Interestingly, *Vicious Circular Breathing* is not the first instance of the artist's interest in air. The *Airborne Series*² (2015), *Airborne Projection*³ (2013) or *Open Air*⁴ (2012) all incorporate the word "air" into their titles, yet air is not incorporated into the body of the artwork. *Airborne Series* and *Airborne Projection* blend projections of the human body with literary texts whereas *Open Air* refers to the setting of the artwork, which takes place in the public sphere. Regarding the use of air as a medium, Lozano-Hemmer has experimented with water condensation in *Cloud Display*⁵ (2019) and *Pareidolium*⁶ (2018) where water vaporization creates images and/or words onto the surface of the artwork. Whether in their title or in its physical transformations from water to fog, all of the aforementioned artworks have, to some extent, dealt with air, while their format is overtly participatory in that they entice visitors to partake in the artwork. This positions *Vicious Circular Breathing* in a

² "Airborne Series" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. [_](#)

³ "Airborne Projection" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/airborne_projection.php.

⁴ "Open Air" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/open_air.php.

⁵ "Cloud Display" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/cloud_display.php.

⁶ "Pareidolium" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. <http://www.lozano-hemmer.com/pareidolium.php>.

separate category because of its unusual participatory condition, which initially invites participation but then repels visitors due to the poor air quality inside the installation.

Participation has taken many different forms in Lozano Hemmer's practice. The series *Relational Architecture* examined the relationship between bodies, architecture through interventions on certain buildings.

For instance, *Displaced Emperors*⁷ (1997) consisted of projections of Mexican/Aztec sites onto the façade of the Habsburg castle in Liz, Austria – triggered by visitors touching the walls of the building. Although Lozano-Hemmer has undertaken many international iterations of this particular series, this example proposes that architectural buildings are not static, and that they can act as tools to acknowledge violent colonial histories.⁸

While the artist continues to make artworks pertaining to his *Relational Architecture* series - one of them being as recent as of 2019- during the 2000s Lozano-Hemmer increasingly incorporated human senses and biometrics into his artworks. An example of this can be observed in the 2012 artwork *Pulse Drip*⁹ (2012), which exteriorizes the visitor's pulse using a water hose. Displayed in Basque Country, visitors are invited to water the lawn of a garden using a receptor, which sprays water to the rhythm of their heartbeat. The artist has also used voice has a medium in *Voice Array*¹⁰ (2011), an installation that keeps voice recordings of the previous 288 participants (an interesting complement to *Vicious Circular Breathing*'s amassing of visitors' breath.)

Another aspect of Lozano-Hemmer's participatory practice is linked to his interest in surveillance, most specifically in facial recognition software. Lozano-Hemmer's

⁷ "Displaced Emperors" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/displaced_emperors.php.

⁸ Brian Massumi, "Relational Architecture: Rafael Lozano-Hemmer," *Architectures of the Unforeseen: Essays in the Occurrent Arts*. (Minneapolis: University of Minnesota Press, 2019,) 96.

⁹ "Pulse Drip" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/pulse_drip.php.

¹⁰ "Voice Array" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/voice_array.php.

collaboration with Krzysztof Wodiczko in *Zoom Pavilion*¹¹ (2015) dovetails those very notions. Using projections and facial recognition soft ward, *Zoom Pavilion* projects onto empty gallery walls the faces of visitors inside the room. With an array of cameras installed in every corner of museum's gallery, visitors are given the impression of being under surveillance, which is emphasized by the video-projections displayed in the room.

The artist has also used his knowledge of facial recognition softwares to call attention to specific events, such as the missing students from the Ayotzinapa School in Iguala, Mexico, whose disappearance in 2014 has been linked to the drug consortiums and police corruption. His artwork, *Level of Confidence*¹² (2015), uses facial recognition softwares to match the gallery visitor's face to one of the missing students. The final result is a side by side view of the visitor's portrait next to the one of the missing students, a match done by comparing the closest physical traits between the visitors and the missing students. Despite having an undertone of surveillance, *Level of Confidence* succeeds in memorializing the missing students.

Participation is thus the key theme that undergirds his practice. But where does *Vicious Circular Breathing* belong in this variety of artworks? The previously described artworks all invite participation, but the collectivity and growing toxicity inside *Vicious Circular Breathing* does not appeal to visitors in the same way at all.

CHAPTER 1: PARTICIPATION

Vicious Circular Breathing was originally created by Lozano-Hemmer in 2013 for the Borusan Contemporary Museum in Istanbul, Turkey.¹³ As the wall label indicates, contagion,

¹¹ "Zoom Pavilion" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/zoom_pavilion.php.

¹² "Level of Confidence" in *Rafael Lozano-Hemmer*. Accessed June 4th, 2020. http://www.lozano-hemmer.com/level_of_confidence.php.

¹³ "Vicious Circular Breathing," in *Rafael Lozano-Hemmer*, accessed September 11, 2019, http://www.lozano-hemmer.com/vicious_circular_breathing.php.

asphyxia, and panic are some of the side effect that visitors can experience inside the artwork. Indeed, as the verb “breathing” in the title suggests, *Vicious Circular Breathing*’s main function is to replicate the action of a human lung. This is made possible by the audience’s participation, which initiates a series of actions that allows the artwork to breathe on its own. More precisely, Lozano-Hemmer’s mechanism is made to recycle and recirculate human breath inside its structure. In an interview with curator Kathleen Forde, Lozano-Hemmer mentioned that one of the works that inspired the creation of *Vicious Circular Breathing* was Marina Abramovic and Ulay’s 1977 performance *Breathing in Breathing Out* (1977).¹⁴ Abramovic and Ulay’s performance functions in a similar way as *Vicious Circular Breathing* because of its interest in growing carbon dioxide levels in the body. In the case of Abramovic and Ulay, their performance is based on the principle that both of them will only breathe each other’s exhalations for a period of 15 minutes. Their mouths pressed together, and their nose blocked by cigarette filters, both artists experience a rise of toxicity in their bodies due to the lack of oxygen in their breaths. Although *Vicious Circular Breathing* does not have the same physical proximity as Abramovic and Ulay’s, the computerized breathing machine of Lozano-Hemmer achieves a proximity between participants due to the collection of breaths trapped inside.

The work consists of two conjoined glass booths one of which is connected to a large duct, which in turn is connected to four bellows. These are followed by 61 breathing tubes that form a tree-like structure (fig. 2.) Each of these plastic tubes is individually sealed by a paper bag, emulating the leaf of the tree. The artwork is software-operated via a computer hidden under one of the artwork’s bellows. This software runs the circuits, mechanisms and sensors inside the artwork. It begins promptly at 8:15AM every morning and shuts down at midnight. The overall installation is approximately 10 meters long X 3.4 meters wide.

¹⁴ Lozano-Hemmer, interview by Kathleen Forde, *Vicious Circular Breathing* Exhibition catalogue, Borusan Contemporary, 2013,10.

Despite being of large scale, the transparent materials convey lightness and airiness to the artwork. Its rectangular and circular shapes accentuate the architectural and sculptural qualities. It is almost as if the structure is sitting in the air rather than in the museum's gallery.

The interconnected glass boxes are large enough to accommodate a handful of visitors (fig. 3.) These two cabins are respectively called the decompression and breathing chambers. The breathing chamber is connected to the rest of the installation by a large plastic tube that pushes the recycled air into the chamber. This plastic duct connects to four large mechanical bellows, which have a similar look to piano pedals, but on a larger scale (fig. 4.) The bellows are activated by the artwork's software, and are also responsible for the redistribution of air inside the installation. The air is then subdivided into dozens of small plastic tubes -the size of a breathing tube- with 61 brown paper bags attached to their ends. The tubes and paper bags hang down from the ceiling, resembling tree branches. Interestingly, the paper bags constitute one of the only overtly natural materials in the entire installation, since they are made of tree-pulp. According to the artist's website, the paper bags inflate and deflate around 10,000 times a day, which corresponds to the average number of human respirations in a day.¹⁵ Also, the artist's choice to incorporate 61 brown paper bags in his design recreated the five octave range of a musical organ.¹⁶ This proposes a play on the word organ, from its biological function to its relationship to music.

