

**Borderlessness:**  
**teamLab, Immersive Experience, and New Media Installation Art**

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## **Abstract**

This major research paper explores the characteristic of borderlessness that applies to interactive installation art. "Borderlessness" is a concept that teamLab (a Japan-based interdisciplinary art group) pursues in their interactive installation artworks, which indicates the immersive spatial sense that spectators experience. With the complex computer programming design in teamLab's artworks, borderlessness challenges the conventional ocularcentric experience in exhibitions and innovates a new trend in immersive exhibitions. My paper analyzes two case studies from teamLab's oeuvre: *Forest of Flowers and People: Lost, Immersed and Reborn* (2017) and *Crows Are Chased and the Chasing Crows Are Destined to be Chased as Well* (2017). Both projects apply the strategy of borderlessness to themes concerning the natural world, yielding works that have achieved popular success worldwide. This MRP argues that the success of teamLab's exhibitions gained support through the general trend of the "experience economy." Artworks involving new media, installation, immersion and interactivity – embodied by teamLab's concept of "borderlessness" – both exemplify the experience economy and expand beyond the term to develop a more embodied and participatory understanding of aesthetic experience.

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## TABLE OF CONTENTS

Introduction	1
Interactive Installation Art: What Is Borderlessness?	6
Case Studies: Two Works by teamLab	17
The “Experience Economy” in New Media Art	25
Conclusion	29
Bibliography	32

**BORDERLESSNESS:  
TEAMLAB, IMMERSIVE EXPERIENCE,  
AND NEW MEDIA INSTALLATION ART**

**Muxuan Hua**

**Introduction**

Recent examples of interactive installation art highlight the continuing exploration and evolution of immersive space. Such innovative spaces encourage spectators to use more than their sense of sight to comprehend and appreciate the artwork's content. Interactive installation artworks compel spectators to use their bodies' multi-sensory capabilities to fully revel in the environments that artists construct. Immersive experience has now become a popular expectation in art institutions. In contemporary art galleries it is common to visit a small dark room that displays interactive installation art. In this type of scenario, spectators have become the participants who concentrate upon their own spatial consciousness and identification (awareness) with the full range of their senses.

Participants anticipate using the senses of sight, touch, and hearing to approach an immersive experience. The immersive space, however, extends the sensorium to stimulate participants' connection with virtual worlds and invites them into a relationship with both the art works and other participants.

This major research paper centres on the concept, "borderlessness," to demonstrate the features of creating immersive spaces for spectators and will focus

specifically on the field of interactive installation art. Guided by the following questions, this paper investigates three areas of research:

1. In the contemporary era, when technology is nearly ubiquitous and readily available, what role does media art now play?
2. What is the significance of immersion in today's new media art? Is it just another example of the "experience economy," or does it productively expand visitor experience?
3. Using the Japanese art group teamLab as a case study, why has their notion of "borderless" art become so popular? What contributes to teamLab's success across the globe?

Interactive installation art requires a tremendous amount of knowledge about technology, such as complex computer programming and sophisticated sensor cameras. This paper, however, will not be struggling with how interactive installation artworks' software and hardware function; instead, it will focus on the concept of being "borderless" to better understand the experiential and sensory dynamics of the works.

The origin of "borderlessness" derives from teamLab, a Japan-based interdisciplinary art group, and their concept of a borderless world that they developed for their art museum and tour.<sup>1</sup> TeamLab believe that their interactive installations inspire a connection that goes beyond people's relation with physical space. Their artworks

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<sup>1</sup>"Borderless World," art concept, teamLab, accessed Dec, 2020, <https://borderless.teamlab.art/concepts/borderlessworld/>.

challenge the fundamental perceptions of time and space within art museum exhibitions. The design of interactive installation art allows the spectators to view artworks as the means to imagine new experiences in virtual worlds. In short, teamLab's borderlessness is about blurring the borders between artworks, between artworks and people, and between people themselves.

TeamLab, founded in 2001, is an international art collective comprised of artists, programmers, engineers, CG animators, mathematicians and architects. As an interdisciplinary art group, teamLab has created a diverse range art projects, and each one presents a variety of innovations within new media art. TeamLab's artworks involve fluid participation with the spectator, which yields a harmony between humans, art, and technologies. Toshiyuki Inoko, the founder of teamLab, holds a degree of Mathematical Engineering and Information Physics from the University of Tokyo. He believes the key theme of teamLab's projects is to erase the borders constricting the human experience. In an interview with *Pen Magazine International*, Toshiyuki explained that “[t]he world in which we live is full of borders. But none of those borders were there in the first place. Except for physical ones, most borders have been drawn arbitrarily by humans.”<sup>2</sup> Based on this comment, his concept of “borderlessness” comes from his rumination upon physical borders but extends to other types of borders that are either imagined or merely perceived.

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<sup>2</sup> Toshiyuki Inoko, interview by Naoko Aono, *The Vision of Toshiyuki Inoko, a Founder of TeamLab*, Pen Magazine International, accessed January, 2021, <https://pen-online.com/arts/the-vision-of-toshiyuki-inoko-a-founder-of-teamlab/>.

With this concept, teamLab believes that people's connection with the world or with other people should not be limited by borders. Their artworks are designed to help people to experience the beauty of a "borderless" virtual world and the beauty of unity. With this idea, which evolved into interactive installation artworks, I am interested in how physical borders gradually fade away from the participants' minds as their spatial awareness changes in the installations. From such a perspective, this paper examines two interactive artworks chosen from teamLab as case studies, *Forest of Flowers and People: Lost, Immersed and Reborn* (2017) and *Crows Are Chased and the Chasing Crows Are Destined to be Chased as Well* (2017). While discussing the concept of "borderlessness," this major research paper investigates the significance of immersion in digital media art and aims to comprehend the dynamics of the spectatorial experience in immersive environments.

