TEAMLAB: DIGITAL PLAYGROUNDS

by

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INTRODUCTION

A brilliant forest alive with singing and chattering animals sprouts from inside the dark rooms of an exhibition space (fig. 1). As people wade knee deep into water-flooded chambers, their movements cause rainbow light streaks to dance across the water's milky surfaces (fig. 2). A simple wave of one's hand scatters a kaleidoscope of seemingly hundreds of butterflies around a room in dazzling, iridescent bursts (fig. 3).[1] While such descriptions sound like something out of an elaborate animation feature, these fantastical scenes exist as real-life art exhibitions produced by the Japan-based art collective teamLab (チームラボ).[2] The art collective has created temporary and permanent exhibitions commissioned all over the globe.[3]

A unifying objective in teamLab's artwork is the creation of a social environment where positive relationships can be forged between others in a shared space. By positioning their artworks as playgrounds, teamLab subverts the traditional art viewing experience. Their audience becomes playful collaborators working together to engage an artwork rather than be potential nuisances inconveniencing one another to look at an art piece. A significant factor to this effect is the natural spontaneity and joy that can be found through the act of playing. The collective mobilizes playfulness in their installations to motivate passive visitors into active engagement and thus become integral players in galvanizing the behavior in their works.[4] They create artificial environments filled with game-like elements with cause-and-effect reactions.

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[1] *Animals of Flowers Born in the Flower Forest, Symbiotic Lives* (2018), *Drawing on the Water Surface Created by the Dance of Koi and People – Infinity* (2017), *Flutter of Butterflies, Born from Hands* (2019).

[2] Their preference is to stylize their name with a lowercase "t" and an uppercase "L."

[3] The collective has shown their work in various locations including New South Wales, Sydney; Art Gallery of South Australia, Adelaide; Asian Art Museum, San Francisco; Asia Society Museum, New York; Borusan Contemporary Art Collection, Istanbul; National Gallery of Victoria, Melbourne; and Amos Rex, Helsinki. teamLab, "Biography," teamLab, 2019, https://www.teamlab.art/about.

[4] The collective prefers the term "visitor" over "viewer" since their works are immersive. They want people not just to look but be part of it. Sophie Haigney, "The Blockbuster Avant-Garde," ARTnews.com, January 4, 2021, https://www.artnews.com/art–in–america/features/teamlab–art–world–1234580691.

These elements are designed to encourage participation to trigger unexpected and wondrous moments within the gallery space. Because of this exploratory aspect, play becomes a crucial component in the comprehension and processing of teamLab's artwork.

This thesis seeks to emphasize how play serves as a collaborative platform for both artists and their visitors. How can we define play within an art historical context? What would be some qualifiers? The ultimate question is why should play be even considered? Why does it matter in the contemporary context of museums, galleries, exhibition spaces? In this thesis, I argue that play is a valuable engagement resource for artists especially in interactive art. To measure what play means in an artistic context, I will examine a survey of teamLab's installations through numerous methodologies.[5] For my purposes, play is loosely defined as the participation in an activity for pleasure and recreation. The use of play in art can function as a catalyst for more substantial conceptual goals especially in newer technological works that express more immaterial concepts. Through largely participatory strategies, play can encourage connections between the viewer, gallery space, and art. It functions as a critical tool for the active engagement of interactive art. People are enticed into participating through the spontaneous and unique moments that occur when they choose to play inside these installations. TeamLab mobilizes a sense of fun to attract people. The collective transforms visitors from passive observers into becoming literal moving players - without an active audience the work would otherwise be incomplete and static. Many teamLab installations functions on the simplest interactions – a gentle touch is often all that is needed to light up a colorful world.

The attraction to play in contemporary art practice stems from motivations to activate the gallery space through efforts concentrating on immediacy and the mitigation of boredom. In

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[5] Tim Stott, *Play and Participation in Contemporary Arts Practices* (Routledge, 2017).

today's experience and entertainment driven economy, the public must be considered more than ever. By centering on play as a creative practice, artists can convey more sophisticated ideas while still capturing and sustaining public interest. The incorporation of play in contemporary art is the natural outcome of several pop culture influences including video games, theme parks, and other things meant to titillate the senses. While teamLab's position in the contemporary art world is still contested because of their unconventional path, the collective should be understood as the merging of several elements – art and technology, the natural world and mankind, the individual and the collective. With grounding principles based in play and technology, the scope and breadth of their exhibition installations exist to inspire wonder, joy, and empathy overall.

IMAGINING A WORLD WITHOUT BORDERS

Integrating science, technology, and nature in creative practice, teamLab touts themselves as explorers and navigators of a confluent realm where art has attained transformative qualities. Their work is characterized by several overarching ideals, which include unity, nature, and the synthesis of tradition with new technological processes. They believe that people can find peace through their work by building collaborative relationships with others so that the realization of collective goals is possible. Drawing from nature and Japanese mythology, colorful animals and plants are regularly featured as recurring imagery in teamLab's installations. In a teamLab installation, the world can become an all-encompassing painting.

In 2001, teamLab was first established by engineers when two of its founding members Toshiyuki Inoko and Shunsuke Aoki graduated from the University of Tokyo's Department of Mathematical Engineering and Information Physics. Inoko's longtime friend, Yoshimura Jō, was an additional founding member who studied at the Tokyo Institute of Technology. As teamLab's

leading visionary, Inoko cites the widespread proliferation of the Internet during his college days as a big influence for teamLab's early motivations. As one of many organizations that came out of the Internet bubble, teamLab's primary concern in its initial stages as a group was client-based web design. With the development of popular web portals and search engines, the collective did relatively well in these early pursuits.

Then, the ever-evolving trends of technology resulted in Net 2.0's rise – a new direction in web design to create responsive websites focused on content created by users. In conjunction with the advent of mobile devices, this change prompted teamLab to delve into the concept of interoperability, which is the way different computational systems receive or exchange information with another. The collective was intrigued by this emerging notion of greater interconnectivity and its potential.[6] Although its first forays as a collective dealt largely with web technology, teamLab was formed with the intention of it being a fully experimental organization that pushed the limits of the digital platform. The collective saw the tech explosion of the late 1990s and early 2000s as a way to further expand art from medium-based limitations such as painting or sculpture. Influenced by the Internet boom of his college days, Inoko had a fascination with digital art as opposed to more traditional art media. Thus, teamLab has experimented with technology-based art projects from their inception but their creative output was minimal due to the limitations of technology at the time. [7] Although they've always experimented with digital art, Inoko claims that the earliest surviving artwork from their beginnings is a video piece from 2004.[8]

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[6] Yukio Lippit, "teamLab: Past, Present, and Future," team–lab.net, 2016, http://exhibition.team-lab.net/siliconvalley/review.
[7] Toshiyuki Inoko, "Inside teamLab: Blurring the Border between the Self and the World," in *teamLab: Continuity* (San Francisco: Asian Art Museum, 2020), 20.
[8] While Inoko does not explicitly refer to the title or content of the piece, a deep dive into the collective's online artwork archive lists a video animation called *Flowers are Crimson*. The video is a ten-minute narrative about a protagonist's journey through a fairytale world towards enlightenment. teamLab, "Flowers Are Crimson," teamLab, 2005, https://www.teamlab.art/w/hanahakurenai-2.

In the past decade, teamLab has swiftly ascended to international recognition as their digital artworks and installations dazzle and fascinate visitors on a global scale. There are three recurring features that can be noted throughout the collective's oeuvre thus far: interactivity, multisensory activity, and visually appealing imagery. Using sensors calibrated to respond to motion or physical contact, teamLab gives its audience a significant role in how a work changes during its display through interactivity. The collective provides visitors the chance to see how their activity responds in conjunction with others. Since much of their works are based on user response, this interactive component seems to produce random outcomes so that each experience of the collective's work is never completely the same. A second characteristic of their work is its multisensory quality with numerous installations designed to engage not just sight but a variety of senses including sound, smell, and touch. As a third feature, the visual appeal of their art contributes to their overall allure and why so many people are initially drawn to these works. Typically, the collective's artworks incorporate bright colors and highly intricate imagery drawn from Japanese culture. Their visual language is rooted in the fundamental Japanese sensibility towards the beautiful which is evident in highly stylized creative practices like flower arranging (*ikebana* 生け花), tea ceremonies (*sadō* 茶道), scroll painting, and calligraphy (*shodō* 書道).[9] Inoko explains that teamLab uses digital art to investigate the aesthetics of the beautiful, "To expand beauty through the digital, to question how beauty is experienced. I'm very interested in how that can change human values."[10] Creating positive relationships between people in the same space is one of teamLab's principle concepts. They orchestrate this through the various interactive

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[9] Grace Adam and Joshua White, "TeamLab at Pace Gallery on the Art Channel," YouTube Video, The Art Channel, February 10, 2017, https://www.youtube.com/watch?v=OvcTh_A7vMQ.

[10] Bloomberg Markets and Finance, "Behind the Scenes with TeamLab | Brilliant Ideas Ep. 67," YouTube Video, *YouTube*, January 24, 2018, https://www.youtube.com/watch?v=7ilUiSLaJQo&list=PL-TLQIsBItKKfXsvXSydB_APZLhFVZ4G7.

elements in their pieces. Beautiful and awe-inspiring visual effects are created by everyone interacting with the work.

An examination of the collective's career trajectory reveals that teamLab is at once working inside and at the periphery of the conventional art world. Under Inoko's direction, teamLab runs several dedicated art spaces in Japan and appears regularly in exhibitions at museums and galleries worldwide. In the early 2000s, the collective began to publicly exhibit their works mainly in Japan with the sporadic show abroad. The year 2011 was significant for teamLab's development, the collective's exhibitions became more frequent because their capacity for creative output had more resources with a roster of employees numbering in the hundreds and greater institutional recognition. [11]In the following year, the international art world was captivated by their exhibition, *We are the Future*, which was shown at the National Taiwan Museum of Fine Arts.[12] By 2014, teamLab was garnering the attention and recognition of various fine art institutions around the world. In the subsequent years, the collective successfully premiered their own permanent museums with two Tokyo-based locations (MORI Building Digital Art Museum: teamLab Borderless in Odaiba and teamLab Planets in Koto City) and another site in Shanghai. [13] Since the collective's debut of the Tokyo locations in the summer of 2018, the two museums have had over three million visitors in their first year.[14] In 2020, the Research and Development

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[11] As of 2021, the collective boasts a roster of over six hundred full–time employees. This number is an impressive statistic when contrasted against other technologically focused artists and collectives. For instance, the artist Refik Anadol, whose multimedia work integrates machine intelligence with public art, employs a staff of seventeen studio workers. Studio Drift, a collective founded by the duo Ralph Nauta and Lonneke Gordijn, has sixty–four employees based in Amsterdam. Haigney, "The Blockbuster Avant-Garde."