While the musical quality of the artwork certainly adds to this complex structure, what remains most unusual about the artwork is that it both attracts and repels participants. Its participatory structure compels visitors to partake in the work, but it also repels viewers because of the communal air inside the work. More precisely, the more participants breathe inside the work, the more carbon dioxide they emit, the more toxic and unsuitable for human

¹⁵ "Vicious Circular Breathing," in *Rafael Lozano-Hemmer*, accessed September 11, 2019, http://www.lozano-hemmer.com/vicious_circular_breathing.php.

¹⁶ *Ibid.*

life the artwork becomes. This presents a certain paradox, not only because of the push/pull dynamic of the artwork, but also due to the fact that the respiration tubes and paper bags are displayed in a way that resemble a tree. This is significant because across the planet, trees are crucial actors in eliminating carbon dioxide emissions.

Moving away from a visual analysis to analyze visitor experience, the person who decides to participate in this specific artwork must first press a button that will let them step inside the decompression chamber. This room hermetically seals the participants inside the mechanism in order to not let any air from the museum interfere with the artwork's breath recycling. Once the museum air is decompressed from the artwork, another sliding door opens letting participants enter the breathing chamber. Participants are invited to stand or sit in the breathing chamber for a limited period of time. This particular room is small, and is made to accommodate a maximum of two or three participants (fig. 5.) Two transparent chairs are available for the comfort of those who desire to stay seated while inside. Once viewers are ready to exit, they push the button inside the breathing chamber, and wait in the decompression chamber for five to ten seconds before leaving the installation. As mentioned previously, when I participated in this artwork my first feeling of excitement was transformed into disgust; this first-hand experience of the artwork will continue to inform my analysis for the remainder of this thesis.

While the air in *Vicious Circular Breathing* is the artwork's main attraction, the participatory condition of the artwork requires further explanations. For instance, during the same exhibition in which I first encountered *Vicious Circular Breathing*, another piece by the artist, *Pulse Spiral* (2008), was exhibited in the foyer of the Musée d'art Contemporain. As visitors entered the museum, they were greeted by a monumental structure consisting of two pulse receptors and a light bulb installation suspended above the sensors. Participants are invited to place their hands on the two handles and watch the light bulbs flicker to the beat of

their pulse. For both artworks, the artist re-used medical equipment, to access visitors' pulse and breath. However, while both *Pulse Spiral* and *Vicious Circular Breathing* involve the visitor's physical participation, *Vicious Circular Breathing* functions in a more metaphorical way for the artwork recycles the participants' breaths. As mentioned prior to this section, the artwork's particularity is that it functions in a way that both attracts and repels participants. On the one hand, the artwork's participatory structure, which is propelled by the use of new media, entices viewers to partake in the work. On the other hand, the increasing levels of carbon dioxide growing inside the work, the warnings of contagion, panic, and asphyxia go against the premise of participatory art because of their repulsive quality.

But what exactly constitutes the notion of participatory art in the discourse of art history? What does participation include and exclude, and what is an ideal participatory artwork? These questions cannot be answered definitively because participatory art is a conflicted area of research. Many scholars debate about what participatory art should be, and what its parameters are. It is therefore important to explore this disputed concept and elaborate on what distinguishes notions of interaction from democratic participation, and address the role of new media art within the contemporary art period as well.

PARTICIPATION VERSUS INTERACTION IN NEW MEDIA ART

The digital age brings to the fore a new set of questions with regard to participatory art. It is obvious at first glance that technology plays a central role in Lozano-Hemmer's artwork, even if many digital technologies that operate the artworks are hidden. In fact, *Vicious Circular Breathing* relies on a computer-operated software that allows air to be circulated inside the artwork. On the artist's website, Lozano-Hemmer provides visitors with a guidebook with all of the components of the machine. While I use the word "mechanisms" to describe the ensemble of apparatus that operate the artwork, in reality, it is mainly digital technologies that propel the artwork. In the case of *Vicious Circular Breathing*, Lozano-

Hemmer has made the decision to leave cables and circuits out for the public eye, which signals the significant role of technology for the artwork. Moreover, the artwork requires different forms of technologies, such as software applications, electrical circuitries and some mechanical engineering, which links it to the field of new media art. By its very medium, new media art entices viewers' participation. Indeed, technology and digital media increases the promises of participation.

Lev Manovich has written extensively on the topic of participation in the field of art history. In a book chapter published in 2008, he asks about the implications of participation in social media platforms. More specifically, the author looks at the period referred to as "Web 2.0," which can be defined as the proliferation of user-created content and collaboration in the post-2000 Internet age.¹⁷ As he explains, the increasing participation on user-generated content platforms (i.e. Facebook, Instagram, Twitter etc.) suggests that anyone can become a producer. However, Manovich is quick to notice that user-generated content does not necessarily equate to participation.¹⁸ Manovich points out that while social media platforms such as YouTube or Instagram provide a space for amateur artists to disseminate their work, the Web 2.0 has become a space for marketing tactics.¹⁹ Corporates and marketing companies observed the rise of participation on the web and saw it as a chance to make profit. Manovich gives the example of fashion companies that provide their clients with customizable features on certain products in order to give the illusion of being an active participant in the creative process.²⁰

The question of participation in the digital age is of prime concern for other scholars as well. In a dedicated publication on the topic, *The Participatory Condition in the Digital Age*, a number of essays elaborate on questions of participation in the mediatic sphere. In their

¹⁷ Lev Manovich, "Art After Web 2.0" *The Art of Participation: 1950 to Now*, (San Francisco: San Francisco Museum of Modern Art, 2008), 67.

¹⁸ *Ibid.* 68.

¹⁹ *Ibid.* 70.

²⁰ *Ibid.* 73.

introduction, the co-editors state that the digital age has contributed in key ways to participation.²¹ They describe participation as the: “promise and expectation that one can be actively involved with others in decision-making processes that affect the evolution of social bonds, communities, systems of knowledge, and organization, as well as politics and culture.”²² With this definition, participation is observed as inherently linked to democratic processes. For instance, to exercise a right to vote would be considered participation because it involves making a decision effecting change in political life. What the co-authors of this volume seek to question in this case is the altered conditions of participation in the digital realm.

In a society that validates participation through digital media platforms, high levels of participation have become synonymous with success.²³ While participation has always been historically present in society, it currently regulates cultural, economic, and democratic spheres.²⁴ The authors point out that the emergence of this current trend in participation coincides with the development of digital media. Digital media offers possibilities of social change through communication and participation, yet the co-editors explain that: “*The Participatory Condition* critically probes the purported participatory nature attributed to media, and unearths other forms of participation that might be obscured by excessive promises of digital utopias [emphasis added.]”²⁵ It is significant that the authors use the words utopia and excessive to characterize modern-day participation. Indeed, the potential of digital participation is promising, and can be regarded as an open platform for exchange. However, to refer to the “excessive promises” of digital participation reveals that participation in digital culture is fraught. If many societal spheres are organized around the

²¹ Darin Barney, Gabriella Coleman, Christine Ross, Jonathan Sterne, and Tamar Tembeck, “Introduction,” *The Participatory Condition in the Digital Age*, (Minneapolis: University of Minnesota Press, 2016), xxii.

²² Barney, Coleman, Ross, Sterne, Tembeck, viii.

²³ *Ibid.* ix.

²⁴ *Ibid.* vi.

²⁵ *Ibid.* viii.

premise of participation, this discourse is often used by marketing firms and corporations to promote their commercial interests rather than to further the democratic implications of participation. In this way, to participate has turned into a commercial endeavour, which makes participation void of its democratic roots. Moreover, digital media prides itself for being hyper accessible for worldwide users when, in reality, voicing one's opinions online is a privilege that only a few can afford without fears of censorship or incarceration. In other words, to refer to digital participation as an unrealized "digital utopia" connects it to the empty promise of a platform that allows for democratic exchanges but is instead used to increase socio-economic interests.