Another aspect of installation art that I will examine is how to define the success of the teamLab's art touring exhibitions. Are their works popular just because of the widespread practice of posting museum photos on social media, or is it for other reasons? The idea of the museum as a photo backdrop is now foregrounded in people's awareness. Posting and tagging photos with art pieces is now trendy on social media. Increasingly, people choose to spend their money on an art exhibition as one of their daily entertainments. This type of action is associated with the rise of the "experience economy," where businesses emphasize the experiences they can offer to customers, rather than just items to purchase. In the experience economy, unique and non-repeatable or "authentic" experience defines a new consumer sensibility and commercial



imperative.<sup>3</sup> With an in-depth analysis of teamLab’s artworks, this paper considers how to interpret the success of teamLab as one of the most popular “pop-up” exhibition worldwide.

An inspiration for this paper comes from a series of artworks by Lucio Fontana titled *Spatial Concept* (1960). These works, which all consist of a canvas that has been cut either once or multiple times, are collectively known as *Tagli* ('Cuts').<sup>4</sup> Fontana was the leader of Spatialism, a movement that intended to provide a symbolic and fantastic interpretation of the relation between art and science, and to reconfigure the relation of time, space, and its beholders. Moreover, unlike conventional paintings, Fontana’s works present the idea of breaking through the canvas surface and emphasize an expanded spatial awareness through the artworks. Although the *Spatial Concept* series is not the same as interactive installation art, it is an important precedent and relevant to teamLab’s art practice. While Fontana’s *Tagli*, representing the avant-garde, indicated a new understanding of the distance between the viewer and artwork, teamLab’s artworks are directed toward a popular audience and embody a deeper exploration of a similar spatial concept. From someone who merely stands in front of an artwork to one who interacts with it and becomes subsumed by a virtual environment, this transition marks the innovation of a closer and more profound relation between artwork and viewer.

By analyzing the concept of “borderlessness” and its features, this paper provides a new perspective on recent new media installation artworks and how they generate

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<sup>3</sup>James H. Gilmore and B. Joseph Pine II and Tina Mermiri, *Beyond Experience: Culture, Consumer & Brand* (London: Arts & Business, 2009), 6.

<sup>4</sup> Lucio Fontana, *Spatial Concept 'Waiting'*, 1960, Tate, accessed January, 2021, <https://www.tate.org.uk/art/artworks/fontana-spatial-concept-waiting-t00694>.

interactive spaces. Through close research and analysis, this thesis discerns the mainstream appeal of new media installation art.

### **Interactive Installation Art: What Is Borderlessness?**

In 1985, the French Philosopher Jean-François Lyotard curated an iconic exhibition in Paris, *Les Immatériaux*. The exhibition was designed to demonstrate how new technologies of communication and information management were affecting culture, and included interactive installations, sound works, responsive environments, and experiments in early forms of electronic communications.<sup>5</sup> As one of the most important exhibitions in the twentieth century, *Les Immatériaux* attempted to expose digital technology's potential transformative power. In this exhibition, spectators were not given a specific route to explore the artworks. They had the use of an audio-guide that could only be triggered by their location in the exhibition. Instead of passively viewing the artwork, *Les Immatériaux* encouraged spectators to explore the artworks subjectively. New media theorist and curator Sarah Cook concluded that "Lyotard's *Les Immatériaux* is significant for its understanding of the inseparability of the medium and its message in networked culture (and hence net-based works), (and) the inseparability of the distribution method from the work's content."<sup>6</sup> The innovative action of Lyotard broke the border between science, humans, and technology and emphasized the participation of viewers.

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<sup>5</sup> Beryl Graham and Sarah Cook, *Rethinking Curating - Art After New Media* (MIT Press, 2015), 19.

<sup>6</sup> Sarah Cook, "Immateriality and Its Discontents" in *New Media in the White Cube and Beyond: Curatorial Models for Digital Art*, ed. Christiane Paul (University of California Press, 2008), 45.

New media art rebuilds the relation between digital space and humans. Taking advantage of advances in technology, new media art explores the interaction between art and technology. To better understand it, Graham and Cook suggest that “art has to be new in order to be art and [...] the concept is the form, [...] helps with our understanding of new media art.”<sup>7</sup> The book, *Interactive Installation Art & Design*, addressed this concept by suggesting that “this type of art requires continuous exploration and innovation. It should be able to assimilate the merits of other art forms, to break through the conventional thinking of traditional media, and to go beyond the established rules and conventions.”<sup>8</sup> Hence, when people try to understand new media art, they need a new framework to understand the context of art. With the continuous exploration of high technology's potential, new media art presents boundless possibilities of what art could be and it plays an essential role in the contemporary period. Furthermore, Graham and Cook point out what makes new media art different is its process and method.

Many new media art projects (through certainly not all) are not interested in the object outcome, but rather in the process, the engagement, and the interaction. They are interested in how the system becomes both the space and the material of the work. In this sense, unlike new media design or architectural projects that are the result of new media tools, new media art is not necessarily materialistic, but is instead concerned with method rather than with final form.<sup>9</sup>

Unlike traditional art practices, new media art emphasizes the progress of artistic creation, which provides a platform to let the viewers feel as well as to think.

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<sup>7</sup> Graham and Cook, 27.

<sup>8</sup> Li Aihong and Wang Chen, Li Juan, eds., *Interactive Installation Art & Design* (Artpower International, 2020), 16.

<sup>9</sup> Graham and Cook, 61

Since new media art includes a wide variety of types of digital art and uses extensive nomenclature, my discussion will focus on interactive installation art, which is also called “immersive art.” In this context, cinema studies scholar Ariel Rogers articulates the concept of immersion as something “conceptualized in terms of various and contested ideas about how new media were transforming representation, presence, materiality, embodiment and agency.”<sup>10</sup> The immersive space created by digital artworks determines how viewers fully merge with the virtual world and have their perceptions of time and space challenged, thus providing a unique spatial relationship.