[12] Lippit, "teamLab: Past, Present, and Future."

[13] Kaori Oshima, "TeamLab Borderless Becomes the Most Visited Single-Artist Museum in the World.," Business Wire, August 8, 2019, https://www.businesswire.com/news/home/20190808005373/en/teamlab–Borderless–Becomes–the–Most–Visited–Single–Artist–Museum–in–the–World.#:~:text=teamlab%20Borderless%20alone%20welcomed%202.3.

[14] In looking at the other most visited single–artist museums of 2018, teamLab had more visitors than Spain's Picasso Museum (948,483 visitors) and Dalí Theatre–Museum (1,105,169 visitors). They also surpassed the numbers of Amsterdam's Van Gogh Museum (2,161,160).

Platform of Serpentine Galleries (London) issued the *Future Art Ecosystems: Art X Advanced Technologies* report which describes how the visual art sphere is currently being shaped and informed by technology. This report points to teamLab as the prime example of an emerging model of creative production called the *art stack*. These are artist-led organizations that autonomously create all aspects of their art experiences including design, production, and publication through their own means and funding rather than rely on traditional art industry models.[15] With their artistic works funded by the profits from their more commercial ventures, teamLab also strives to run the collective efficiently so that their creative projects are possible.

The collective uses the digital medium to liberate creative expression from the physical restrictions of an art object. The use of technology also permits the group to create works that can expand and adapt into different gallery spaces – granted only if these spaces have the resources to be outfitted by teamLab.[16] The works and projects undertaken by teamLab are usually regarded as highly intricate yet accessible approaches to interactive, user-driven art. With access to technology like video projection mapping and 3D rendering, teamLab uses what they call a "borderless" approach. Inoko wanted to generate an aesthetic experience where there were no boundaries between art, the viewer's self, and others. In projecting the work onto surfaces and programming in responsive code systems, the collective creates an illusion of a world beyond the white cube where people can walk into a piece and become an intrinsic part of it.

What a Loving, and Beautiful World (2011) is an example of a participatory piece that efficiently synthesizes teamLab's visual and thematic objectives (fig. 4).[17] The earliest version of

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[15] Future Art Ecosystems Serpentine R&D Platform and Rival Strategy, *"Future Art Ecosystems,"* Serpentine Galleries, July 9, 2020, https://www.serpentinegalleries.org/whats–on/future–art–ecosystems, 97.
[16] Karin G. Oen et al., *teamLab: Continuity* (San Francisco: Asian Art Museum, 2020).
[17] TeamLab, "What a Loving, and Beautiful World / 世界はこんなにもやさしく、うつくしい(Beta版)," YouTube Video, YouTube, October 14, 2011, https://www.youtube.com/watch?v=XXjRpZJTUio&ab_channel=teamlab.

this work premiered in Japan with the *Love Letter Project '11* at Yebisu Garden Place in Tokyo. Functioning like a digitized version of a painted paper scroll, the work was created to present the ancient art of *shodō* within the more contemporary context of new media for people to enjoy. The master calligrapher Sisyu collaborated with the collective to create the calligraphic writing (*sho* 書) of all of the ideograms (*kanji* 漢字) for each version of this installation.[18] In a 2015 interview for the Harvard Arts Blog, teamLab's communication director, Takashi Kudo, states that interpretation of language was vital to the development of the work. "When we think about *kanji*, it's not just an alphabet. It's more like magic. We wanted the *kanji* to be freed, freeing the word from its character."[19] Typical of many of their works, a projection illuminates a large, dark room with a spectacle that encloses their visitors. The earliest beta iterations of the piece presented people with seemingly blank, white walls. From the top edge of the ceiling, twenty-two *kanji* calligraphy characters that represent the meaning of natural elements begin to gently float down to the floor. As a participant ventures towards the walls of the installation space, the calligraphy reacts to their presence and motions with a changing sequence of visual events that burst out of the characters.

Using sensors that detect people's actions, the calligraphy metamorphosizes into the visual representations of their meanings when stimulated by a person's touch or the graze of one's shadow. For instance, hovering over the *kanji* for rainbow (*niji* 虹) will generate a marvelous display of multicolored lights and waves appear when the *kanji* for ocean (*umi* 海) is touched.

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[18] *Shodō* is a variation of traditional Japanese artistic writing that was originally derived from Chinese calligraphy. This is an important as *kanji* is an ideogrammic writing system derived from the Japanese pronunciation of Chinese words. The collective's use of *sho* rather a standardized typeface elevates the *kanji* while retaining each ideogram's original significance. Shozo Sato et al., *Shodo: The Quiet Art of Japanese Zen Calligraphy, Learn the Wisdom of Zen through Traditional Brush Painting* (Tokyo: Tuttle Publishing, 2014), 14.

[19] Anita Lo, "Freeing the Word: TeamLab at Radcliffe - HOW I CREATED 'WHAT a LOVING and BEAUTIFUL WORLD' with the TOUCH of MY HAND," *Harvard Arts Blog*, October 26, 2015, https://www.radcliffe.harvard.edu/news/in-news/freeing-word-teamlab-radcliffe.

Accompanied by melodic sounds, these characters erupt into depictions of animals, plants, celestial bodies, and terrain that respond to the presence of other activated kanji. The dependence of the *kanji* on participating people's actions shapes the installation's scenery into new and infinite configurations. Through these configurations, perspectives collide and overlap.[20] *What a Loving, and Beautiful World* epitomizes what happens inside the collective's digital installations.

In providing the visitor with a sense of influence on the installation's progress, the collective reveals the underlying interconnectivity of things within the artificial realms they construct. Sisyu's *sho* renderings of the selected *kanji* ideograms symbolize an ancient and worldly knowledge that becomes unleashed by the visitor's conscious interactions. In this context, the justification for the chosen *kanji* is important. Each character represents a central concept that has been interpreted by different cultures and belief systems as the fundamental elements of the universe. A diversity of world philosophies, ranging from Greek philosophy to Chinese astronomy, regard elements such as earth, water, air, and fire as the essential components of existence.[21] Much of the philosophy drawn from Shinto and Zen Buddhism supposes that there is an interconnection between all things that strive for a harmonious relationship. [22] The *kanji* for mind (*kokoro* 心) is incorporated since humans are phenomenologically regarded as beings that perceive the world through a unity of internal mental and external physical processes.[23] This also taps into the

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[20] TeamLab, "What a Loving, and Beautiful World / 世界はこんなにもやさしく、うつくしい(Beta版)," YouTube Video, *YouTube*, October 14, 2011, https://www.youtube.com/watch?v=XXjRpZJTUio&ab_channel=teamlab.

[21] The practice of *sho* artists has a basis in Zen philosophy. Ideograms must be executed by calligraphers with a controlled balance of their body and mind which is done by concentrating their *ki* (気) energy. Shozo Sato et al.,*Shodo: The Quiet Art of Japanese Zen Calligraphy* (Tokyo: Tuttle Publishing, 2014), 10.

[22] Japanese Buddhist priest Dōgen (1200-1253) wrote extensively on this link between the body and mind as a meditative, rectifying process towards enlightenment. One of his most famous mantras was "body and mind drop off, dropping off the body and mind" (*shinjin datsuraku datasuraku shinjin* 身心脱落脱落身心). Ching-yuen Cheung, "Nishida Kitarō's Philosophy of Body," *Dao* 13, no. 4 (November 18, 2014): 511.

[23] While *kokoro* here is used to reference the "mind," it has multiple meanings including heart, spirit, soul, intellect, thoughts, and ideas. Since *kokoro* has many different definitions, the context of the *kanji's* inclusion may have a variety of implications.

philosophy of how the true self relies on the "oneness of body-and-mind" (*shinjin ichinyo* 身心一

如).[24] Due to this oneness, the use of all the senses are important to how one engages and perceives

the world.[25] The underlying premise of *What a Loving, and Beautiful World* is that by triggering

and releasing the power of these ancient ideograms digitally, people can recognize in themselves

an innate ability to reinvent the world over.[26]

The enthusiastic reactions of visitors to works such as *What a Loving, and Beautiful

World* demonstrate the effectiveness of collaborative creative processes, a tradition that is

well established in modern and contemporary Japanese art practices. Through the course of

postwar Japanese art, various collectives have been formed as forward-thinking and innovative

vanguards of the country's continuously evolving artistic culture. Against such precursors and

peers, teamLab seems remarkable for its highly organizational development with a large pool of

members and employees working out of a multilevel office building. Embodying a fully unified

front, the collective goes beyond the artist studio model and works much like a start-up or a

creative agency. In a broadcast interview, Inoko aptly described the work culture to a reporter

visiting the company's headquarters, "We are eternal fourth graders…"[27] Their office floors are

organized to cultivate a positive environment that facilitates creative output based on nurturing

an environment of fun, exploration, and teamwork. Rather than have cubicles like traditional

office spaces, computers proliferate in open concept spaces that are divided up in bright rainbow-

colored sections adorned with various whimsical patterns and floral motifs. Raised desks pop out

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[24] John W. M. Krummel, "Embodied Implacement in Kūkai and Nishida," *Philosophy East and West* 65, no. 3 (2015): 786–808.

[25] Sosnowska, "Touch, Look and Listen: The Multisensory Experience in Digital Art of Japan," 67.

[26] Lippit, "teamLab: Past, Present, and Future."