The promise of digital participation cannot fully encompass the democratic and equalitarian conditions that come with participation in the public sphere.²⁶ Mark Andrejevic's chapter in this book distinguishes between notions of interaction and participation, in that interaction can be seen as the responsive element of new technologies whereas participation involves "cultural and social protocols."²⁷ But what does this mean in the case of *Vicious Circular Breathing*? With its increasing toxic air, *Vicious Circular Breathing* highlights the utopian promise of participation, but turns it into a dystopian experience.

Current scholarship thus establishes that participants are faced with this constant need to participate in digital media. Manovich, writing in the mid-2000s, argues that behind the Web 2.0's promises of participation, the real intent is to increase commercial interests. A decade after the publication of Manovich's chapter, the co-authors of *The Participatory Condition in the Digital Age* address the question of participation but are preoccupied with the utopian misconception that digital media can replace democratic and social ideals of participation. Users are constantly being solicited to interact with content online, and this therefore undermines the democratic premises of participation.

²⁶ Barney, Coleman, Ross, Sterne, Tembeck, xxii.

²⁷ Mark Andrejevic, "The Pacification of Interactivity" *The Participatory Condition in the Digital Age*, Sterne et al. (Minneapolis: University of Minnesota Press, 2016), 188.

Certainly, the increasing use of new media art by contemporary artists begs the inevitable question of interaction versus participation. In their introductory essay to their edited volume on interaction and participation, authors Samuel Bianchini and Erik Verhagen explain that technological media devices only enable a one-sided version of interactivity instead of participation.²⁸ While the authors argue that artistic concepts of participation date back to the 1950s, they note that the notion of artistic interaction began as a result of computer-operated artworks that first emerged in the 1990s.²⁹ Bianchini and Verhagen also write about interaction and participation as set up by a *dispositif*. In the book, the French word *dispositif* translates to the word “device.” In the realm of the arts, a *dispositif* can be characterized as an arrangement of mechanisms or technologies (device) that act as the impetus for viewer interaction.³⁰ In the case of *Vicious Circular Breathing*, the artwork’s *dispositif* is the different set of software and mechanisms that allow viewers to walk inside the artwork. This can be comprised of the button in front of the decompression chamber which opens the door to let participants inside the artwork or the software that runs the artwork. Once participants press the button that opens the doors of the installation, this subsequently begins a chain of actions that allows the artwork to keep its purpose of recycling air. Viewed in this way, one can deduct that Lozano-Hemmer’s artwork relies primarily on technological interaction.

On this topic, Lozano-Hemmer has even stated that “in our day, when culture, politics, and the economy are interconnected with these networks and technologies, it’s only natural that artists should use them. [...] In the case of the fine arts, technology functions as a platform, although I usually call it a language.”³¹ Despite the apparent necessity of a technological platform for *Vicious Circular Breathing*, the association of technology and

²⁸ Samuel Bianchini and Erik Verhagen, “Introduction,” *From Participation to Interaction in Contemporary Art* (Cambridge & London: The MIT Press, 2016), 3.

²⁹ *Ibid.* 14.

³⁰ *Ibid.* 11.

³¹ Rafael Lozano-Hemmer and Alberto Sánchez Balmisa, “Out of Control,” *From Participation to Interaction in Contemporary Art*, Samuel Bianchini, Erik Verhagen, eds. (Cambridge & London: The MIT Press, 2016), 692.

language proposes a further interpretation. Language is universal: we use it to communicate among us, and to express ideas or feelings. For Rafael Lozano-Hemmer to claim that technology is a language of its own demonstrates that it has become an intrinsic part of our lives. *Vicious Circular Breathing*'s participatory medium can be seen as the advance of new media technologies in art, but I argue that the metaphor goes further. The artist's use of technology can be seen as a vessel for social messages and critiques.

By exploring society's relationship with technology, Lozano-Hemmer asks us to consider how these technologies are used and, ultimately, who is making use of them. In this way, the artist posits a critical approach to the way governments, corporations and the military are utilizing technologies in the form of data collection, surveillance, and national security. Although *Vicious Circular Breathing* does not comment on this particular matter, the artist's overall practice voices a critique about the way software engineering has become pervasive, supposedly for the sake of national security. This critique is especially relevant in the artist's previous artworks, such as *Levels of Confidence*. In this case, the artist appropriated facial recognition software, a device used by the military, to call attention to the government's inaction on the kidnapping of Mexican college students in 2014.

The artwork's reliance on digital technologies reveals the intricate relationship we have with technology at large, but also goes to the extreme in establishing that the very act of breathing has become dependent upon technology.

PROMISES OF PARTICIPATION AND DEMOCRACY

Thus far, I have examined the outlook of digital technologies and of new media in the field of participation. Attempting to grasp a uniform look at the scholarship published on the subject is a difficult task. There is one school of thinking that emphasizes the social and democratic outreach of participatory art, while another one looks at forms, whereas another

one examines questions around technology and new media.³² For the remainder of this section, I will concentrate on the social and democratic implications of participation. One of the most influential scholars in the field of participatory art, Claire Bishop, sees participatory art as inherently linked to the fields of theatre and performance insofar as these are linked to political and social movements.³³ For instance, she explains that the resurgence of participatory art in the 1990s with artists such as, Rirkrit Tiravanija or Felix Gonzalez-Torres, are the result of the 1989 fall of communism.³⁴ Though the end of communism occurred in Eastern Europe, this shift in politics mainly interested Western artists who attempted to revive the leftist project at a time where capitalism prevailed in most countries.³⁵ Ultimately, their participatory artworks propose an alternative viewpoint to capitalism. This interest in the social presents a connection between participatory art, politics and democracy, which also connects participatory art to practices of dialogue, collaboration, and social practices. Bishop does not define what the ideal participatory artwork should look like, but her critiques of much contemporary participatory art are scathing. She states that since the advent of participatory art back in the 1990s, the artworks pertaining to this movement have become predictable because of their lack of social and political attachments.³⁶ To quote directly from Bishop: “participatory art today stands without a relation to an existing political project [...]”³⁷ Not only does this absence of direct link to social or political projects increases the predictability of participatory artworks, it also negates the prior definition of participation, which implies that participants are playing an active role in societal decisions.

³²Nicolas Bourriaud has also written extensively about the relationship between art forms, human interactions, and social context. See Nicholas Bourriaud. *Relational Aesthetics*. Collection Documents Sur l'art. Dijon: Les Presses du réel, 2009.

³³Claire Bishop, *Artificial Hells. Participatory Art and the Politics of Spectatorship* (London: Verso, 2012), 2.

³⁴*Ibid.* 3.

³⁵*Ibid.* 4.

³⁶*Ibid.* 283.

³⁷*Ibid.* 284.

Other scholars have connected practices of participation to dialogue and community art practices.³⁸ Scholar Grant Kester is also interested in the participatory condition, but focuses on collaboration and community practices in participatory art. His book, *Conversation Pieces*, elaborates on the notion of “dialogical art,” which stems from the dialogue that the artist produces through their artistic practices. Like Bishop, Kester also borrows from the fields of performance and theatre studies in order to fully understand the performativity of participatory artworks. However, his research focuses on dialogue, interactions, and art. Borrowing from theorist Jürgen Habermas, Kester uses public sphere discourse to describe his version of participatory art, which is called dialogical art.³⁹ The artists that partake in dialogical art create process-based artworks where dialogue and interaction are at the forefront of the artistic practice thus decentering the role of the artist as the sole conceiver of the art. One of the examples that Kester qualifies as dialogical art in his book is *The Roof Is on Fire* (1993-1994). Performed in 1994 in Oakland California, artists Suzanne Lacy, Chris Johnson, and Annice Jacoby gathered 220 high school students to discuss issues dividing the United States, such as racial profiling, and media portrayal.⁴⁰ According to Kester, this example succeeds in encompassing questions of performativity, community and artist-induced dialogue. What the author concludes is that not only does this performance step away from the tradition of object-based art, but it also allows students to reclaim their image through dialogue and exchange.⁴¹ Ultimately, a broad definition of dialogical art would be one where community, activism, and outreach to social communities would be reunited into one art project. This interest in democracy, community and the public sphere proposes that

³⁸ In this sentence, I refer to the concept of “Dialogical Art” by Grant Kester in: Grant Kester, *Conversation Pieces: Community and Communication in Modern Art* (Berkeley: University of California Press, 2013).