Art historian Julie H. Reiss elaborates that “there is always a reciprocal relationship of some kind between the viewer and the work, the work and the space, and the space and the viewer. One could argue that these qualities define many artistic practices.”<sup>11</sup> It is a complicated process of how humans perceive and interact with their surrounding space. Key to this is building up an immersive space within new media art, erasing the borders that either physically surround viewers or the borders that viewers might be aware of in their mind. Therefore, weakening the boundaries between art and spectator is the core tenet of building an immersive space. This leads to the question: what kind of borders exist in immersive artworks?

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<sup>10</sup> Ariel Rogers, “‘Taking the Plunge’: The New Immersive Screens,” in *Screen Genealogies*, ed. Craig Buckley, Rüdiger Campe, and Francesco Casetti, From Optical Device to Environmental Medium (Amsterdam University Press, 2019), 138, <https://doi.org/10.2307/j.ctvs32t6s8>.

<sup>11</sup> Julie H. Reiss, *From Margin to Center: The Spaces of Installation Art* (Cambridge, MA: MIT Press, 1999), xiii.

### *Borders in Immersive Space*

“Border” usually means a line separating two countries, administrative divisions, or other distinctions. To think about border in an art museum or an exhibition, when a viewer is trying to take a closer look at a traditional academic painting on the wall, they will bend the top of their body slightly and widen their eyes to see the painting’s details. The reason for this pose is because of the rule of “safe distance” to protect artworks. A tiny “warning line” between the painting and the viewer becomes a border. And the last thing that the viewer wants to do is step over the warning line and cause trouble. The warning line, however, obstructs the connection between viewers and artworks, both physically and mentally. As a result, viewers feel that artworks are untouchable and delicate. In this context, the “border” acts as a barrier for the viewers during the process of recognizing and exploring interactive installations.

There are two types of borders within installation art practices – physical and psychological. Physical borders, such as white walls, construct the frame that “locks” the artwork in position. Psychological borders in immersive art, from the perspective of the authenticity of installation art, could be the spatial relationship between installation artworks and the viewers. To further explain, art historian Claire Bishop once commented on Russian artist Ilya Kabakov’s installation artwork by saying that “the idea of the 'total installation' offers a very particular model of viewing experience – one that not only physically immerses the viewer in a three-dimensional space, but which is psychologically absorptive too.”<sup>12</sup> Based on Bishop’s comment, one’s perception of the

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<sup>12</sup> Claire Bishop, *Installation Art: A Critical History* (Routledge, 2005), 14.

installation not only depends on the physical factors of the space, but also on participants willingness to enter into the virtual space and the imagination they bring to this experience.

Curator Christiane Paul opines that “[n]ew media art seems to call for a ‘ubiquitous museum’ or ‘museum without walls,’ a parallel, distributed, living information space that is open to artistic interference – a space for exchange, collaborative creation, and presentation that is transparent and flexible.”<sup>13</sup> In such situation, there are fewer restrictions for viewers, which allow them to access an immersive space more efficiently. Furthermore, the features of the ‘total installation’ are the sensory immediacy of conscious perception, a composite structure, and the elucidation of meaning through free-association.<sup>14</sup> The process of how viewers respond to the installation artwork through the multi-sensory is complicated. The questions to be asked include how do viewers merge into the installation art and how does being “borderless” enhance the immersive experience?

French philosopher Maurice Merleau-Ponty was the leading academic proponent of phenomenology in post-war France. Bishop discusses the theory of phenomenology in her book, using it to address spatial perception. She claimed that Merleau-Ponty “argued that subject and object are not separate entities but are reciprocally intertwined and interdependent.”<sup>15</sup> Viewers of immersive art utilize their multiple senses to appreciate the content of the artwork. Another important claim of phenomenology that Bishop

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<sup>13</sup> Christiane Paul, “Challenges for a Ubiquitous Museum” in *New Media in the White Cube and Beyond: Curatorial Models for Digital Art*, ed. Christiane Paul (University of California Press, 2008), 53.

<sup>14</sup> Bishop, 16.

<sup>15</sup> Bishop, 50.

summarizes is that “perception is not simply a question of vision, but involves the whole body.”<sup>16</sup> The theory of phenomenology explains the process by which viewers perceive immersive space and how the artwork eliminates the border between the space and the body.

Merleau-Ponty’s reflection on subject and object leads to the key theme of teamLab, which is to create an “borderless world.” TeamLab believes that human beings are surrounded by a world that full of borders and the artworks seeks to build a borderless space.

People understand and recognize the world through their bodies, moving freely and forming connections and relationships with others. As a consequence, the body has its own sense of time. In the mind, the boundaries between different thoughts are ambiguous, causing them to influence and sometimes intermingle with each other. [...] Artworks move out of the rooms freely, form connections and relationships with people, communicate with other works, influence and sometimes intermingle with each other, and have the same concept of time as the human body. Artworks even transcend the physical space of the museum’s location, moving between other teamLab Borderless museums around the world, expanding and connecting the time and space of teamLab Borderless.<sup>17</sup>

Based on this statement, teamLab hopes that the viewer in their “borderless world” pursues a status that believes everything surrounding them is united. To examine how borderlessness functions within teamLab’s interactive installation artworks, I will explore different borders that teamLab’s artworks eliminate during the exhibition.

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<sup>16</sup> Ibid.

<sup>17</sup> Inoko, interview by Aono.