[27] Manichi Broadcasting System, "Jounetsu Tairiku - Toshiyuki Inoko (TeamLab) / Eng Ver."

from the structured geometric landscape that make up the office floor (fig. 5). Everyone is also encouraged to work on-site to foster closer relationships.[28]

Since the collective's expansion into more artistic ventures, it has assembled a diverse group of people with knowledge and skills in various interdisciplinary practices ranging from architecture, art history, computer graphics, education, and interactive design. Like their founders, many teamLab members embody the values of a savvy millennial generation who grew up entrenched in the new technologies of an emerging digital era.[29] A member of the collective is typically a well-rounded person who is competent in various aspects of computer graphics including the ability to code and render imagery. While all different in who they are, where they are from, and what they do, the members of teamLab understand their actions as part of a more cohesive whole[30]. Despite its exponential growth and workforce of hundreds, the collective has sustained a cohesive mission with each of their works thought of as a shared group effort without any apparent authorship other than the teamLab name.[31] The collective's creative strategies are centered on an egalitarian attitude. Members assemble into intimate breakout groups for every assignment to work through the making of an artwork. Everyone has a say in how the artwork comes into fruition since the collective places a great value on different ideas and points of view. Because they are invested in the creative process for its experimental potential and due to the

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[28] Karin G. Oen, "Art in the Age of Digital Interactivity," in *teamLab: Continuity* (San Francisco: Asian Art Museum, 2020), 7.

[29] Lippit, "teamLab: Past, Present, and Future."

[30] Although teamLab is Tokyo-based, they recruit people from all over the world and work on their projects on an international scale.

[31] In her case studies of contemporary Japanese workplace cultures, Turner points to several concerns as to how employees construct a sense of meaningfulness through work. While her findings varied from case to case, there was a common trend in how workers negotiated their productivity as a greater contribution to national or cultural identity. Employees in high-tech corporations like Toshiba's Yanagicho Works, saw themselves as part of an interconnected community that maintain a standard of excellence and innovation in a competitive global market. As a proudly Japanese tech-art collective, teamLab's collaborative creation processes express the ideal conditions for a workplace culture. Christena Turner, "The Spirit of Productivity: Workplace Discourse on Culture and Economics in Japan," *Boundary 2* 18, no. 3 (1991): 90–105.

constant evolution of technology, their projects are considered to be in perpetual flux and are theoretically "incomplete" even if the work is due for presentation or exhibition.[32] This way of working accounts for the multiple iterations of visually-alike works that proliferate across various galleries and art spaces – every piece is always being improved upon.[33]

SUPER HAPPY!: THE DIGITAL OPTIMISM OF TEAMLAB

Along with a vested interest in exploring themes of nature and culture, much of teamLab's body of work is highlighted by an acute sense of unwavering optimism. Their positive inclination serves as a heightened response to Japan's radically shifting sociopolitical and cultural climate. Numerous members of the collective underwent the millennial zeitgeist's bind of experiencing the overabundance of the 1980s and then the resulting struggles from the sudden economic downturn of Japan's "Lost Decade" in the 1990s. Japanese youth endured social commentary that speculated on the extent of their moral corruption while a national recession left few job opportunities for college graduates to thrive. After Japan's inflated real estate and stock market bubble burst in the early 1990s, a series of ill-fated circumstances also hit Japanese society that resulted in faltering citizen trust in the country's government. In January 1995, the Great Hanshin Earthquake devastated the southern Hyōgo Prefecture and claimed thousands of lives.

Two months later, the religious cult Aum Shinrikyō committed an act of domestic terrorism by releasing a sarin gas attack on Tokyo's subway system. Both catastrophes revealed the national administration's inadequacies and spurred discussion on the country's social failures

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[32] Lippit, "teamLab: Past, Present, and Future."
[33] Oen, "Art in the Age of Digital Interactivity," 8–9.

for the remedy and prevention of such issues.[34] The advent of online social media platforms overlapped with these real-life fiascos. Web browsers gave people access to sites where they had the ability to express themselves in whatever manner they saw fit. With this kind of freedom, many users held a pervasive negativity on Japanese online forums. A prominent example would be 2channel (2ch.net), an anonymous textboard community. Founded in 1999 and dismantled in 2014, 2channel had multiple daily postings on various topics. The textboard website has a history of being used for abusive means including gossip and hate speech. TeamLab chooses to position its art as a positive force in the face of real and online pessimism.

Their deliberate optimism seems to echo the prophetic sentiments of Hiroshi Kawano (1925-2012), an aesthetics scholar who is considered to be Japan's first digital artist if not one of the first people in the world to experiment with computers in art.[35] In 1969, Kawano declared that digital artists had a moral obligation to the public:

> "Contemporary society is being newly created by participation of the masses....I think artists and designers who use computers need to establish their own methodological principles based on scientific theories. At the same time, they need to be socially and politically responsible for utilizing and maintaining computer art for people's peace and happiness."[36]

Kawano's words foretold the influence of technology on society and his call to digital artists for its ethical stewardship still has resonance now. The computer art movement in Japan arose out of the collaborations between art, design, entertainment, and commerce. In the scheme of Japanese popular culture, art and technology has always been united in a beneficial partnership. Serving as a source of societal motivation, technological advancement is seen as

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[34] Tomiko Yoda and Harry D. Harootunian, *Japan after Japan: Social and Cultural Life from the Recessionary 1990s to the Present* (Durham: Duke University Press, 2006), 16–53.

[35] compart center of excellence digital art, "Hiroshi Kawano," dada.compart-bremen.de (Database of Digital Art), accessed February 10, 2021, http://dada.compart-bremen.de/item/agent/234.

[36] Miwako Tezuka, "A Vast Ocean, a Boundless Sky: The Digital Liberation of teamLab," in *teamLab: Continuity* (San Francisco: Asian Art Museum, 2020), 106.

catalyst of change and the opportunity for new experiences.[37] Rather than fall prey to the

dystopian mindset of technology as man's downfall, teamLab hopes that a playful approach to

creativity facilitates more open engagement from the public with such innovations.

In their eyes, technology was never intended to displace or substitute for reality – its

purpose is to compliment humanity's potential. Their art does not pretend to be anything other

than a highly sophisticated simulacrum to grasp abstract concepts. They believe that

contemporary society is becoming increasingly more isolated between others in the physical

space even though technological advancements like smart phones and social media have made

interpersonal communications more convenient. The collective saw that people were becoming

more detached and secluded as a side effect. Although someone might be technically connected

to one another over a network, their physical bodies remained isolated. Since teamLab's work

largely requires a high-tech system to function and reaps the benefit of being popular across

social media networks, it may seem ironic if not antithetical that they would possess such a

concern.

While technology is a driving force behind their work, it is not the primary focus of their

overall objectives. The collective proposes that digital art is a way to view the possibilities of

interconnection through an optimistic context.[38] They speak broadly about the future trajectory

of automation where the need for human labor will be nonexistent because all tasks will be

eventually relegated to machines. In the man versus machine debate, artistic creativity is widely

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[37] Sosnowska, "Touch, Look and Listen: The Multisensory Experience in Digital Art of Japan," 67.

[38] Regarding their sociocultural context, teamLab also may be using their artwork to tap into the social psychology of collective happiness that is characteristic of Japan and other East Asian cultures. According to cultural psychologists Uchida and Oishi, Japanese society typically views success and happiness as something attained by people who face adversity but can persevere due to the help of others. Shared catastrophes and tragedies become opportunities to unite the nation and re-evaluate societal goals. The pursuit of happiness is not seen as something that individuals can undertake alone, but rather as something to be accomplished through strengthening bonds of a community. Yukiko Uchida and Shigehiro Oishi, "The Happiness of Individuals and the Collective," *Japanese Psychological Research* 58, no. 1 (January 2016): 125–41.

considered as the last bastion that separates humanity from machine. Creation is the expression of man's free agency – a trait that technology has yet to adequately replicate. TeamLab believes that in the imminent future, the most important quality that only humans can maintain is the ability to think and behave creatively. As such, digital art is used in the interest of returning humanity back to their creativity through play. They seek to foster better connections between people by promoting positive relationships amongst others in the same space through shared encounters. The collective has confidence that their digital worlds will inspire people to acknowledge the significance and feasibility of the relationships available in their immediate domain.

TeamLab's first dedicated location, MORI Building Digital Art Museum: teamLab Borderless, is promoted as the world's first immersive and interactive digital art museum. Meant to titillate the senses, the sprawling two-storied building is frequently billed as a futuristic amusement park where visitors experience the artworks in a nonlinear way – moving freely from one artwork to the next at their own pace. As with other teamLab installations, light and projection mapping are the main technologies employed in Borderless for the seamless blending of multiple artworks. These technologies also allow for complete body immersive experience where people can intrinsically feel part of the work. The museum is popular as tourist destination and photo opportunity spot for the selfie-obsessed generation.[39] Rather than deny their entertainment factor, teamLab fully embraces it.

Historical artistic tradition is not the only inspiration for the sense of wonder and spectacle found in their digital worlds. These electric wonderlands have elements that are loosely drawn from Japan's popular *otaku* culture. Inoko is an avid *otaku* himself who grew up reading

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[39] Dave Dorsey, "The Shared VR of Tokyo's TeamLab Borderless Offers a Glimpse of an XR Future," VRScout, January 16, 2020, https://vrscout.com/news/shared–vr–tokyo–teamlab–borderless.

Shōnen Jump and playing Nintendo video games like *Super Mario Brothers*. He once spoke in a

panel at a *Cool Japan* convention about the state of *otaku* culture in the worldwide market:

> "I think *otaku* culture has matured secretly even while being totally ignored by the
> government or the public until today…What you have to do is to create a cultural
> environment that can grow more easily. If you make an environment that nurtures
> creativity it is more likely to spread throughout the world via the internet. It is better for
> people from around the world to fall in love with *manga*. Then, people start to love
> *manga* and they will one day realize that *manga* is mostly made in Japan. Then, they may
> become more interested in Japan…[the] more important point was to "spread" culture."[40]

Although Inoko's statement is specific to *otaku* culture, it shows that teamLab

understands how appealing to a global mass consumer audience's demand for entertainment via

communication channels like the Internet can benefit the overall image of Japanese society. As

international ambassadors of Japanese contemporary art, the collective has similar goals for

expanding the possibilities of art and technology. A travel blog *GaijinPot Travel* for foreigners

visiting Tokyo described the Borderless museum as a trippy, once in a lifetime experience.