³⁹ Kester, 110.

⁴⁰ *Ibid.* 4.

⁴¹ *Ibid.* 4.

participatory art should be as accessible as possible, and focused on the social process behind the artwork.

To return to *Vicious Circular Breathing*, it is possible to draw on different arguments and debates related to participatory art. I want to suggest that the communal air inside the artwork can be regarded as a social metaphor. As stated above, scholars such as Claire Bishop, have argued for a return of social participation in art history. That is, in order for a given artwork to reach its full social scope, public art exhibitions step outside from the institutional frame of the museum and manage to target a critique towards museums and galleries.⁴² As mentioned previously, user-generated content grapples with the notion that everyone is a producer of situations. Although *Vicious Circular Breathing* remains exhibited inside the institutional space of the museum, the air being circulated inside the installation can be observed as the air of the public sphere.⁴³ In other words, the air coming from participants can be equated to the air that constitutes the public sphere. If artworks situated in the public sphere have the quality of being more accessible to the general public, *Vicious Circular Breathing* creates its own public space.⁴⁴ Viewers are equally participants and contributors to this public sphere. With its communal air created by society's breath, this metaphorical public sphere can be equally ideal and toxic. While the premise of participation comes from a noble standpoint and promises the democratic right to voice one's opinions, it also has its limitations in the current media scape. Most importantly, user-generated content gives a platform to intolerance,

⁴² Rudolf Frieling, "Toward Participation in Art," *The Art of Participation: 1950 to now*, (San Francisco: San Francisco Museum of Modern Art, 2008), 42.

⁴³ In conversation with Kathleen Forde, curator at the Borusan Contemporary in Turkey, Rafael Lozano-Hemmer mentioned that he sourced his inspiration from the political turmoil in Turkey back in 2013 and its impact on democracy. However, I argue that Lozano-Hemmer's argument can be easily translated to a general context. For more information on the turmoil in Turkey: Kareem Fahim & Sebnem Arsu, "Turkish Official says Army May Have to End Protests," *New York Times*, June 17, 2013.

<https://www.nytimes.com/2013/06/18/world/europe/turkish-official-says-army-may-have-to-end-protests.html>.

⁴⁴ It is also important to consider the space in which the artwork is exhibited. Although I have argued that the saturated air can be equated to the collective air of public discourse, the institutional space in which the artwork is displayed begs the question of accessibility. While this thesis will not address the matter of accessibility as such, it is part of a broader conversation in which one asks how museums can become a more hospitable and accessible space for various communities.

racism, and hatred. This thus contributes to a culture of toxic negativity where these behaviours remain available to the general public under the excuse of freedom of speech and democracy.

On the one hand, the artwork plays on the Western concept of democracy with its foundation bequeathing equal participation to everyone. As scholarship in the field of political science and communications studies state, in an ideal world, participation would foster equality between different citizens. Put simply, participation in the public sphere should in principle involve everyone.⁴⁵ As participants step inside the work and share their breaths with others, the very action of breathing becomes a contribution to the public sphere and its discourse. Moreover, once the participants enter the artwork, sharing their breaths with previous participants', they become a part of the artwork. The transparency of the glass cabins reveals who is participating, and, to a certain extent, turn participants into part of the artwork.

In this way, the communal air inside *Vicious Circular Breathing* can be examined in relation to multiple discourses, opinions, and ideas that contribute and shape today's public sphere. From this perspective, the air we breathe inside the work is the same as the one we collectively breathe in public. It is equally evident, though, that the premise of participation can lead to growing levels of toxicity, embodied by the rising levels of carbon dioxide inside the artwork. While the "public sphere" can refer to an ideal definition of what participation ought to be, the poisonous air in the artwork can also symbolize the toxic relationship we have through our participation in the public sphere. Democracy highlights the utopian ideal that everyone has the right to express their opinions, and that all opinions are valid. However, it is evident that this premise was never respected, and continues to be disrespected. As

⁴⁵ Nico Carpentier, "Power as Participation's Master Signifier," *The Participatory Condition in the Digital Age*, Sterne et al. (Minneapolis: University of Minnesota Press, 2016), 13.

Vicious Circular Breathing demonstrates, this climate of participation results in a toxic atmosphere, with everyone's opinions clashing and forming an unlivable place.

CHAPTER 2: AIR

Thus far, I have examined different definitions of participation, more specifically in the digital age and in contemporary art. Using scholarship on participation and participatory art, I have argued that the air inside *Vicious Circular Breathing* creates a social metaphor for democracy, collectivity and the public sphere. However, the physical and psychological side effects of the recycled air inside the artwork remain unaddressed. Due to the high volume of participants, warnings of contagion, panic, and asphyxia are posted for participants who wish to enter the installation. Initially, this infectious quality repels visitors, but I want to argue that the underlying function of air works to raise awareness of the ambiguous meanings of air. On the one hand, the air inside *Vicious Circular Breathing* can be regarded as the common space of ideas and discussions formed through participation. On the other hand, air should also be regarded as a source of life on the planet.

In order to fully comprehend the different connotations of air in our cultural discourse, I will examine scholarship that grapples with questions of air and ecology, while also addressing contemporary concepts of matter. My intention is to position *Vicious Circular Breathing* in relation to debates about ecology, climate change, and the Anthropocene, and indeed I want to propose that the artwork's interest in air resonates with contemporary ecological concerns. This chapter's argument will be twofold: the first section will address *Vicious Circular Breathing* through the lens of post humanism and new materialism while the latter section will tackle ecological concerns.

When the artwork is analyzed with regards to scholarship on participation and participatory art, the recycled air acts as a repellent for participants. However, air as a medium, can be the embodied reminder of the state of climate crisis we are currently living

in. Although essential to our being on Earth, air, as a medium and as a material, is often forgotten or taken for granted. I draw this insight from French philosopher Luce Irigaray, who writes about the notion of “being in air,” engaging with the German philosopher Martin Heidegger to build her argument. Irigaray explains that Heidegger’s philosophy is grounded in the earth whereas she believes it should be rooted in the air. She claims that being in air is an essential condition for the philosopher, asking: is there anywhere else humans can live other than in air?⁴⁶ In other words, Irigaray seeks to establish a new understanding of air and human life on Earth. The philosopher explains that the erasure of air was originally caused by the West’s desire to master nature. Since the beginning of modern times, this constant quest over the natural world has resulted in an erasure of air from our cultural understanding.⁴⁷ Although Irigaray’s work was published in 1982, her argument still rings true today. How is it that air has been eradicated from our comprehension of life as we know it if humans can only live by inhabiting air?⁴⁸

Certainly, as Irigaray points out, there is a need to re-define our relationship to air, and, ultimately to nature. This section of the thesis explores how the materialization of air in *Vicious Circular Breathing* works in tandem with participatory art and makes manifest a new understanding of materialized air. One of the outcomes from this reading is a greater respect of the Earth, which is constructed by the collectivity of breaths. This highlights the force of air in animate and inanimate networks on the planet. While *Vicious Circular Breathing* makes the viewer aware of air and the ambiguous impact it can have on us, this message becomes even more relevant in times of climate crisis.

Although this thesis examines instances of air and participation in contemporary art, the interest in air and air as an artistic medium can be traced back as early as the 1960s. One

⁴⁶ Luce Irigaray, *L’oubli de l’air chez Martin Heidegger*, Collection “critique,” (Paris: Éditions de Minuit, 1982,) 12.

⁴⁷ *Ibid.* 23.