*The Border Between Installations and Viewers*

Compared to traditional artistic practices, installation art comprises multi-sensory experiences. Claire Bishop recognizes this feature of installation art when she writes:

Installation art therefore differs from traditional media (sculpture, painting, photography, video) in that it addresses the viewer directly as a literal presence in the space. Rather than imagining the viewer as a pair of disembodied eyes that survey the work from a distance, installation art presupposes an embodied viewer whose senses of touch, smell and sound are as heightened as their sense of vision.<sup>18</sup>

In other words, installation art shortens the distance between viewers and artworks, which is significantly closer than in the traditional site visiting experience. Bishop also claimed that installation art expresses “a desire to heighten the viewer’s awareness of how objects are positioned (installed) in a space, and of our bodily response to this.”<sup>19</sup> The process of engaging with installation art can thus help us integrate our bodily feelings with space and time.

Moreover, when the attention of viewers is not fixed on walls or frames, spontaneous movement transforms their activity into an exploration of space. The border between the installation’s content and the viewers vanishes because the immersive environment challenges viewers to experience artwork both consciously and subconsciously. One of the features of teamLab is that only a few artworks are displayed on screens, and most of the works are projected onto the walls or the floor. With the movement of the artworks flowing around the space, viewers enter into a “dream” scene, which is where the conscious and subconscious minds connect. In this context, the

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<sup>18</sup> Bishop, 6.

<sup>19</sup> Bishop, 6.



artwork establishes relationships between viewers and weakens the borders that segregate the artworks from the viewers. Immersive art invites viewers to become a part of the artwork.

One aspect of building immersive space and eliminating the border between artworks and viewers is to enhance the viewer's multi-sensory experience. Another element of eliminating the border is to emphasize the interactivity between installation art and viewers (or I should say, participants).

*Spectatorship: Are You Ready For This?*

Interactive installation art is based on installation art but focuses more on the viewer's engagement. When viewers are invited to engage in an artistic creation, they become participants (an integral part of the installation art). Digital art theorist Margot Lovejoy deliberates on how a viewer transforms into a participant via interactivity: "[i]nteractivity deeply entwines the functions of viewer and artist. [...] In interactively participating, the viewer derives power somewhat parallel with that of the artist: to choose one's own path and discover one's own insights through the interactive work."<sup>20</sup> Interactive installation art is characterized by the fact that the existence and action of the viewers can affect the art and thereby obscure the distinction between art and the viewer. In other words, interactive installations are not created by the artist alone.

Different from traditional installation art, interactive installation art requires more from the participants' actions. The artists leave more space and opportunity for the

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<sup>20</sup> Margot Lovejoy, *Digital Currents: Art in the Electronic Age* (Routledge, 2004), 167.

participants to be creative within the interactive installations. Thus, the participants feel closer to the artwork because they become a “co-creator.” One thing to be distinguished is the difference between “interactive” and “participatory”. Media art theorist Maggie Burnette Stogner points out that “it is interesting to note that interactive suggests action and reaction. ‘Participatory,’ on the other hand, suggests a fuller, more self-directed exploration.”<sup>21</sup> To further discuss the interactivity within installation art, Gustaf Almenberg, the author of *Notes on Participatory Art*, articulates that the importance of participatory art “is much about process – not least the physical process – of the creative moment”:

By definition, Participatory Art requires a radical change in the role of the spectator. The spectator needs to leave his or her fairly passive-meditative role and instead become an active agent, making choices and taking risks, if only aesthetic ones. Participatory Art thus represents a shift from perception of someone else’s end result to the actual process of ‘the spectator’s’ experiences of his/her own creativity.<sup>22</sup>

Creativity from participants becomes essential for interactive artworks. With that being said, making one's choice during the interaction a core aspect of participation. In teamLab art exhibitions, some artworks lean on the interaction while others stress the importance of participation. No matter how the participant chooses to interact with the artwork, teamLab believes that the ultimate goal of the design and creation of their projects should always lead to the concept of borderlessness within the space.

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<sup>21</sup> Maggie Burnette Stogner, “Communicating Culture in the 21st Century: The Power of Media-Enhanced Immersive Storytelling,” *The Journal of Museum Education* 36, no. 2 (2011): 189–198, 195.

<sup>22</sup> Gustaf Almenberg, *Notes on Participatory Art: Toward a Manifesto Differentiating It from Open Work, Interactive Art and Relational Art*. (AuthorHouse, 2010), 8, 19-20.

In Bishop's book, she asks why installation is at pains to emphasize first-hand experience. Such a question reflects upon other features of interactive installation, which include the requirement of participants' physical presence. Philosopher David Novitz considers "the kind of participation in the work that participatory art requires is public rather than virtual or purely imaginary. The viewer has to be physically present in the work or a performance of it, and has to behave in the prescribed manner while there, so as to enhance his or her appreciation of it."<sup>23</sup> At one point, interactive installation artworks are limited by physical space because participants cannot gain the immersive experience without actually being there. While physical presence is essential, it can also be a disadvantage. Therefore, artists and curators should assess such limitations during the design and curatorial phases of staging interactive installation art.

### *The Border Between Viewers and Technology*

While new technology, such as computer animation and different types of sensor cameras have captured artists' attention in recent years, Beryl Graham and Sarah Cook interpreted this adoption as a "hype cycle." They claimed that "The 'hype cycle' is a concept developed by Gartner Inc. in 1995, showing the acceptance of new technologies, suggests that every development in hardware or software can be mapped in terms of its visibility (in the press for instance) and its maturity (or its adoption rates by users)."<sup>24</sup> One of the features of new media art is to demonstrate advancements in technology. When artists

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<sup>23</sup> David Novitz, "Participatory Art and Appreciative Practice," *The Journal of Aesthetics and Art Criticism* 59, no. 2 (2001): 153–65, 154.

<sup>24</sup> Graham and Cook, 23.

combine their artistic expression with new technology, the resulting work challenges viewers' acceptance not only for the technology but also for the unconventional art form.