"Immerse yourself in showers of light. It's exactly as mind-bending as it sounds…Let the vivid

images whisk you away into another dimension." [41] In their works, layers of cyberspace and real-

life collide into beautiful, transformative environments. To cater to memorable Instagram-worthy

experiences, teamLab takes ques from the immersive and interactive mechanics of popular

culture. Many of their works employ multisensory, game-like mechanisms designed to inspire

playful behavior like exploration, conviviality, and wonderment.

These influences are evident in teamLab's projects for children such as *Future Park*,

which touts itself as an educational amusement park designed for the enjoyment of collaborative

creativity (fig. 6).[42] Their children's installations demonstrate teamLab's recognition of their

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[40] Manichi Broadcasting System, "Jounetsu Tairiku - Toshiyuki Inoko (TeamLab) / Eng Ver."
[41] GajinPot Travel, "TeamLab Borderless," GaijinPot Travel, June 22, 2020, https://travel.gaijinpot.com/teamlab-borderless.
[42] TeamLab, "Learn and Play! Future Park," teamLab, 2018, https://futurepark.teamlab.art/en.

ability to use their technologically focused art to develop augmented spaces that are essentially

playgrounds. The children's works offer several cutting-edge and immersive features for play. In

Sketch Aquarium (2013), which one visitor describes as "digital sea monkeys meets a

Tamagotchi," people can use scanners to digitize crayon drawings they drew of aquatic creatures

to be released into an interactive underwater ecosystem.[43] *Future Park* is made up of installations

based on beneficial co-creative activities like building, drawing, dancing, and exploration. While

these spaces deliberately are geared towards children, a common thread through much of their

work is the encouragement of creative and collaborative activities between all visitors. Their

vision is for people to ultimately enjoy a cooperative activity so that they can become more

creative in daily life.[44] By incorporating technical yet still accessible elements geared for better

immersion and interactivity, teamLab allows their audience to have a greater investment inside

these digital worlds.[45]

UNFOLDING AND FLATTENING WORLDS: THE ULTRASUBJECTIVE SPACE

Finding new ways to rethink the visitor's experience inside a visual space has been a

motivating objective for much of teamLab's works. The collective attributes the effect of their

borderless worlds to their concept of the "ultrasubjective space."[46] This theory is largely inspired

by the spatial awareness of Japan's *ukiyo-e* and *nihonga* painting styles which were not based on

a linear perspective system. [47] Rather, these Japanese paintings often used a continuous or

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[43] Siree, "Step into Tokyo's Most Photogenic Art Experience!," The Hidden Thimble, August 20, 2018, https://www.thehiddenthimble.com/teamlab-borderless-an-instagram-guide.

[44] TeamLab, "Co-Creation," teamLab, 2001, https://www.teamlab.art/concept/co-creation.

[45] Lippit, "teamLab: Past, Present, and Future."

[46] TeamLab, "Ultrasubjective Space," teamLab, 2001, https://www.teamlab.art/concept/ultrasubjective-space.

[47] *Ukiyo–e* (浮世絵, pictures of the floating world) references Edo period (1603 – 1867) art that comprised of woodblock prints and painting meant for the rising merchant class. *Nihonga* (日本画) describes an artistic movement that developed in the late 19th century as a celebration and return to Japanese pictorial techniques and materials in response to the popularity of western-style painting (*yōga* 洋画).

atmospheric perspective in contrast to the one- or two-point perspective that is typically utilized in representational works of European tradition. Traditional Japanese paintings often emphasize comprehensive viewing experience over a singular vantage point between the viewer and artwork.[48] By using a similar concept in their works, teamLab aims to dissolve the barriers between art and their audience.[49] Through their exploration of the ultrasubjective space, they have produced new investigations into how people view art and perceive the world around them. It might seem contradictory to connect the "flattened" images of historical art objects to an ephemeral digital experience yet teamLab finds its way around such quandaries. Inside these ultrasubjective art spaces, various visual elements offer opportunities for audiences to engage in active perception and participation as opposed to passive observation.

TeamLab's immersive nature demonstrates the rapid progress of today's technology yet their visual language is influenced by premodern Japanese imagery which dates as far back as the 16th century. Their interest in historical graphic motifs was solidified upon the collective's involvement with Takashi Murakami, the prolific founding artist of the Superflat movement. [50] As an open advocate for generations of emerging Japanese artists, Murakami gave the collective a debut solo show in 2011 at the Taipei branch of his Kaikai Kiki Gallery. With an art degree specializing in *nihonga*, Murakami was also heavily influenced by historic Japanese art. In his

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[48] An example of this is found in handscroll paintings (*emakimono* 絵巻物, shortened as *emaki*) which depict narrative scenes on horizontal lengths of silk or paper. Much like turning the pages of a book, an *emaki's* story can only be revealed by a reader's hand repeatedly unwinding and rewinding a scroll. Each unfolding scene was read as part of a bigger, continuous story. Since *emaki* are not meant to be opened to their full length, it could be said that reading an *emaki* is an active immersion process that requires the reader's physical and mental engagement. Imagination was given more freedom through flowing, complementary illustrations rather than tedious blocks of text and picture. J.T. Ulak, "Japanese Art," March 24, 2020, https://www.britannica.com/art/Japanese-art.
[49] TeamLab, "Ultrasubjective Space."
[50] Murakami explains that Superflat is theoretical aesthetic that connects the past, present, and future developments of Japanese culture. Superflat links the leisurely fantasies of Edo period paintings with Japanese contemporary art's hyper obsession with mass consumer culture as inextricable and continuous art processes. Works are characterized by conscious references to pop culture subjects with two-dimensional flatness that is heightened by bold outlines and bright colors. Marc Steinburg, "Otaku Consumption, Superflat Art and the Return to Edo," *Japan Forum* 16, no. 3 (October 2004): 450.

creative practice, Murakami has complicated the separation of high and low art by combining the stylized visuals drawn from the *ukiyo-e* genre with that of *otaku* culture. Operating in a similar vein to Murakami, teamLab's work has been an experimental springboard for novel concepts as they incorporate premodern themes with the augmented virtual realities that have only been made possible through digital media.[51]

According to post-war Asian art specialist, Miwako Tezuka, engaging with teamLab's art is akin to the aesthetic experiences found within traditional-style Japanese buildings meant for the aristocratic class such as royal palaces, castles, and temples. Tezuka draws parallels between the spatial awareness of teamLab's ultrasubjective space theory to how historic paintings in Japanese architecture were designed to function on moving components meant to rearrange spaces. Inside these places, artists endeavored to construct all-encompassing and otherworldly atmospheres that blurred the separation between the realms of manmade interiors and nature. Scenic paintings of animals and landscapes would adorn ceilings, walls, and adjustable room dividers which include vertical sliding panels (*fusuma* 襖) and folding screens (*byōbu* 屏風).

These paintings were designed to visually envelope its visitors in the space and typically could be seen from any vantage point in the room. Depending on the occasion, these were used as partitions to rearrange space, yet, the manual adjustment of these features did not necessarily disrupt the surrounding imagery of an interior. Instead, these dividers functioned to form new spatial layouts that were flexible in utility–spaces could be closed for privacy or opened to be more accommodating. Created with the understanding that these were moving objects, *fusuma* and *byōbu* had the potential to make intricate layers of images that could be configured accordingly to the tastes and needs of the people it enclosed (fig. 7).[52]

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[51] Lippit, "teamLab: Past, Present, and Future."
[52] Tezuka, "A Vast Ocean, a Boundless Sky: The Digital Liberation of teamLab," 97–107.

Through moving features, traditional Japanese architecture's interior spaces connected back to the natural world through spatial adaptability. These historical buildings provide some insight into the effect that teamLab is working to accomplish. Just as traditional Japanese artists painted the surrounding world onto mobile surfaces to transform a space beyond its earthly bounds, teamLab is seeking to activate a similar visitor response through their digital works. An ordinary physical space becomes something more with their staging and use of digital technology. TeamLab describes the ultrasubjective space as a systematic approach to their art creation.[53]

Though works appear two-dimensional, teamLab does not just animate images on a single picture plane. They disseminate images across multiple planes to create an interconnected space. In the early stages of a project, things are first rendered digitally on computers inside 3D modelling programs that interpret everything as three-dimensional objects residing within a three-dimensional space. From these created models, teamLab artists work to determine how to make the models seem as if they are flat.[54] teamLab has a substantial amount of artwork that is informed by the myriad themes as well as the compositional techniques of Japan's artistic heritage. *Flower and Corpse Glitch Set of 12* (2008/2012) is a multichannel video animation work that is heavily influenced by premodern Japanese painting.[55] Historically, spatial representation is constructed through a number of different rendering methods. Artists used shifting viewpoints like vertical

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[53] TeamLab, "Ultrasubjective Space," teamLab, 2001, https://www.teamlab.art/concept/ultrasubjective-space.

[54] A similar process to teamLab's method is cel shading which is often found in video games and animation features. By reducing the amount of color shading used on models, this non-photorealistic computer animation technique imitates the style of hand-drawn, two-dimensional media like comic books and cartoons. Cel shading's namesake references celluloids which were clear acetate sheets that animators painted on in layers for cartoons. Jennifer Hachigan, "Celshader.com -- FAQ," www.celshader.com, August 2, 2005, http://www.celshader.com/FAQ.html.