⁴⁸ *Ibid.* 15.

important example is Hans Haacke's *Condensation Cube* (1963-5) which consists of a perspex cube of 30 centimeters in height and width, with a small amount of water inside the sculpture (fig. 6.) Depending of the environment in which it is displayed, the water inside the cube evaporates thus creating condensation. Indeed, Haacke's *Condensation Cube* was amongst the first artworks to establish a relationship between audience and atmospheric conditions. This is because the artwork depends on the air, temperature, and the numbers of visitors inside the space. In this case, this codependency is characterized by the water condensation created by the vaporization of water into gas.⁴⁹ This physical transformation, which relies on audience interaction with the artwork, is a point of resemblance between Haacke's *Condensation Cube* and Lozano-Hemmer's *Vicious Circular Breathing*. Both artworks share physical similarities in that they both use a transparent and hermetically sealed box to showcase a physical transformation. Furthermore, both artworks rely on audience's participation, which alters their constitution depending on their environment. Where Haacke and Lozano-Hemmer's work differ is in the scale and in the transformation occurring within their respective work. Haacke's work will undergo a physical transformation when it is placed in a crowded room where visitors congregate around the cube. On the other hand, *Vicious Circular Breathing* relies on the active participation from visitors who deliberately choose to enter the artwork. Moreover, the changes occurring inside the artwork are invisible to the eye, but by trapping the air inside, the installation's deteriorating air quality becomes felt by the participant.

Haacke said of his own work that it is unpredictable, akin to a living organism.⁵⁰ This unpredictability echoes the increasing toxic air inside *Vicious Circular Breathing* and its reliance on public participation. Both artworks are akin to living organisms due to their changing nature and content. They are breathing and adapting to their environments. Both

⁴⁹ Janine Randerson, *Weather as Medium: Toward a Meteorological Art*, Leonardo Book Series, (Cambridge, MA: The MIT Press, 2018,) 13.

⁵⁰ *Ibid.* 16.

artworks remind us that air is anything but static and that the shifting nature of air needs to be examined for its potential to convey ecological and material concerns in times of climate crisis. In Lozano-Hemmer's case, though, air is transformed into a dystopian reality.

ENVISIONING AIR AS A MEDIUM

Despite being invisibly shared by every living being on the planet, Lozano-Hemmer presents air in a way that makes it visible to participants. One of the ways in which *Vicious Circular Breathing* succeeds in incorporating air in its structure is by enclosing it inside the installation. With the artwork's clear walls, the air that we breathe is trapped inside and thus becomes apparent to the viewer. The air flows and is materialized by the movement of the paper bags attached to the breathing tubes. Air, is in fact the main constituent of the artwork. With her work in the fields of cultural history and climate change, scholar Eva Horn has suggested that we view air as a medium. Borrowing from Irigaray's concept of "being in air," Horn explains that to "be in the air," would entail a phenomenological approach to comprehend air: that is, how bodies move and breathe in the air, and how, inversely, bodies influence the air inside. As a solution, she proposes that we view air as a connector between living and non-living organisms rather than a distinct object.⁵¹

Air acts as a connector between organisms on the planet. Air is a shared resource. The recirculation of air inside makes for a new awareness of the potential outcomes of a saturated air on the planet, reminding participants of the role we play in protecting our shared resources such as air. This newly acquired awareness is emphasized by the shape of the artwork, which emulates the form of a tree. A form of plant life and an essential condition to the absorption of carbon dioxide, the leaves of Lozano-Hemmer's tree have been replaced by paper bags and breathing tubes. The software-operated movement combined with Lozano-Hemmer's use of medical equipment puts forward a comparison between nature and an artificial ventilator.

⁵¹ Eva Horn, "Air as Medium," *Grey Room*, no. 73 (2018): 20.

Instead of functioning via photosynthesis like plants would, *Vicious Circular Breathing* depends on medical equipment and softwares. One might question why or how nature has come to depend on digital technologies in such a way. I argue that in the interconnected network of life, where trees are one of the main actors for this delicate balance, *Vicious Circular Breathing* proposes a dystopian reality of a post clear-cutting era where the lungs of the Earth have been decimated. The collective air inside *Vicious Circular Breathing* works as an allegory of our time, enacting a foreseeable future where the chain of interconnected networks has been broken and breathing has become a strenuous task. Information and statistics on air quality, carbon emissions, the atmosphere, and more, tell us that air cannot remain unaltered on Earth. *Vicious Circular Breathing* allows us to ask: What if air becomes unbreathable one day? As suggested by Horn, a cultural understanding of air will work against viewing the climate crisis as an array of “externalized facts.”⁵²

Eva Horn’s interest in the analysis of air echoes the claim of new materialist scholar, Jane Bennett. A professor of political science, Bennett has contributed to the field of new materialism in her book, *Vibrant Matter*, justifying the title of her book by examining the vitality and agency of matter. She claims that we should not regard matter as passive and inanimate, but rather, that materials and things should be seen as living entities, as “vibrant matter.”⁵³ Similarly to Horn, Bennett advocates for a more holistic understanding of human and non-human networks on the planet. As such, she writes against American materialism, which assumes a short life span for material goods.⁵⁴ In this way, Bennett recognizes agency in both human and nonhuman objects, arguing that everyday things, including those we throw away, are not inanimate and that we have to rethink our relationship with matter for a better understanding of life on Earth.

⁵² Horn, 15.

⁵³ Jane Bennett, *Vibrant Matter A Political Ecology of Things* (Durham: Duke University Press, 2010,) 5.

⁵⁴ *Ibid.*

Animate and inanimate objects operate in networks, or “assemblages” of agentic capacity that impact our daily lives.⁵⁵ Bennett explains that assemblages are a series of ‘things’ that have an heterogeneous distribution of power that run among their network.⁵⁶ More precisely, Bennett writes: “there is no agency proper to assemblages, only the effervescence of the agency of individuals acting alone or in concert with each other. Structures, surroundings, and contexts make a difference to outcomes, but they are not quite vibrant matter.”⁵⁷ Simply put, assemblages do not have an agency of their own and are not considered *Vibrant Matter*. Rather, only the totality of objects that constitute the assemblage have the agency to impact a person or an event. To best illustrate this point, Bennett gives the example of riding a bicycle on a gravel road. The author says that while the person riding the bike might think they are the only actant to interfere with the bike’s trajectory, they are in fact a fraction of the assemblage in which they are in.⁵⁸ For instance, the gravel, the weather, bicycle’s tires, or the wind are all part of the assemblage that determine the direction of the bicycle.

An analysis of Rafael Lozano-Hemmer’s work can therefore engage with the materiality of air. To envision *Vicious Circular Breathing* in terms of vital materialism, and not simply as a cluster of chemical components, means that it should be regarded as an agentic assemblage of vibrant matter. Starting from the setting in which it is displayed, *Vicious Circular Breathing* has different actors that constitute its assemblage. It begins the moment a visitor enters the decompression booth. At that moment, the previous assemblage of pollution, particles, and smog that was in the museum is decompressed, leaving the visitor alone with their breathing. The mechanically engineered system that opens the breathing chamber is activated and prompts the glass doors to slide open. The software that runs the

⁵⁵ Bennett, 22.

⁵⁶ *Ibid*, 24.

⁵⁷ *Ibid*, 29.

⁵⁸ *Ibid*, 38.

installation then redistributes the breaths, which allows germs and carbon dioxide to join the previous assemblage. The air is a compilation of the participants breaths, but combined together, it forms a living entity, which is comprised of living matter of collective breaths. It comes from participants' living bodies breathing as one, their smell and affect. The paper bags, breathing tubes, and bellows all play an intrinsic part to the well-functioning of the artwork and its recirculation of air. This assemblage is making the tree, breathing tubes and digital technologies come alive. Certainly, air is a crucial component in the artwork, but without the digital technologies' agentic assemblage, *Vicious Circular Breathing* would not be a vehicle for social and climactic metaphors. In this way, Bennett's agentic assemblage proves that is the collective effort of the different actors that make the artwork function.