Installation art has demonstrated the potential of interdisciplinarity by utilizing a wide range of material and media. Digital artworks present the possibility of creating innovative immersive spaces. As the projectors and virtual reality (VR) helmets have appeared in art exhibitions, artists use the technology creatively. However, one thing that might be a challenge for installation art is the border between these devices (technology) and viewers. For example, if a viewer needs to wear a VR helmet to see the content of work, or to press a button to activate it, might that become an insurmountable “challenge”? What if some viewers are not familiar with using such a device? Does that mean they will be excluded from the full experience of the art?

Interactive installation art that uses projectors is less problematic in this way. The majority of teamLab’s art projects employ projectors and sensor-activated installations. The projectors usually are mounted on the ceiling, whereby viewers barely notice their existence. Such installations will automatically sense the movement of viewers and produce the content of the artworks. So, along with teamLab’s artworks, viewers can access the interactive installation art in a “friendly” way that does not involve the handling of any devices. Curator Christiane Paul raises this issue in circumstances with numerous, simultaneous viewers:

An issue in both installations and net art is whether a piece was created for multiple participants or a single user. Multiuser projects work better in public space, whereas watching someone else navigate a work may be frustrating (like giving someone control over a TV’s remote control and watching that person surf channels). Some people, however who would have been hesitant to take over the

input device – mouse, joystick, keyboard, or something else – to explore a work can be engaged as they watch other people and learn to use the interface.<sup>25</sup>

In other words, when installation art is created for multiple users, one viewer can observe others controlling the devices and explore the content of installations thus creating a sense of unity within the space. Extending Paul's comment, I argue that the border between viewers diminishes as well. The viewers' communal connection becomes stronger because they pay attention to others' actions and movements as well as communicating with each other.

In this section, I explored the notion of different borders within interactive installation art. The border between installations and viewers demonstrated how viewers access the fully immersive experience. The interactivity of these artworks effectively prompts viewers to feel "borderlessness" in the space. Moreover, the border between viewers and technology illustrated an issue about the acceptance of technological devices in the exhibition, which also related to viewers communicating with each other while interacting with the installation. In the next chapter, I will discuss how specific artworks corroborate the concept of "borderlessness" in interactive installation art.

### **Case Studies: Two teamLab Projects**

This section focuses on analyzing two interactive installations made by teamLab.

Drawing from my first-hand experience of these artworks, I examine how teamLab

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<sup>25</sup> Paul, 58.

constructs a “borderless” world and enhances the immersive experience through interactivity.

*Forest of Flowers and People: Lost, Immersed and Reborn* (2017) is a mesmerizing installation in which spectators engage with movement while acknowledging the ecological cycles of the natural world. The inspiration comes from a place called Kunisaki Peninsula, which is located in northern Oita Prefecture, facing the Seto Inland Sea, and mostly covered by forests, mountains and sparsely populated farmlands. The members of teamLab were inspired by a view of the area in springtime, when cherry trees and canola plants blossom:

This experience of nature caused teamLab to wonder how many of these flowers were planted by people and how many were native to the environment. It is a place of great serenity and contentment, but the expansive body of flowers is an ecosystem influenced by human intervention, and the boundary between the work of nature and the work of humans is unclear. Rather than nature and humans being in conflict, a healthy ecosystem is one that includes people. In the past, people understood that they could not grasp nature in its entirety, and that it is not possible to control nature. People lived more closely aligned to the rules of nature that created a comfortable natural environment. Before the modern era, civilization prospered by the sea. Since then, it has moved inland, leaving isolated pockets of people in the solitary valleys. We believe that these valleys hold faint traces of this premodern relationship with nature that once existed.<sup>26</sup>

Based on teamLab’s thinking on the relation between humans and nature, *Forest of Flowers and People* presents a scene of blooming flowers that surrounds the viewers. The room remains dark until someone steps in. Once the interaction begins, the flowers start blooming under his or her feet. When participants stand still for a few seconds, flowers surrounding them grow and bloom more abundantly. However, the petals drop off once

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<sup>26</sup> “Forest of Flowers and People: Lost, Immersed and Reborn,” TeamLab, accessed January, 2021, <https://www.teamlab.art/w/flowerforest/>.

participants walk away, and if they attempt to touch or step on the flowers, the plants wither and die. The whole process simulates the reality of human interaction with plants. The design of this installation indicates how delicate the plants are and how human behaviour affects their lives. In such a space, the image constantly engages the viewer to actively perceive rather than to passively receive information.

One thing to note is that the artwork is not a pre-recorded image. To create an authentic effect of immediacy, the artists designed a computer program that renders the work in real-time while people interact with it. As teamLab suggests, “the interaction between the viewer and the installation causes continuous change in the artwork; previous visual states can never be replicated, and will never reoccur.”<sup>27</sup> Instead of the conventional still image typical of landscape painting, what manifests here is an engaging and dynamic environment that demonstrates features of the natural world, such as growth and death. Viewers will not see the image or animation repeat, which emphasizes the uniqueness of their actions. Thus, the border between the artwork and viewers vanishes because of the lively nature of the art.

Digital media scholar Margot Lovejoy considered this type of interactivity to be environmental – “where the viewer’s presence is monitored and sets up a pattern of interference, triggering different aspects of a computer-programmed display of lights or shapes that may appear on a large screen, allowing for physical contact with the program.”<sup>28</sup> Interactivity within *Forest of Flowers and People* also influences the

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<sup>27</sup> “Forest of Flowers and People: Lost, Immersed and Reborn,” TeamLab, accessed January, 2021, <https://www.teamlab.art/w/flowerforest/>.