[55] The 11th century courtly romance "The Tale of Genji" (*Genji monogatari* 源氏物語) and the bird's eye view panoramas of Kyoto called "Scenes in and around the capital" (*rakuchū rakugai zu* 洛中洛外図) are evoked in the panels depicting urban life. The spiritual iconography recalls the Amida Buddha paintings which show the enlightened savior in welcoming descent (*raigō* 来迎) or residing in the Pure Land paradise. The work's violent imagery also has pictorial parallels to Tokiwa Mitsunaga's (1086 – 1185) tragic masterpiece "The Tale of the Courtier Ban Dainagon" (*Ban Dainagon ekotoba* 伴大納言絵詞). J.T. Ulak, "Japanese Art," March 24, 2020, https://www.britannica.com/art/Japanese-art.

ground planes and a bird's eye view to convey optical depth. Often seen in *emaki*, the "blown roof" (*fukinuki yatai* 吹抜屋台) technique that was used to contrast exterior and interior settings. In a dollhouse-like effect, the tops and sides of building structures were left exposed so that viewers could voyeuristically witness the events unfolding inside from above.[56] Temporal passage in the same scene was shown by the repetition of figures (*iji dōzu* 異時同図) in different poses. Painters also included ornamental golden clouds to control the viewer's gaze towards different focal points in an image. This motif can be seen in a popular *byōbu* theme called "scenes in and around the capital" (*rakuchū rakugai zu* 洛中洛外図) (fig. 8). Inspired by these graphic elements, teamLab attempts to illustrate the ultrasubjective space in this piece as "the clash, cycle, and symbiosis between nature and culture."[57]

Flower and Corpse Glitch portrays an epic fantasy centering on a fictionalized version of ancient Kyoto across twelve video screen panels.[58] The piece shows a thriving city that succumbs to misfortune when human folly destroys a sacred tree. An evil disease begins to plague its people and other reckless actions attracts the gods' ire which ultimately incites a brutal war with the eight-headed dragon, *Yamata no Orochi* (八岐大蛇) (fig. 9). The humans eventually overcome adversity to find peace with nature and heavenly beings.[59] Sinuous golden clouds are strewn hazily through different views of the story in each panel of *Flower and Corpse Glitch* connecting each section as part of a cohesive whole. Initially, architectural structures, figures, and environments are rendered

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[56] Yuki Morishima, "Ultrasubjective Space: Exploration of Premodern Japanese Spatial Construction," in *teamLab: Continuity* (San Francisco: Asian Art Museum, 2020), 45–7.

[57] TeamLab, "Flower and Corpse Glitch Set of 12," teamLab, accessed September 8, 2020, https://www.teamlab.art/w/flowerandcorpseglitch.

[58] The story line appears loosely based on the mythologies from the "Records of Ancient Matters" (*Kojiki* 古事記). Written down from oral tradition in the year 712, *Kojiki* is an integral *Shintō* (神道) text that is regarded as the first written record of early Japanese history. The Editors of Encyclopedia Britannica, "Kojiki | Japanese Religious Text," in *Encyclopædia Britannica*, February 13, 2019, https://www.britannica.com/topic/Kojiki.

[59] J.T. Ulak, "Japanese Art."

to mimic parchment and brushstrokes. However, the stylized *ukiyo-e* veneer fades away to expose the piece's actual make-up. As the painterly façade disappears, there are glimpses of the glowing wireframe mesh that structure the disintegrating figures. In the 3D rendering process, data is often represented by a wireframe mesh structure. By stripping off the work's surface, the intricate and underlying constructions that create the work are exposed.[60] Using premodern artistic techniques, *Flower and Corpse Glitch* is arranged so that no figure holds any visual dominance over another. The resulting effect is a cohesive image that appears almost uniform across all panels so that any part of the image is an equal access point to the work.[61]

This formal analysis of *Flower and Corpse Glitch* demonstrates teamLab's use of the ultrasubjective space in their digital appropriation of premodern techniques. As a multichannel piece of looping video animations, the flexible configurations from their physical antecedents may seem lost in translation. However, teamLab places the functionality of *fusuma* and *byōbu* into the new context of digital art. As a digital piece, the scale of work can be adaptable and reconfigured based on the needs of the exhibition space. For instance, at the *Kansei – Japan Design Exhibition* at the Palais de Louvre in 2008, an iteration of *Flower and Corpse Glitch* was separated into overlapping rows of dioramic panels. Viewers could freely walk between the panels to observe a scene more intimately or step further away to get a more comprehensive view. Rather than depending on strategic compositional techniques to circumvent the limitations of traditional media, teamLab uses technological implements like 3D animation to heighten the visual effect and bring art to life. Historically, fusuma and byōbu were only accessible to a privileged Japanese class but teamLab is now reinterpreting it for a worldwide audience.[62] By removing Japanese painting from

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[60] TeamLab, "Flower and Corpse Glitch Set of 12," teamLab, accessed September 8, 2020, https://www.teamlab.art/w/flowerandcorpseglitch.
[61] Lippit, "teamLab: Past, Present, and Future."
[62] Tezuka, "A Vast Ocean, a Boundless Sky: The Digital Liberation of teamLab," 106.

domestic enclosures into public domain, teamLab is reconsidering the audiences for premodern Japanese art through their experimental works.

The collective believes the ultrasubjective space allows for more interactive and transformative works. They split and fold the picture plane into various sections much like the *fusuma* and *byōbu* of Japan's past. When looking at paintings from a systematic perspective, one is normally limited to the visual space that the painting depicts for an illusionistic and realistic effect. The linear organization dictates how objects appear and imagery remains static to the canvas. In comparison to historical Japanese art, perspective-based paintings seem inflexible and unchangeable with a boundary between the visitor and the art object. Premodern Japanese art is less concerned with mimetic or realistic depictions – all things are shown on equal planes without an immediate priority to a single element. Images were designed for physical objects that were meant to be folded, split, or joined with a variety of potential vantage points. Historical Japanese art does not presume any set perspective in which to view an image. The lack of a favorable vantage point suggests that a visitor can access an image from several viewpoints and that numerous visitors might have an equivalent viewing experience of the same image. Without limitations of forced linear perspective, the environments of real life and art blurred together so that the audience becomes an essential part of each. TeamLab's choice to work within the ultrasubjective space gives them the opportunities to come upon certain unique aspects and circumstances that only can occur within these definitions.

A LEGACY OF COLLECTIVISM AND TECHNOLOGY: HISTORICIZING TEAMLAB

Since the 1950s, artists have used digital and computer media to develop their interests so there may be other analogs to teamLab that come to mind. Nevertheless, the collective should be

recognized as the present-day culmination of previous Japanese artistic efforts.[63] As explored

earlier, teamLab inherits a visual legacy that is proudly steeped in the historical roots of *ukiyo-e*

and *nihonga*. Even though teamLab does not specify other influences beyond premodern

Japanese art and a few contemporary collaborators, their creative approach can be traced back

through generations of Japanese artists who have fought to define themselves on an international

scale. Art historian Jean M. Ippolito points to a framework of three approaches to re-

conceptualize an understanding of Japanese digital art's influences: She emphasizes the fact that

Japanese digital artists should not be seen as imitators of Western enterprises in Europe and

America but as distinctive visionaries capable of a substantial input towards their respective

creative endeavors. Secondly, drawing on traditional Japanese culture does not necessarily

restrict an artist's visual range to the integration of this imagery. Finally, Japanese digital art has

the capacity to execute sophisticated and nuanced concepts regardless of its lack of narrative

content.[64]

Addressing teamLab within a broader historical context comes from an impulse to

recognize the collective as a natural outgrowth of how Japanese artists have responded to their

own cultural representation in the past. Many Japanese artists have negotiated the postwar

anxiety between adopting Western ideals versus continuing a national heritage. The history of

Western interest in Japanese art has largely been through an Orientalist lens. Japanese art

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[63] There are several collectives who center their practice on the intersection of art and technology. Based in New Delhi, India, Raqs Media Collective (f. 1992) is driven by their concept of "kinetic contemplation" in which they often articulate through multimedia practices.   The London-based collective Assemble (f. 2010) uses a research-based, democratic method to tackle social art projects through digital and traditional media. From Barcelona, BeAnotherLab (f. 2014) investigates human empathy by using virtual reality systems to explore identity issues. Raqs Media Collective, "Contact," RAQS, February 4, 2004, https://works.raqsmediacollective.net/index.php/contact; Assemble, "Assemble - Assemble Is a Multi-Disciplinary Collective Working across Architecture, Design and Art.," Assemble, 2019, https://assemblestudio.co.uk; BeAnotherLab, "BAL Home," BeAnotherLab, October 27, 2014, http://beanotherlab.org;

[64] Jean M. Ippolito, "From the Avant-Garde: Re-Conceptualizing Cultural Origins in the Digital Media Art of Japan," *Leonardo* 40, no. 2 (April 2007): 144.

collections in the West have mainly consisted of decorative art objects or stylized painting depicting common themes like *geisha* portraits and landscape scenes. Because these recognizable cultural motifs are perceived as clichéd stereotypes, many contemporary artists in Japan have distanced themselves from such imagery.

In their disassociation from these clichés, artists can avoid being pigeonholed internationally as only Japanese artists and pursue more conceptual avenues.[65] Interestingly, teamLab is able to lean an authentic cultural identity on the global stage. Their digital works blend in historical artistic influences without compromising their curiosity about technology's social relevance. Even though premodern Japanese art serves as an important visual resource for teamLab, it could be argued that the collective's conceptual objectives owe a considerable debt to more contemporary Japanese artists whose groundbreaking works span the 1950s to the 2000s. teamLab's perspectives on play, interactivity, experimentation, collaborative processes, ephemerality, and relational viewing have been recurring themes for various artists ranging from early avant-garde art groups to the more recent digital media artists.

Playful and exploratory investigations in artmaking characterized the works of the Gutai Art Association, an avant-garde artist group founded in Osaka by Jirō Yoshihara in 1954. Aware of international art movements in the United States and Europe, the Gutai were highly conscious of their position in the global art conversations. United under Yoshihara's missive to "create what has never been done before," the Gutai broke away from traditional means of creation to tackle artistic expression through inventive techniques.[66]

Kazuo Shiraga often painted with his feet and swung above his canvas using a rope mechanism to churn pools of paint using his bodily strength. In his performance pieces, Saburo

[65] Ippolito, "From the Avant-Garde: Re-Conceptualizing Cultural Origins in the Digital Media Art of Japan," 144.
[66] Ming Tiampo, "'Create What Has Never Been Done Before!,'" *Third Text* 21, no. 6 (November 2007): 693.