Thus, air should be envisioned as "vibrant matter" with its own agentic assemblage. The enclosed air is breathing via the computer operated software, but its shifting nature demonstrates that air is not static. As "vibrant matter," air has a life of its own, whether it be in the atmosphere or with the assemblage of the participants' breaths. By looking at matter as more than inanimate objects, it can become part of assemblages of "vibrant matter" that influence our daily decisions. Moreover, Bennett's *Vibrant Matter* informs us that matter is not static and that it entails examining the chain of networks that constitute it. The artwork's experience connects all participants and thus forms an invisible crowd. Drawing from my personal encounter with *Vicious Circular Breathing*, the heavy and crowded smell of the air indicate this very collectivity and agency of air. In this particular instance, air can also act as contagion device for the transmission of panic and anxiety of asphyxiation. In this case, the transmission of affect, as it has been argued by Teresa Brennan, is olfactory and is carried by the smell of pheromones of previous participants.⁵⁹ In this way, all bodies are connected by

⁵⁹ Teresa Brennan, *The Transmission of Affect* (Ithaca and London: Cornell University Press, 2004,) 69.

the air and affect they share, which furthermore contributes to the agentic assemblage of the air.

It is worth comparing how the notions of assemblage and air as matter are also employed by Anishinaabe artist, Bonnie Devine. While Lozano-Hemmer's artwork is illuminated by new scholarship on materialism and posthumanism, it is crucial to acknowledge that Indigenous populations have always advocated for the interconnected network between animate and inanimate matter prior to Western academia's interest to the field.⁶⁰ This is illustrated in Bonnie Devine's *Phenomenology* (2015) where the artist first exhibited 92 wood stakes draped in white muslin next to the Serpent River First Nation in Ontario. The artwork was first displayed outside (fig. 7) before being displayed in a new iteration in the *Art Museum in the University of Toronto* (fig. 8). For both of her installations, the artist used materials extracted from the Humber River Area, where uranium was previously extracted. Devine explains that when her work was first placed outside, near in her community where uranium and sulfuric acid were extracted, she exposed the muslin stakes to the elements so that they could absorb radioactive particles carried through the air and wind. As part of the exhibition context, raw uranium ore, and a metamorphic rock called gneiss were collected nearby the Serpent River and exhibited next to the muslin-draped stakes. Devine's installation picks up on notions of climate justice, but most importantly asserts the constant state of movement and transformation of the world.⁶¹

As such, Devine's *Phenomenology* highlights the same intricate network of living and nonliving things impacting one another in her installation. As curator John Hampton describes, the artwork: "provokes an embodied relation with [...] our surroundings to assist our understanding and respect for that which can't be seen." This invisible transformation is underscored in both *Vicious Circular Breathing* and *Phenomenology* where air acts as a

⁶⁰ Zoe Todd, "An Indigenous Feminist's Take on the Ontological Turn: 'Ontology' Is Just Another Word for Colonialism," *Journal of Historical Sociology* 29, no 1 (March 2016,) 4-22.

⁶¹ Jessica L. Horton, "Indigenous Artists Against the Anthropocene," *Art Journal* 76, no. 2 (Summer 2017,) 63.

device for contagion and transformation. Though the medium of the artworks differ, both of them discuss the ramifications of altered life networks on the planet. While my own analysis and understanding on participatory art and ecocriticism stems from Western literature and concepts, it must be noted that this premise of this discipline stems from Indigenous methodologies.

AIR AND ECOCRITICISM

Despite the previous pages arguing for a holistic understanding of air using new materialism, other scholarship explicitly advocates for new methods of understanding of our planet. Ultimately, such texts offer alternatives, to counter the impact of mass-consumption and capitalism on the planet. This section of the thesis will therefore tackle climate change in a more explicit manner. As such, the scholarship around ecology and global warming is categorized under the scholarship of ecocriticism. According to *Oxford Bibliographies*, the term ecocriticism started to be more commonly used in the 1990s and can be defined as: "a broad way for literary and cultural scholars to investigate the global ecological crisis."⁶² Ecocriticism proposed a new methodology for non-scientists scholars in the humanities to think about ecological questions. For this thesis, an ecocritical approach to air entails envisioning it as more than an element, as more than an agglomeration of chemicals that constitute the Earth's atmosphere. It is a way to approach and analyze cultural theories around air and ecology and to place them into a conversation about climate urgency. Drawing on various authors, disciplines, and points of view, this thesis seeks to argue that air is a collective issue, and that it forms part of a broader assemblage for living and nonliving things.

One debate around ecocriticism concerns the question of naming, and how naming climate change impacts our understanding of it. More specifically, the last decade saw the

⁶² Derek Gladwin, "Ecocriticism" *Oxford Bibliographies*, 26 July 2017.

rise of the term Anthropocene and of the discipline of Anthropocene studies. Etymologically, the term Anthropocene is comprised of two words: “Anthropos,” which is the Greek word for all things related to humans, and the suffix “cene,” which links the prefix to a geological period. Following the geological period of the “Holocene” the Anthropocene signifies that humans are the main modifier of the Earth’s geological structure.

Scholars such as Jane Bennett or Donna Haraway have argued for a de-centering of the human in climate change studies.⁶³ T.J Demos has worked tremendously to critique the discourse accompanying the Anthropocene, claiming that it acts as a: “mechanism of universalization”⁶⁴ in that the entire global population is blamed for its devastating effects. Demos problematizes this and argues that the Anthropocene fails to acknowledge capitalism as the main party responsible for our current state. In other words, Demos’s scholarship calls to attention the impacts of capitalism and privatization on collective environmental welfare. If Demos worries about the destructive quality of capitalism on the environment, the collection of breaths inside Lozano-Hemmer’s structure highlights a dystopian reality of air as a shared and limited resource if no action is taken to counter global warming. As mentioned previously, when examined through the lens of participatory art, *Vicious Circular Breathing* becomes a shared space of ideas and thoughts. Using Demos’s argument, the artist turns air into a common space where air is shared, not privatized.

This theme of privatization of nature is also picked up by artist and scholar Andrea Polli who states that air has become privatized through the cap-and-trade system.⁶⁵ First established as an outcome of the Kyoto protocol, the cap-and-trade system seeks to limit corporations’ level of carbon dioxide in the atmosphere. Instead of restricting their CO2

⁶³ Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*. Experimental Futures: Technological Lives, Scientific Arts, Anthropological Voices, (Durham: Duke University Press, 2016).

⁶⁴ T. J Demos, *Against the Anthropocene: Visual Culture and Environment Today*, (Berlin: Sternberg Press 2017), 19.

⁶⁵ Andrea Polli “Breathtaking: Media Art and Public Participation in Climate Issues,” *Proceedings of the Media Ecology Association*, 11 (2010): 8.

emissions, most corporations end up buying or selling their allowances from other companies resulting in the privatization of the atmosphere. Although Polli criticizes the cap-and-trade system, it is important to note that the carbon market is inherently reliant on inequalities and colonialism. In fact, first-world countries are often the ones who end up buying clean air units and continuing to pollute the atmosphere. While the cap-and-trade system has been elaborated to control CO₂ emissions and provide cleaner air for the global population, the outcome raises issues about the inequality of the system and its repercussions on the planet.⁶⁶ It has been suggested that we regard the atmosphere as commons rather than private parcels of property.⁶⁷

Another artist whose practice directly tackles themes of privatization and air quality is Amy Balkin. Her artwork, *Public Smog*⁶⁸ (2006), an ongoing project begun in 2006, plays with the dichotomy between collectivity and privatization. According to the artist's website, *Public Smog* is a public park in the atmosphere where the artist frees the space of pollutants or any other toxic substances by buying units of clean air through the cap and trade system. By doing so, Balkin is depriving corporations of units they might otherwise purchase, which would in principle force them to lower their carbon emissions. *Public Smog* travels around the world, just as air and volatile constituents would naturally move.⁶⁹ Instead of encapsulating air in a transparent structure, Balkin is questioning the power that private corporations hold over our collective future. Certainly, Balkin uses privatization to her own end and overtly critiques the capitalist system in order to convey her message. On the other hand, Lozano-Hemmer offers us ambiguous readings that cannot be tied down to one environmental message. In this way, both projects share the same medium and question the future of air as a private or shared resource. Ultimately, using air becomes a collective artistic

⁶⁶ Jonathan Aldred, "The Ethics of Emissions Trading," *New Political Economy* 17:3, (2012): 342.