<sup>28</sup> Lovejoy, 165.

relationship among viewers in a unique way. There is a difference between an individual viewer and a group of viewers. An individual viewer only focuses on their awareness of the space and their personal interaction with the work of art. However, when there are a group of viewers, they will pay attention to each other's presence. Imagine when you enter the showroom of *Forest of Flowers and People*, and the scene of flowers that you see is one that was left by someone who interacted with the work five minutes prior. In this scenario, others' movements and actions are essential because they affect the scene for subsequent viewers. In the book, *Interactive Installation Art & Design*, teamLab articulates their thoughts about the relation among the viewers for this art projects:

At the minimum, our interactive installations call more attention to the actions of the viewer next to you than would a traditional painting. The result is that the art gains the ability to influence the relationship between the viewers standing in front of it. And if the effect of another person's presence on the art is beautiful, it is possible that person's presence itself will be seen as beautiful. [...] Yet in the exhibition put together by teamLab, we encourage people to think of the presence of other viewers as a positive factor.<sup>29</sup>

Usually, viewers appreciate artwork silently and individually at the museum. In contrast, *Forest of Flowers and People* invited viewers to gather around and eliminate the border between one another. As I mentioned earlier, Christine Paul brought up the consideration of multiuser installation artwork; she considers that in the multiuser installation artwork, some hesitant viewers can observe others' action to explore the interfaces and spatial arrangements. Therefore, while viewers in teamLab's installation appreciate the scene of

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<sup>29</sup> Aihong et al. 272.



blooming flowers flowing around them, they also pay attention to others' interaction with the flowers.

The second installation example is *Crows are Chased and the Chasing Crows are Destined to be Chased as Well* (2017). Similar to the *Forest of Flowers and People*, this artwork is an interactive digital installation. At first, a line of crows rest on tree branches, accompanied by gentle background strains of flute and piano. During the chorus, the birds become excited, and suddenly fly up to the sky. The perspective of the viewers allows them to follow the movement of the crows. While flying, the crows' trails become visible through spatialized light calligraphy, compelling spectators to follow their paths. If a crow happened to crash into another crow, the two of them dissolve into a burst of chrysanthemums. The same scenario happens when they crash into a spectator. In the book, *TeamLab: Continuity*, curator Karin G. Oen described how visitors' positions change within the installation space. "Reacting to the location of visitors in the installation, the timed, choreographed sequence is rendered in real time as the entire room seems to turn and warp around the visitors."<sup>30</sup> The whole artwork is similar to the experience of riding a roller coaster, which begins slowly and then abruptly speeds up. While the viewers' vision follows the crows' movement, the depth of perspective varies and expands into an endless space.

If a viewer stands near a given area within the work of art, the border between the wall and the floor vanishes and the physical parameters of the space seem to disappear.

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<sup>30</sup> Karin G. Oen, "Art in the Age of Digital Interactivity" in *TeamLab: Continuity*, eds. Karin G. Oen and Clare Jacobson (Asian Art Museum of San Francisco, 2020), 15.

As teamLab claimed in their artist statement, “eventually we become immersed in the artwork world and the lines drawn by the trails of the crows appears to be drawn in three dimensions in the space.”<sup>31</sup> The viewer will experience an illusion that the physical space is eliminated by the rapid motion of the crows and the mesmerizing light calligraphy. Moreover, as with *Forest of Flowers and People*, the installation is rendered in real time by a computer program; it is neither a prerecorded animation nor images set on a loop. The direction and movement of the crows depends on the viewer’s position in the space. Thus, the entire installation is continuously changing and previous states are never replicated nor can they ever be seen again.

In 2017, I had a chance to see these two artworks in Shenzhen, China. The title of the art exhibition was *teamLab: Dance! Art Exhibition, Learn & Play! Future Park*. The exhibition was trendy and fully booked every day. I happened to visit the exhibition on a day when there were a great number of viewers in the exhibition hall. In the room of *Forest of Flowers and People*, many viewers walked around the space freely. That caused a problem, however, for the scene of growing flowers could not be maintained for longer than two minutes. Because of the number of viewers passing in front of me, I had to find a small corner to observe the complete process of the flowers growing, blooming, and eventually withering. Toshiyuki Inoko, the founder of teamLab, once mentioned a similar situation in an interview:

Previously, when such a piece had been exhibited, the viewers of the work rushed to congregate on the floor, forcing the flowers displayed there to shed all their

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<sup>31</sup> “Crows Are Chased and the Chasing Crows Are Destined to Be Chased as Well, Transcending Space”, TeamLab, accessed January, 2021, [https://www.teamlab.art/w/crows\\_transcending\\_space/](https://www.teamlab.art/w/crows_transcending_space/).

petals. At that time, one of the viewers, noticing what had happened, said, ‘There seem to be a bit too many people here’, and beckoned some of the others to remove themselves from the space.<sup>32</sup>

Usually, if I visit an art museum or an art exhibition, I seldom pay attention to the viewer next to me. For me, the art experience is quite intimate and personal. With the exception of docent-led group tours, viewers in western, traditional art museums tend to appreciate artworks one-on-one (with or without an audio guide). It is rare to communicate with strangers by one’s side. However, in teamLab’s exhibition, I found the distance between viewers disappeared entirely because of the high level of interactivity prescribed by the artwork. As I appreciated the artwork's content, the viewer's action next to me became an additional point of consideration.

Comparing these two interactive digital installations, *Forest of Flowers and People: Lost, Immersed and Reborn* and *Crows Are Chased and the Chasing Crows Are Destined to be Chased as Well*, demonstrated the different feelings that installations can convey. *Forest of Flowers and People* presented a cycle of nature slowly and smoothly. In contrast, the viewer in the immersive space felt like one of the virtual flowers, and shared the same air and breath with them. The sea of flowers brought a calming experience to the viewer. The immersive experience encouraged viewers to stay in tune with their own memory of the natural world, which demonstrated the power of immersive art to inspire viewers to think about the relationship between humans and nature.