Murkami would run through a constructed passage of paper partitions and burst through each successive wall to leave human-sized punctures. Atsuko Tanaka experimented with electrical energy in an installation that invited the unbeknownst visitor to press a button to activate a string of bells and in her famous dress made up of industrial lightbulbs. Several other Gutai artists also focused on play as a performative action in their attempts to be completely original. Play liberated these artists from insecurity and permitted them and their audiences to fully delight in their process. Akira Kanayama improvised a spur-of-the-moment drawing technique by attaching pens and paint cans onto toy automobiles to drive across paper surfaces.[67]

Play did not just inform the Gutai's artistic practice, it was also a strategy for them to stimulate their audience to appreciate their works on a more experiential degree. The following year after the group's first monumental exhibition, the Gutai Art Association held another open-air, public event at Ashiya Pine Grove in 1956. For nearly a fortnight, visitors were allowed 24-hour access to a forest that was outfitted with numerous interactive installations and works. Prompted by the idea of the audience as co-creators, people were encouraged to partake in the exhibition experience by playing as a community inside the forest of art. The Gutai shared their communal spirit of play with the greater public through the length of this outdoor exhibition. Beyond mere observation, visitors could modify each work in a direct and tactile way.

Shōzō Shimamoto's minimal box creation, *Please Walk on Here* (1956), was triggered by people physically treading across its planks so that they could feel the unwieldy motion of its hidden springs. *Work (Red Cube)* (1956), by Tsuruko Yamazaki, washed a red light over the reflections and silhouettes of those who entered the artist's vinyl construction to incorporate their forms into the environment. *Please Draw Freely* (1956), a blank board set up by Yoshihara,

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[67] Alexandra Munroe, *Japanese Art after 1945: Scream against the Sky* (New York: Harry N. Abrams, 1996).

invited the community to scribble graffiti of whatever they pleased (fig. 10).[68] The encounters

with the works were also different for each person since things were subjected to a manifold of

variable factors like time, weather, materiality, and even the actions of other participants.

Regardless of critical interest in their artwork at the time, the Gutai Art Association continued to

include play and interaction among other strategies in their works. The Gutai took great

measures to reach beyond the boundaries of conventional art in their activities. In lieu of the

more standard circumstances of art viewing, a playground-like result comes forth where the

audience can be in direct dialogue with artists.[69]

The avant-garde sensibilities of early Japanese artist groups like the Gutai had a

substantial impact on generations of artists to come. Their conceptual insights on issues of play,

experiential relationships, and interdependence have an implicit resonance even on later artists

whose oeuvre largely deals with the digital media domain. As Japan was rapidly industrializing

in the 1960s, the country's technological revolution had a significant impact on the

representation and reception of art. Tomoe Moriyama, Curator at the Tokyo Metropolitan

Museum of Photography and the Project Associate Professor at The University of Tokyo, also

calls the swift expansion of Japanese digital art through the years as the expected result of an

interdisciplinary STEM-based curricula in schools and the growing availability of computer

technology.[70] Japanese digital art was born out of joint efforts of the multiple industries hoping

to close the gap between art, design, and science.[71] Both artists and tech specialists alike have

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[68] Ming Tiampo, "Gutai Chain: The Collective Spirit of Individualism," *Positions: Asia Critique* 21, no. 2 (March 1, 2013): 383–415.

[69] Haverford Libraries, "Japanese Modernism across Media | Outdoor Exhibition Practices · the Gutai Group: Engaging in Experimental Methods," ds-omeka.haverford.edu, accessed July 5, 2020, https://ds-omeka.haverford.edu/japanesemodernism/exhibits/show/gutaigroup/outdoor-exhibition-practices.

[70] Tomoe Moriyama, "Next Generation of Digital Art – Current Situation and Student Works in Japan," SIGGRAPH Educators Program 2006, no. 49 (2006).

[71] Emilia Sosnowska, "Touch, Look and Listen: The Multisensory Experience in Digital Art of Japan," *Journal of Science and Technology of the Arts* 7, no. 1 (November 30, 2015): 63.

found an interest in using technology as a tool to push the possibilities of expressive creation, so

that the synthesis of technology and art has manifested into a highly sophisticated artistic

movement beyond the analog sphere.

Another early precursor to teamLab is found in CTG (Computer Technique Group), a

tech art collective founded in the December 1966 by a happenstance meeting of engineering

students Masao Kohmura and Haruki Tsuchiya in Tokyo. All CTG members worked at IBM

Scientific Data Center, a research lab that also partially funded the collective's goals as an

investment into interdisciplinary research. *Asahi Journal* described CTG as radical "Electronic

Hippies" since the group saw technology as instrument to scrutinize humanity's relationships to

the self and against the encroaching scope of a capitalist society.[72] Such concerns are expressed

in CTG's manifesto, which reads:

> We, the post-war generation, have been exploring our place in machine society for all our
> born days. Living without machines is attractive in its own way in our dreadful age but it
> is regressive evolution back towards apes and is different from the creative evolution we
> are aiming for. We will tame the computer's appealing transcendental charm and restrain
> it from serving established power… . By a strategic collaboration with artists, scientists,
> and other creative people from a wide variety of backgrounds, we will deliberate
> carefully the relationships between human beings and machines, and how we should live
> in the computer age.[73]

The group held a downtown office space where they operated multiple ventures. CTG

functioned as an analytical think tank that managed graphic design services and participated in

the traditional art world through international happenings and expositions. CTG examined

themes of humanism and Pop art appropriation through imaging processes made possible by

different computing solutions. Their main artistic production surmised of the abstraction of

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[72] Jung-Yeon Ma, "'Goodbye Computer Art'; Interview with Haruki Tsuchiya," Research Institute for Systems
Technology, 2015, http://www.systemken.com/company_eng.html.
[73] compart center of excellence digital art, "CTG Japan," dada.compart–bremen.de (Database of Digital Art),
accessed February 10, 2021, http://dada.compart-bremen.de/item/collective/9.

figurative subjects into geometric forms with lithographic drawings made on programmable XY-plotters and 16 mm film animations recorded from collated image stills.[74] Tokyo Art Gallery was transformed into a "happening zone" for CTG's 1969 exhibition, *Computer Art: Media Transformation through Electronics*. The exhibition would respond to gallery visitors who came into the happening zone through an interactive computer system that was based on microphone and photosensitive sensor relays. The installations ruminated on the popularity of action painting and reproduction of cultural images through a mechanized lens. One of the works on display was *Plotting Field* (1967). The group made drawings on location through a CalComp plotter, a computer graphics output device that controlled the motions of a pen across a drum of scrolling paper. *Plotting Field* worked on a schematic algorithm that reproduced randomized drawings of President John F. Kennedy's official White House portrait into complex layers of variable alphabetical and symbolic characters (fig. 11).

Internationally, CTG gained fast traction with notable participation in the Sixth Paris Biennale and *Computerkunst – on the eve of Tomorrow* in Hannover, Germany in 1969. Unfortunately, their viability as a collective was short-lived. In 1970, its members disbanded due to their limited resources as students and a mutual feeling of futility. Since computer technology was only accessible to a few circles, few people understood the motivations behind their work. In 2015 interview with Jung-Yeon Ma, Tsuchiya discussed his thoughts as a CTG member on the computer's role as an agent for societal change. Regarding the dissolution of the collective, Tsuchiya felt that the overall resistance to computer art could only be remedied in the future if technology became more commonplace through ease and affordability: "If such conditions could become true, then many people would enjoy computer art without distinction of engineer or

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[74] compart center of excellence digital art, "CTG Japan."

artist."[75] CTG succumbed to a multitude of circumstances but other artists have picked up on the sense of artistic idealism and innovation available in technology.

TeamLab's development is reminiscent of the operations of another international tech-art organization, the New York-based collective E.A.T. (Experiments in Art and Technology) which was led by the electrical engineer Johan Wilhelm "Billy" Klüver of Bell Telephone Laboratories. In the late 1960s, E.A.T. was established to connect creatives and engineers who were interested in new technologies to open a dialogue on the state of humankind overall. E.A.T. regarded their proceedings as visionary practices that could be useful to all branches of life and not just the art world. Paired with artists, engineers welcomed the prospect of humanizing their efforts considering criticisms that their field was complicit in its contributions to societal evils like war and ecological damage. In collaboration with Japanese artists, E.A.T. was commissioned by PepsiCo to design a futuristic installation for the Pepsi Pavilion at Japan's Expo '70. The organization conceived of the Pepsi Pavilion in computational terms. The building was the "hardware" setting where its members would implement "software" in the form of performances and installations for an environment that engaged several senses. E.A.T. set out to create something that offered its visitors an individualized experience that would demonstrate bold and free-thinking principles to the later mortification of its commercial backers.[76]

Equipped with reactive handsets, visitors could embark on their own adventure throughout the pavilion since E.A.T. arranged the space so that people were enabled to freely roam and explore (fig. 12). The main room of the pavilion was a massive mirrored dome that disrupted the orientation of visual and auditory senses. People saw their distorted funhouse

[75] Ma, "'Goodbye Computer Art'; Interview with Haruki Tsuchiya."

[76] W. Patrick McCray, "Big in Japan: When Artists, Engineers, and PepsiCo Collaborated, Then Clashed at the 1970 World's Fair," IEEE SPECTRUM, March 2, 2020, https://spectrum.ieee.org/tech–history/silicon-revolution/when-artists-engineers-and-pepsico-collaborated-then-clashed-at-the-1970-worlds–fair.

reflections hovering in the dome's globular mirror curves. The dome's shape also created an

acoustic dissonance as voices and noises bounced around in overlapping echoes. Krypton laser

lights enveloped people in dancing, rainbow patterns. The floors were covered in hard and soft

materials so visitors could feel the textural difference as they ambled across. The user-

programmable handset also emitted an assortment of sounds including chirping birds, whale

songs, and whirring lawn mowers as the visitor moved around to corresponding installations.