⁶⁷ Edward A. Page, "The ethics of emissions trading," *WIREs Clim Change* 4 (2013): 238.

⁶⁸ For more information, statistics and images about Balkin's project, please visit the official website's project: <http://www.publicsmog.org/>.

⁶⁹ "Public Smog," Amy Balkin. <http://tomorrowmorning.net/publicsmog>, accessed November 20 2019.

tactic that brings to the fore the ironies of the capitalist initiatives to counter climate change. Moreover, through this attentiveness to matter and ecology, Lozano-Hemmer reminds us to think of air as a collective resource for all.

Authors such as Bennett and Haraway share the belief that an improved relationship with nature and ecosystems involves examining a variety of perspectives on the subject. This leads to an approach that would regard air as an animate entity rather than as an element. In this way, I argue that while Lozano-Hemmer's artwork does not obviously fall into the category of ecological art, the artwork's toxic air and its tree-like structure benefit from an ecocritical analysis. Working with a holistic approach to air requires us to view it as a collective resource, and as part of a network that feeds other entities. Similar to participatory art, artworks that fall into the category of ecocriticism and ecological art are hard to define. Still, the collectivity of breaths reminds us of our responsibility for the care of our collective resources, which is further accentuated by the tree-like composition of the structure. Ultimately, combining the outlooks of different authors, disciplines, and scholarship creates a better understanding of the benefits of ecocriticism.

END REMARKS

As I write these final lines in the summer of 2020, two social crises have impacted our collective understanding of air and breathing in recent months: the coronavirus pandemic and the Black Lives Matter movement. I therefore consider it crucial to consider the impact of these two events on the interpretation of the artwork. Although *Vicious Circular Breathing* reminds us of our collective capacity to breathe as one, an element that have yet to be included in this thesis is the topic of contagion. Upon the beginning this research project in 2019, air and participation were this research's primary focus, which left contagion and anxiety out of the discussion. However, in March 2020, a newspaper article reporting that

Lozano-Hemmer has tested positive for COVID-19 changed my outlook on the artwork.⁷⁰ Gaining international terrain in January 2020, the coronavirus pandemic took over the province of Quebec in early March 2020 resulting in a national lockdown. As I write these lines in May 2020, the virus is still spreading and has claimed the lives of many, especially in the city of Montreal. Governmental measures have been prolonged until the end of the month, leaving economic, cultural, and educational activities on hold until further notice. As concluding remarks, I address *Vicious Circular Breathing*'s infectious quality, which I argue can be equated to the pulmonary complications associated with COVID-19. While not related to the central argument, this alternate reading becomes inevitable considering the global impact of the present pandemic.

In these times of uncertainty, the symbolic form of the artwork shifts to fit the planetary condition. One of the possible readings entails examining the artwork as a lung. The increasing toxicity and germs inside the work emulates the virus depriving the patient of air and the paper leaves become the lungs' alveoli. The alveoli, which are present in millions in the pulmonary system, move the oxygen in and out of the lungs, and ventilate the human body. This detail becomes even more significant as COVID-19 attacks the lungs and can cause coughing, shortness of breath, or even viral pneumonia. Therefore, the increasing level of carbon dioxide inside the work echoes the respiratory conditions of COVID-19 patients as the virus spreads in the human body.

This segues into my last proposition, which considers that *Vicious Circular Breathing* can be envisioned as a medical ventilator. This is exemplified by the artwork's ability to breathe on its own, and is further reinforced by the artist's choice to incorporate breathing tubes as part of the materials. In this way, the artwork resembles the machine needed for recovery from the virus: a medical ventilator. Over time, this type of medical equipment has become

⁷⁰ Éric Clément, "Rafael Lozano-Hemmer infecté à New York," *La Presse*, March 25, 2020. <https://www.lapresse.ca/arts/arts-visuels/202003/24/01-5266305-rafael-lozano-hemmer-infecte-a-new-york.php>.

extremely valuable and has resulted in a shortage in heavily infected countries such as the United States or Italy. Although this remark steps away from the general thesis argument, this new approach to the artwork responds to the current worldwide dilemma. If Irigaray reminds us that humanity can only live in air, then the present pandemic enacts the ambiguous reality of air as a medium for contagion and ultimately, death.

Regarding the Black Lives Matter events of 2020, Mary Louise Pratt has elaborated on the ambivalent nature of breathing as a source of life and death.⁷¹ While the coronavirus provokes breathing complications, Pratt highlights the uncanny similarity between lung failure inflicted by the virus and George Floyd's murder by suffocation on May 25, 2020, as a police officer in Minneapolis knelt on his neck. A poignant symbol of police brutality, Floyd's last words became the slogan of international civil protests. In less than a month, Floyd's words "I can't breathe," became a key identifier of the racial justice movement in the United States. Pratt's essay highlights the significance of airways in the contagion of COVID-19, and also in racist acts of violence (such as lynching and strangulation.) As such, the author proposes that society is regulated by a "politics of breath,"⁷² which encompasses systemic inequalities related to the very act of breathing. This can be exemplified by the practice of social distancing in the spring of 2020 where we have been repeatedly told to stay at home in order to limit contagion. As Pratt argues, though, this kind of responsible isolation of our breath for the sake of others is a privilege that many communities cannot afford.⁷³ Furthermore, Floyd's murder was the catalyst for millions of citizens gathering in the streets, willingly deciding to use their breath against racial discrimination and police brutality. Ultimately, Pratt explains that breathing cannot be regarded as an apolitical act as long as social inequalities continue to exist.

⁷¹ Mary Louise Pratt, "Airways," in *Contactos*, eds. Diana Taylor & Marcial Godoy-Anativia (Hemisphere Press), June 8th, 2020. <https://contactos.tome.press/airways/>.

⁷² Pratt.

⁷³ Pratt.

CONCLUSION

With a close examination of the scholarship on air and participatory art, *Vicious Circular Breathing* becomes a site of questioning from the standpoint of collectivity. Certainly, the readings I have presented of *Vicious Circular Breathing* are only a fraction of the possibilities among many others. However, the fact remains that the air in *Vicious Circular Breathing* is inherently dependent upon its participatory structure. That is, the collective of breaths, participants, germs and carbon dioxide influence the viewer's decision to participate or not. Inversely, participation also shapes the artwork's fluctuating air content.

With an approach on participatory art and ecocriticism, this thesis has argued that air is an ambiguous material that can be used to reflect on societal issues. First, by examining the participatory condition of *Vicious Circular Breathing*, the limitations of digital participation are revealed. With regards to scholarship on participation, the notion of toxic participation is twofold. On the one hand, the digital technologies running the artwork can lead to an ethos of interaction instead of participation. If participation can be defined as: "the promise and expectation that one can be actively involved with others in decision-making processes that affect the evolution of social bonds, communities, systems of knowledge, and organization, as well as politics and culture,"⁷⁴ then participation and technologies in the digital age bring their own set of conditions. On the other hand, what used to be equal and democratic participation has now shifted to a continual call for digital participation, which scholars in the *The Participatory Condition* seek to problematize. Despite having promising intentions, digital participation has become a space for increased commercial interests and where participation acts as a token rather than a democratic action. We are reminded of this by the ever-increasing levels of carbon dioxide trapped inside the transparent structure and by the

⁷⁴ Barney, Coleman, Ross, Sterne, and Tembeck, viii.

title of the artwork, which highlights this continuous circle of participation and the dangers it can have on society.