On the other hand, *Crows Are Chased and the Chasing Crows Are Destined to be Chased as Well* presented the dynamism of being chased. The content was a four-minute

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<sup>32</sup> Inoko, interview by Aono.

animated performance, with background music (the same name as the title) composed by Hideaki Takahashi. Moreover, the background music served as an essential part of this installation, providing a musical score to the flying crows. Along with the fast movements and variation of the rhythm of the song, the viewers got pulled away from the center of the space and experienced a sense of floating in the digital world.

Both artworks presented an “approachable” way to encourage the viewer to interact with the installations. As mentioned previously, the projectors and sensors hung on the ceiling, concealed by the darkness. The interactions between the technology and the viewer thus happened seamlessly. Nature, as the theme of these two artworks, diminished the cultural barrier between viewers. The storytelling design in both artworks indicated how humans can embrace the natural world and underscored the negative impact of civilization’s activities upon nature. Media art theorist Maggie Burnette Stogner deliberates that “[i]mmersion storytelling techniques can connect visitors to different cultural experiences and to each other in meaningful ways. “Affective presence incorporates the ineffable in inescapable qualities of lived experience including emotion, spirituality, social communion, and creative inspiration”<sup>33</sup> Each visitor has a role in formulating and object’s story based on his or her life experiences.”<sup>34</sup> Therefore, by using advanced digital interactive technologies that trigger viewers’ experience and emotions,

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<sup>33</sup> Kirsten Boener, Phoebe Sengers and Geri Gay, “Affective presence in museums: ambient systems for creative expression” *Digital Creativity*, 16(2): 81, quoted in Maggie Burnette Stogner, “Communicating Culture in the 21st Century: The Power of Media-Enhanced Immersive Storytelling,” *The Journal of Museum Education* 36, no. 2 (2011): 193.

<sup>34</sup> Stogner, 193.

teamLab aims to build installations that inspire the feeling of both walking inside an artwork and perceiving objects that exist beyond the enclosure's physical walls.

### **The “Experience Economy” in New Media Art**

After discussing the concept of “borderlessness” and examining the different relations border within interactive installation art, this section will shift focus from the artwork to the reasons for its popularity. TeamLab's art tours are well-known in Asia, where exhibition tickets are more expensive than at a normal contemporary art museum, and they tend to get sold out before the opening day. This trendy exhibition is famous on social media as well. It has been tagged over a million times on different social media platforms. Because teamLab's installations are known for their dazzling visual impact, many viewers will pose for pictures amidst the colorful scenes. Therefore, the idea of using new media art exhibition as a photo backdrop has caused some critics call this type of exhibition a mere pop-up for selfie opportunities. Unlike the art exhibitions held in traditional art institutions, the pop-up exhibition emphasizes the viewer's multi-sensory and interactive experience that is characteristic of immersive art. This section will discuss what makes people crave this type of pop-up art exhibition, and point out how teamLab differs from trendy pop-ups and presents a unique vision to the viewers.

First of all, what is the experience economy? Business studies scholars Jon Sundbo and Flemming Sørensen defined the experience economy as one that “concerns activities carried out in the public and private sectors that focus on fulfilling peoples' need for experiences. It also focuses on how the users or receivers react to, and use,

experiential elements.”<sup>35</sup> In other word, the experience economy emerges from marketing and advertising where customer experience has become central. Nowadays, we live in the era of the experience economy, where when people go to a music concert or the theatre for the enjoyment of full sensory experiences. The industrial economy, one engaged in producing material goods, is replaced by the experience economy. Almenberg also discusses this shift when he writes about the art in what he calls the “participation age.” He claims that “consumers are looking out not only for products but also ... the experiences that come with the product, hence the steadily growing importance of brands and of the entertainment and leisure sectors in the economy.”<sup>36</sup> As people pay more attention to their products’ experiences, visiting an interactive installation art exhibition becomes popular entertainment and a way of having dramatic experiences. The feeling of authenticity is an important part of the participant’s experience within the art exhibition. Business studies scholars James H. Gilmore and B. Joseph Pine II emphasize that “[t]oday, at the dawn of Experience Economy, in which consumers increasingly seek venues and events that engage them in an inherently personal and memorable way, authenticity has become the primary concern in their purchasing decisions.”<sup>37</sup> Extrapolating from Gilmore and Pine to the arena of art exhibitions, authenticity is thus important to art-goes in immersive exhibitions because it emphasizes the feeling that they get from their experience.

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<sup>35</sup> Jon Sundbo and Flemming Sørensen, *Handbook on the Experience Economy*, (Edward Elgar Publishing, 2013), 1. <https://doi.org/10.4337/9781781004227>.

<sup>36</sup> Almenberg, 3.

<sup>37</sup> Gilmore and Pine, 15.

The pop-up art exhibition is the outcome of the rise of the experience economy, and the posting of photos from pop-ups is the result of people enjoying their experience of visiting. In recent years, pop-up art exhibitions have attracted a lot of attention, and curators have become more interested in curating exhibitions that attract younger generations who are active on social media. Under this scenario, many pop-up art exhibitions seem to only be concerned with “looking pretty” and being photogenic, and thus lack intellectual content and meaning. It is sad to say, but most pop-up art exhibitions seem to be cheap and superficial versions of contemporary art. In a podcast episode of Zwirner Dialogues, digital guru Jia Feifei comments on the phenomenon of art exhibition photos dominating social media:

The experience of going to a museum now is more about the performance of going to a museum, no longer thinking about the purpose why museums originally were established as educational institutions where you go to learn about objects and people and civilizations. Now, it's purely to get this one deliverable, which is getting the photograph.<sup>38</sup>

This trend has ignited controversial discussions of how people define the pop-up art exhibition. Are these exhibitions only made for people taking sensational photos? If so, can these pop-ups be described as art exhibitions?