The most captivating feature was created by the artist Fujiko Nakaya who obscured the

outer pavilion's geometric architecture under an undulating fog that evoked the billowing cloud

motif of *ukiyo-e* paintings. Nakaya hoped that the fog would mesmerize visitors so that they

would walk into it and witness themselves disappear into the mist. E.A.T.'s PepsiCo Pavilion

attracted an enthusiastic public and was critically celebrated for its integrative and forward-

minded installations. [77] Unfortunately, PepsiCo's financial backers were displeased with the final

product since it did not align with what they had originally envisioned. Loathing the pavilion's

original appearance, E.A.T. strategized to conceal its structure under its artworks. PepsiCo

severed their partnership with E.A.T. for their work's tongue-in-cheek dismissal of corporate

interests and opposition to the company's strict guidelines. Despite this conflict, the collective

persists today as a global nonprofit that fosters emerging tech art collaborations.[78]

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[77] The PepsiCo Pavilion was an avant-garde installation experience that seemed to tap into the "disco" fever of the 1970s. As an international fad, disco ushered in a new era of social culture based in dance clubs which became playful sites of seduction and imagination. Clubs incorporated technology, music, and fashion to blur the lines between fabricated and real experience. The iconic "mirror ball," was a large, revolving sphere covered in small mirrors that fragmented light into synchronized patterns. Along with other musical and visual props, the mirror ball was a prominent feature on dance floors that was used to visually enhance the rhythm of the music. St. James Encyclopedia of Popular Culture, "Disco," Encyclopedia.com, May 23, 2018, https://www.encyclopedia.com/sports-and-everyday-life/fashion-and-clothing/clothing-jewelry-and-personal-adornment/disco.
[78] McCray, "Big in Japan: When Artists, Engineers, and PepsiCo Collaborated, Then Clashed at the 1970 World's Fair."

Another strong forebearer to teamLab can be found in the pioneering digital art installations of Yoichiro Kawaguchi. He codes calculated visuals that are based on the theoretical interpretation of biological processes like growth and evolution. Along with his outlook on nature's innate sequences, Kawaguchi also analyzes how cyberspace influences his work. The artist heavily relies on software programs to randomize simulations to imitate the mercurial phenomena of life forms. He first rose to international attention at the SIGGRAPH conference in 1982 for the imagery and research from his *GROWTH Models*, an autoregulatory digital algorithm that replicates cellular division.[79] People were amazed by the amoebic and fluid appearance in Kawaguchi's art because it contrasted the structural geometric rigidity of early wave computer graphics (fig. 13).[80] Kawaguchi's later projects contemplate the implications of technological advancement and augmented reality in relationship to the self through playful human interaction.

For his collaborative performance series called *Mobile Growth* (2002), Kawaguchi developed installations of his *GROWTH Models* where people could use their cellphones to create their own version of his "artificial genetic codes." *Mobile Growth* was set up with large screen projections that engulfed those who stood inside it. Participants could call a phone number that then connected to a computer program that determined the visual output of the interaction. Using the call history, the program would generate a virtual image that was based on the individual integers of the participant's phone number. Each individualized genetic code would birth wobbling globs that grew limbs and tendrils in fractal patterns. *Mobile Growth* submerged people into an alien, primordial soup as their resulting morphogenesis came to life

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[79] ACM SIGGRAPH, "2010 Distinguished Artist Award: Yoichiro Kawaguchi," www.siggraph.org (ACM SIGGRAPH Press Release, 2010), https://www.siggraph.org/about/awards/2010–art–award.
[80] Ippolito, "From the Avant-Garde: Re-Conceptualizing Cultural Origins in the Digital Media Art of Japan," 146.

around them. Cellphones could also be used to control the genetic codes according to whatever growth pattern the participant desired and the codes were exchangeable so that new combinations could be formed.

Audiences were electrified by this highly custom experience and personalized *Mobile Growth* pieces were printed so people could take their creations home. Using the cellphone as a playful tool, this work opens a dialogue on the conception of self as understood through the extension of one's devices. This piece was one of Kawaguchi's many conceptual installations where the real world was unified with cyberspace to form an alternative art space.[81] Kawaguchi designed his works to also pave the way for a new comprehension of art where one can engage their full senses in his integration of user experience. The artist also views his installations as a living interstice between the cyber and real world where user input breathes art alive as an extension of his hypotheses about organic life's potential.[82]

It might seem like a stretch to link the works of early avant-garde artists whose realize their art solely through physical materials to digital media artists who mainly operate through computers. It is not the materials that are necessarily important but rather how the artists used media catalyst for new interpretations of art. Digital artists also contemplated on play, experimentation, and relationships in a similar manner to their avant-garde predecessors. Digital artists sought to understand how technology could be employed to activate the viewer's art experience further. This mindset is arguably derived from the Gutai's unconventional avant-garde practices which compel the viewer to understand nonconcrete concepts through playfulness. Artists like CTG, E.A.T., and Kawaguchi paved the way for teamLab's work to

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[81] Yoichiro Kawaguchi, "The Art of *GEMOTION* in Space," Tenth International Conference on Information Visualisation (IV'06), July 5, 2006, 3.
[82] Kawaguchi, "The Art of *GEMOTION* in Space," 3.

exist in the capacity it does today. The historical precedence of these artists also reveals the progression of how play, art, and technology was publicly perceived. From its beginnings, digital art was challenged by societal misunderstanding and rejection because it was only available in corporate industrial sectors. As computer and smart device technology became more accessible to people, the resistance to digital art seems to have loosened up. This brief selected historical timeline was not meant to be comprehensive, rather it serves as a modest sketch to better position teamLab's work within the grander scheme of Japanese art and technology. TeamLab's works are part of an ever-evolving artistic lineage that prioritized viewer experience through the multisensory and interactive qualities of their art.

PLAYFUL AESTHETICS

In 2012, when Inoko was asked about whether teamLab's works were art or technology for the documentary series *Jônetsu tairiku*, he flippantly replied, "It is a joke."[83] Inoko claimed that the collective was originally created simply because he wanted to make something fun with his good friends as a 23-year-old college graduate back in 2001.[84] His glib responses effectively summarize the playful, creative impulse behind teamLab's digital motivations. Visitors to teamLab's works often comment on the video game-like quality of their installations. For the Art Channel's video exhibition review of teamLab's solo exhibition *Transcending Boundaries* at London's Pace Gallery in 2017, presenter Joshua White observes "There is a strong influence of Japanese culture in anime [and] video games…[these] traditions come to the fore but it sort of becomes universal in this sense of spectacle and wonder [through] the immersion you have in

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[83] 83 Manichi Broadcasting System, "Jounetsu Tairiku - Toshiyuki Inoko (TeamLab) / Eng Ver."
[84] Ibid.

this extraordinary digital alternative reality."[85] While video games mechanics are implicitly

featured in teamLab's oeuvre, the *otaku* cultural impact is best seen in an early work called

Digital Café and Digital Bar (2011) for maidreamin' SHIBUYA restaurant. Maidreamin' is a

popular tourist restaurant chain that features waitresses cosplaying as cute (*kawaii* かわいい)

maids.

For the chain, teamLab wanted to recreate a smaller version of the bustling Akihabara

Electric Town, which is an iconic Tokyo district known as an *otaku* haven where one can indulge

in the flashy pixel pleasures of the digital age. With play elements that reference famous video

games, *Digital Café and Digital Bar* turns the restaurant into a digital theme park. When visitors

jump and punch the colorful floating digital block lights they become the heroic plumber Mario,

the titular protagonist of Nintendo's media franchise (fig. 14). Every time the block lights are

pummeled, tiny anime maids dance and run around franticly in the restaurant's digital displays

(fig. 15). Charming sound effects like "Boko!" and "Pyooon" ping around in the space as people

play.[86] The work expresses how teamLab endeavors to meld the digital domain into real space as

interactive interfaces for better connection between others.

In the 21st century, the advent of digital media and technological artworks shows a

distinct link between art and play. Artists working in digital media have always welcomed

audiences into electronic dimensions where the possibilities of human expression are limitless.

Digital art media often emphasizes spontaneous and co-collaborative activities so that audiences

are left marveling at the medium's immersive potential.[87] Interactivity and audience engagement

have been crucial for the acceptance and inclusion of play into art. Arranging a museum or

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[85] Grace Adam and Joshua White, "TeamLab at Pace Gallery on the Art Channel."
[86] TeamLab, "Digitized Cafe," teamLab, 2011, https://www.teamlab.art/w/maid/maidreaminshibuya.
[87] Ellen Handler Spitz, "Art as Play?: The Digital and the Surreal," *American Imago* 66, no. 1 (2009): 111–18.

gallery as a playscape has differing motivations than other entertainment and leisure industries due to their cultural investments to society. Yet, museums and galleries must still contend for the attention of the masses against these existing alternate options. Today, art institutions are reinventing their approach to the public as they vie for attention against other entertainment forms. The art establishment has been implementing strategies to garner more attention from crowd pleasing events like pop-up programs and blockbuster exhibits. Nevertheless, museums and galleries have the advantage in some ways. Exhibitions have an air of romantic cultivation that can rarely be mass-produced. As such there is an air of unique experiences beyond other counterparts that cater solely to one's amusement and satisfaction.[88] For visitors, a typical art experience offers up a means of public discourse through curated objects and ideas – it requires both contemplation and concentration.[89]

Positioning play into art has been a conflict that defies conventional definition. The issue lies in the two's seemingly incompatible objectives. Introspection is encouraged by art, but play necessitates involvement and interaction. When mixed, play and art produces a volatile formula that tests the established fine art world.[90] Amusement has now infiltrated the once impregnable sanctity of the art exhibition. This step away from standard formalities may appear to many as a collapse into the irreverence and senselessness of entertainment to some. For the countless others in the public, art spaces are suddenly becoming a source of fun.[91] The incorporation of playfulness certainly has been a clever tactic, but it is much more than a passing gimmick to catch people's interest.

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[88] Ri Pierce-Grove, "Pressing Play: Digital Game Techniques and Interactive Art," 471.

[89] Ibid., 471.

[90] David Thomas, "Electric Kool-Aid Playground: What Happens When an Art Museum Plays with Beauty?," in *Fun, Taste & Games: An Aesthetics of the Idle, Unproductive, and Otherwise Playful* (Cambridge, Massachusetts: The MIT Press, 2019), 94 – 97.