While scholars such as Claire Bishop have analyzed participatory art through a return to social art history, academics like Grant Kester argue that participatory artworks form communities.⁷⁵ Although dialogue and community-building are at the centre of Kester's dialogical art, *Vicious Circular Breathing* adheres to these principles on a metaphorical level. Each participant's breath symbolizes a conversation, a contribution, or a comment. This is to say that to breathe inside the artwork is to recreate an enclosed public sphere within the confines of the museum. This presents an ideal participation context, which is based on democracy. However, as argued by Lev Manovich, the reality of an omnipresent participation can quickly turn into a climate of toxic behaviour in times of user-generated content. Furthermore, the transparency of the walls reveals the reality of this enclosed collectivity to other museumgoers and subsequently, turns participants into part of the artwork. In this way, entering into the structure signifies stepping into a reduced version of a public sphere.

Secondly, researching on air and ecocriticism in the discourse of art history entails looking at various approaches that portray the ambiguous meanings of air as a medium. Philosophers and political scientists inform us that Western materialism has impacted our cultural understanding of air. In the case of Luce Irigaray, the author directly tackles our collective forgetting of air through her analysis of Martin Heidegger's philosophy. Irigaray subsequently claims that man's mastery over nature has caused our collective oblivion regarding air. More recently, Jane Bennett's *Vibrant Matter* is set against a background of American mass consumption. To view matter differently, she emphasizes the importance of inter-network connections and agency in inanimate and animate things. Ultimately, the author argues that matter does not function on its own, but rather, that it is propelled by an agentic

⁷⁵ Kester, 58.

assemblage of things. If one aspect of the chain is altered or broken, then its impact can be felt from one end to another.

Since Western society functions according to mass consumption and economic growth, a shared resource such as air is either monetized or it is discarded from political and social discourse. Shifting our attention away from capitalism and privatization would entail looking at air as a shared, limited resource. This is also suggested by T.J Demos, who writes against universalism and the privatization of resources. Blaming climate change on the entire earth's population does not account for multinationals and first world governments that continue to act and pollute in silence. Thinking about the collectivity is thus an alternative to privatization and individualist discourses that currently shape the message on global warming. In this way, Lozano-Hemmer's artwork reminds us that air, and its agentic assemblage, is a collective resource that is available to us in a limited capacity.

This thesis started by assessing the impact of participation and air in the context of *Vicious Circular Breathing*. Through the close readings of Lozano-Hemmer's artwork and of an interdisciplinary range of scholarship, I have demonstrated the societal impacts of air as seen through participation and air. At the beginning of this thesis, I questioned the participatory format of the artwork and the agency that air holds over our bodies. I came to the conclusion that the participatory question of the artwork is yet to be answered because of conflicted positions in the field. However, it can be argued that participation is omnipresent in all spheres of our society, including art history. This becomes even more apparent in the context of Lozano-Hemmer's retrospective exhibition, *Unstable Presence*, which gathers participatory artworks into one venue. Many of the artworks displayed in the exhibition, such as *Pulse Spiral*, *Level of Confidence* or *Zoom Pavilion*, are asking for participation on the part of museumgoers. Compared to these pieces, *Vicious Circular Breathing* is contradictory as it functions despite not having any participants. This creates a push/pull dynamic where visitors

are curious to experience the artwork, yet they are disgusted by the saturated air trapped inside.

This dystopian artwork therefore brings to the fore the inevitable question of our planet's future state. If the participatory condition is undergirded by notions of collectivity and democracy, then air, as seen through collectivity, functions as an ambiguous medium that calls attention to issues of climate change, air quality, and matter. Highlighted by the tree-like form of the structure, air acts as a reminder of our planet's fragile state and of a near future without any plants to absorb carbon emissions. Certainly, the events that occurred within the last few years alter the reading of the artwork. The recent forest fires in the Amazon forest or in Australia, decreasing air quality, or even the COVID-19 pandemic are, for instance, some of the examples that contribute to my specific reading of the artwork. What these events bring to light is the urgent need to rethink our relationship with matter, air, and shared resources. Ultimately, using the outcome of a toxic participatory format, Lozano-Hemmer's *Vicious Circular Breathing* asks its viewers to interrogate a future without clean, breathable air.

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ILLUSTRATIONS

Figure 1:
Lozano-Hemmer, Rafael. *Vicious Circular Breathing*. 2013. Mixed Media.



Figure 2:
Detailed view of the breathing tubes and paper bags in *Vicious Circular Breathing*.



Figure 3:
Detailed view of the decompression and breathing chambers in *Vicious Circular Breathing*.



Figure 4:
View of the four-mechanical bellows from *Vicious Circular Breathing*.



Figure 5:
Detailed view of the breathing chamber in *Vicious Circular Breathing*.



Figure 6:
Haacke, Hans. *Condensation Cube*. 1963-1965. Perspex, steel, and water. Tate Museum, London.

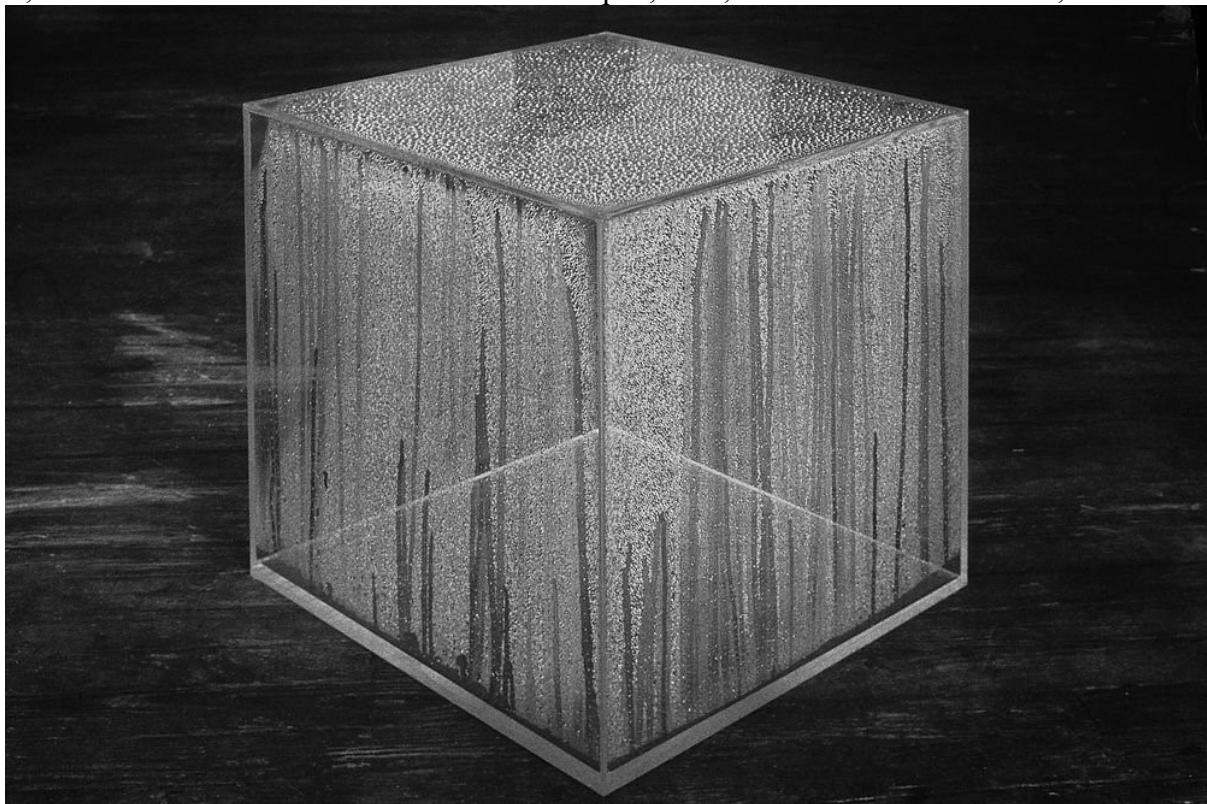


Figure 7:
Devine, Bonnie. *Phenomenology*. 2015. Exterior set-up of 92 hardwood stakes draped in muslin.



Figure 8:

Devine, Bonnie. *Phenomenology*. 2015. Chunk of gneiss, 92 hardwood stakes draped in muslin, and sample of uranium. Installation view at the University of Toronto Art Centre.