Because of the concentration of temporality, performativity, and interactivity, pop-up art exhibitions become competitive in art and popular culture. With large-scale installations, eye-catching spectacles, and a prominent social media presence, teamLab seems to have all the elements of a pop-up art exhibition. Some art critics have even

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<sup>38</sup> Jia Feifei, “The Yayoi Kusama Phenomenon” November 17, 2019, in *Dialogues: The David Zwirner Podcast*, produced by David Zwirner, podcast, MP3audio, 2:42, <https://www.davidzwirner.com/news/2019/the-yayoi-kusama-phenomenon>.

labeled teamLab as the creator of eminently “Instagrammable art.” In an interview in the *Japan Times*, Toshiyuki Inoko was asked if he worried about “the collective stretching itself too thin or the public becoming too saturated with teamLab.”<sup>39</sup> Toshiyuki answered by mentioning the idea of “art for all.” He said: “Art is the easiest way to reach everywhere on the global scale, because it is nonverbal.”<sup>40</sup> Based on my experience visiting the installations, I believe teamLab’s art exhibition sets a more accessible bar for viewers. At the traditional art museum, viewers must have comprehensive background knowledge to be able to fully appreciate the artworks. However, at teamLab’s exhibitions, viewers use multiple senses to enjoy the exhibition and can easily understand or relate to the content of the artworks. Instead of criticizing the negative side of the pop-up exhibition, teamLab believes their artworks brings positivity and a welcoming affect to the world.

So, does teamLab present superficial pop-up art exhibitions? My answer is no. Although teamLab contains the elements of a typical pop-up art exhibition, the outcome of their artworks still aims to bring out profound and meaningful messages. The way that teamLab combines art and technology is distinct from other exhibition as well. One of the features of teamLab’ artworks is that they condense the experience of the borderless world. According to above discussion, this feature becomes one of reasons why teamLab is popular and gains relevance in the rising experience economy. Moreover, some of teamLab's work demonstrates a connection to premodern Japanese culture. For example,

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<sup>39</sup> Toshiyuki Inoko, interview by Mark Thompson, *Reconnecting with Our Nature: TeamLab’s Digital Revolution*, The Japan Times, February 2021, <https://www.japantimes.co.jp/culture/2017/08/26/arts/teamlab-digital-revolution-reconnecting-nature/>.

<sup>40</sup> Ibid.



*Crows Are Chased and the Chasing Crows Are Destined to be Chased as Well* features mythical three-legged crows called *yatagarasu*, a symbol of the sun and messengers of the will of the gods.<sup>41</sup> TeamLab thus uses a sophisticated and artistic way to combine premodern Japanese culture with technology. Because teamLab's artworks are not pre-recorded animations, the moment that viewers interact with the installations is precious and unique. Therefore, I argue that what makes teamLab stand out from other pop-ups are three aspects: the foregrounding of authenticity, the delicate way of staging interactivity, and insightful connection to premodern Japanese culture.

## Conclusion

I do not see [space] according to its exterior envelope; I live it from the inside; I am immersed in it. After all, the world is all around me, not in front of me.

– Maurice Merleau-Ponty<sup>42</sup>

In the contemporary art era, various art movements have revolutionized the concept of space and time. The interaction between the viewer and the installation is valuable and inspiring. Claire Bishop has interpreted philosopher John Dewey to explain installation art, addressing how human perception changes through the process of interaction. She writes that:

Dewey maintained that we can only develop as human beings if we actively inquire into and interact with our environment. Being thrust into new circumstances means having to reorganize our repertoire of responses accordingly, and this in turn enlarges our capacity for 'experience,' defined by

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<sup>41</sup> Yuki Morishima, "Ultrasubjective Space: Exploration of Premodern Japanese Spatial Construction" in *TeamLab: Continuity*, eds. Karin G.Oen and Clare Jacobson (Asian Art Museum of San Francisco, 2020), 103.

<sup>42</sup> Maurice Merleau-Ponty, "Eye and Mine," *The Primacy of Perception* (Evanston, 1964), 178.

Dewey as ‘heightened vitality [...] the complete interpenetration of self and the world of objects and events.’<sup>43</sup>

Through viewers’ experiences of immersive digital space, new media art challenges the constructs of time and space, and expands the possibilities of the combination of art and technology. New media art not only displays how advanced technology operates, but also explores the deeper meanings of art’s intertwinement with everyday life.

By discussing the features of interactive installation art, this major research paper investigated how this type of art destabilizes the awareness of borders in the art space and creates a special connection between viewers and digital media. Inspired by teamLab’s theme of a “borderless” world, this paper examined different borders that were eliminated through the immersive experience in the group’s interaction installation art practices.

With the analysis of teamLab’s artworks, *Forest of Flowers and People: Lost, Immersed and Reborn* and *Crows Are Chased and the Chasing Crows Are Destined to be Chased as Well*, this paper has touched upon the different types of interactive installations that present the theme of nature in a digital space. Based on sophisticated and spontaneous interactive design, these two installations exemplify how a borderless space can be projected via the connection between the viewers’ consciousness and subconsciousness into a virtual, three-dimensional space.

In addition to deciphering the kind of borders in the borderless space that renders teamLab’s artworks distinct, this paper identified the reason why teamLab’s exhibitions are popular in today’s burgeoning experience economy. Through the discussion of being

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<sup>43</sup> John Dewey, “Art as Experience,” (London, 1934): 19, quoted in Bishop, 24.

“borderless,” in relation to several installations by teamLab, this paper further identified the immersive experience as vital to the popularity and success of interactive installation art. Through a discussion of the experience economy, this paper discerned and critiqued the appeal of pop-up art exhibitions. By examining the distinguishing features of teamLab’s artworks, this paper concluded that the success of teamLab is more than just a result of a social media trend; instead, teamLab also aims to enlighten the audience and provide a more profound and meaningful conversation about the harmonious relationship between art, technology and being human.

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