[91] Thomas, "Electric Kool-Aid Playground: What Happens When an Art Museum Plays with Beauty?," 101–2.

Digital art trends show that artists are moving beyond mere aesthetic contemplation by incorporating ludic and participatory elements. Methodological investigations into how play fits into aesthetics reveals that the chaotic nature of fun and games can be rationalized. Play in the context of art has more substance beyond its jocund façade. Defining play poses a dilemma since it is a recreational pursuit that takes on diverse formats. There are several existing meanings, many of which are comically vague or paradoxical. The question arises as to how play has an organizational purpose. This is where the intent to describe play as positive and communicative, or cooperative form of sociability comes to the fore. In this definition, play is a subjective social exercise that encompasses wholly incidental conditions which are also somehow completely essential for participants to fully engage. A humanist perspective describes play as a willing, purposeful, or internally driven practice. It also supports play as the ideal accomplishment of human agency. Whenever we play, and specifically when we play with art, we are utterly free to be ourselves.[92] Play promises personal autonomy – to play is to integrate the self with an artwork in a way unlike any other.[93]

As a theoretical premise, play may seem nebulous but there has been a long tradition of associating play with aesthetics.[94] Play is often rationalized as the expansion and circulation of aesthetic activity due to the social benefit it provides to anyone who chooses to participate.[95] Still, its validation necessitates an examination of various methodologies across disciplines ranging from social psychology to video games theory. By examining play through the

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[92] German philosopher Friedrich Schiller was an early proponent of connecting play to aesthetics. He sees play to self-actualization. Man has a "play impulse," which is activated by burst of profuse energy. The play impulse is an equalizer between man's two opposing identities: the sensuous animalistic side and his more rational side. In art, play can provide one an internal equilibrium with the self through a sense of agency and freedom where possible. Friedrich Schiller, *On the Aesthetic Education of Man* (London: Penguin Classics, 2016).
[93] Stott, *Play and Participation in Contemporary Arts Practices*, 16.
[94] Hilde Hein, "Play as an Aesthetic Concept," *The Journal of Aesthetics and Art Criticism* 27, no. 1 (1968): 71.
[95] Hein, "Play as an Aesthetic Concept," 69.

overlapping lens of society and popular culture, we might better understand its relevance to the aesthetic experience. These game theories provide an introductory framework for further developments on how we can conceive of play's integration into teamLab's works. A consistent proposal throughout a variety of play methodologies touch on how it can nurture a rudimentary feeling of communal belonging amongst previously unassociated people who choose together to enter a sort of play state beyond reality.

The "new game movement" of the 1970s saw play as a community building practice that the prioritized teamwork over rivalry. It shows how a provisional community evolves from play as people bond together through cooperative behavior and knowledge.[96] In *Fun, Taste and Games: An Aesthetics of the Idle, Unproductive, and Otherwise Playful,* John Sharp and David Thomas set out to define an aesthetics of play that is loosely modelled on Immanuel Kant's aesthetic structure of beauty, taste, and art. Using Kant as a starting point, Sharp and Thomas rationalize play by exchanging beauty for fun as the main subject of inquiry. Play can be made sense of through fun, which is what one experiences when engaging with an object or situation in a playful way. Fun is developed through a player's attitude and acceptance of play as a circumstance that either can be highly personal or a way to connect with other players.[97] Artist and game design researcher Troy Innocent has also elaborated on play's overall social benefit inside the public sphere. Participants only play when there are mutually coordinated guidelines. Thus, an agreement to play introduces another degree of reality unfettered by its actual concrete circumstances. Instead, there is a chance to imagine reality along the lines of what is possible.[98]

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[96] Dale N. Lefevre, *Best New Games* (Champaign, Illinois: Human Kinetics, 2012).
[97] John Sharp and David Thomas, "The Search for Fun," in *Fun, Taste & Games: An Aesthetics of the Idle, Unproductive, and Otherwise Playful* (Cambridge, Massachusetts: The MIT Press, 2019), 3–21.
[98] Innocent, "Play and Placemaking in Urban Art Environments," 1.

Play also presents an opportunity to momentarily suspend the real world.[99] Game designers Katie Salen Tekinbaş and Eric Zimmerman's book *Rules of Play: Game Design Fundamentals* revises Huizinga's concept of the "magic circle" to highlight the peculiar condition wherein life's ordinary rules are paused and superseded by the alternate reality of the play world. The magic circle is where play takes place. By participating in a game, one can join or help build a magic circle.[100] In this world, players willingly acknowledge play's odd demands in return for the possibility of an entertaining encounter.[101] When people play, everyday routines are briefly left in suspension for the chance to act silly or ridiculous. The real world isn't abandoned for play, rather facets of it are inscribed in a way to let play materialize.

Impromptu togetherness, positive relationships, and personal transcendence are especially highlighted by teamLab as concepts they hope to impart their visitors with. For teamLab, these ideas are fully realized through interactive components. Interactivity can bridge gaps of knowledge and background in art by consolidating these elements under a more easily accessible premise. The collective invites their visitors to participate and influence an interactive realm of overlapping digital and real-life spaces.[102] By incorporating its audience through varying levels of interactivity, teamLab is investigating the different pathways into the aesthetic experience.

Within a physical space, the interactive components in a teamLab work are generally activated through bodily investigation. The experiential physicality behind the visitor's interactions in their exhibition spaces is a crucial aspect for the collective. Interactive elements have a crucial role in the relationship between art and audience since it encourages a kinesthetic

[99] Hein, "Play as an Aesthetic Concept," 69.
[100] Katie Salen Tekinbaş and Eric Zimmerman, *Rules of Play: Game Design Fundamentals* (Cambridge, Massachusetts, The MIT Press, 2010), 95.
[101] Johan Huizinga, *Homo Ludens: A Study of the Play Element in Culture* (London: Paladin, 1971).
[102] World Economic Forum, "Visionary Art Digital World | Toshiyuki Inoko," *YouTube*, August 17, 2016, https://www.youtube.com/watch?v=Z_jtB1_j8ik.

awareness that resonates with the dynamism of aesthetic experience. Visitors can use their bodies to walk, dance, jump, and touch different works.[103] TeamLab's interactive art exhibition transform visitors into players by encouraging them to indulge in impulsive, willful, and delightful action in public spaces where it was previously forbidden.[104]

As tech-savvy denizens of the digital age, teamLab has always experimented with the capabilities of the internet. *Graffiti@Google* (2012) is an ephemeral web-based artwork created from the algorithms of the Google Image Search engine (fig. 16). People can type in a certain keyword and a murder of flying crows will dive bomb the search results. When asked about the relevance of the work, Inoko commented, "The young generation would get the point because they use Google every day."[105] As a forum for societal development, the internet is primarily focused on user interaction since most websites are developed to connect people on shared values and beliefs. There is now sharing culture of millions that has developed from how computers and smartphones create and access digital content. Throughout the years, the collective has stayed on top of Internet trends to navigate and tame cyberspace to its advantage.[106]

Described as "Instagrammably artsy," teamLab's works regularly feature as the stunning backdrops to thousands of user images on social media feeds.[107] Looking up the collective on a search engine will pull up dozens of results with advice on how to get the best shots for social media. Interestingly, it seems that posting about teamLab's art on social media sites has become

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[103] Inoko, "Inside teamLab: Blurring the Border between the Self and the World," 20.
[104] Ri Pierce-Grove, "Pressing Play: Digital Game Techniques and Interactive Art," *Games and Culture* 9, no. 6 (September 15, 2014): 468–79.
[105] Manichi Broadcasting System, "Jounetsu Tairiku - Toshiyuki Inoko (TeamLab) / Eng Ver."
[106] Xin Kang, Wenyin Chen, and Jian Kang, "Art in the Age of Social Media: Interaction Behavior Analysis of Instagram Art Accounts," *Informatics* 6, no. 4 (December 7, 2019): 2–3.
[107] Siree, "Step into Tokyo's Most Photogenic Art Experience!"

another interactive dimension of the collective's art.[108] The Internet and social media has

substantially changed the aesthetic experience to reconsider how the public interacts with art.

The widely popular photo sharing app Instagram is where teamLab has the strongest online

presence.[109]

Since the app is based on visual content, it has been instrumental for how targeted

communities can connect with the art world. Through its various interactive features, Instagram

can expand the aesthetic experience beyond the initial exhibition visit since people will post

content as mementos of what they've done. As the art experience moves online, audiences feel

that the interactions spurred by their digital activities and contributions hold social relevance

now more than ever. Visitors can become part of the creative process through their viewing,

documentation, and sharing of works. The participation and knowledge stemming from their

collated social media activities also maximizes the aesthetic experience to the benefit of the

artists.[110] The collective capitalizes on this by reposting content by influential users on their

public accounts. Boasting almost two million likes, one of teamLab's most popular posts was

made by the former First Lady of the United States of America, Michelle Obama.[111]

An example of teamLab's awareness of how smart device technology can influence and

interact with art would be their "light sculpture" series. These works rely on the use of

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[108] Tezuka, "A Vast Ocean, a Boundless Sky: The Digital Liberation of teamLab," 10.

[109] As of April 2021, the statistics from their Instagram profile reveals 247.3k followers, 1.6k uploads, and 673,531 posts on the #teamLab hashtag. teamLab, "teamLab," www.instagram.com (@teamLab, n.d.), https://www.instagram.com/teamlab/?hl=en.

[110] Adam Suess, "Instagram and Art Gallery Visitors: Aesthetic Experience, Space, Sharing and Implications for Educators," *Australian Art Education* 1, no. 39 (January 2018): 107–16.

[111] In an ode to Barack, Michelle posted a gallery of the couple together in the teamLab Planets museum. Flourished with a red heart emoji, the post's caption read, "Happy Valentine's Day, @barackobama! Life is always brighter when I'm by your side." Michelle's fans were piqued by the post's highly Instagrammable factor leaving comments like "I love this pic" (@hyesjshoponline), "Great, I want to go there too!!" (@cook_with_me_00), and "Where y'all at?" (@anubarber). Michelle Obama, "Happy Valentine's Day, @Barackobama! Life Is Always Brighter When I'm by Your Side.," Instagram.com (@michelleobama, February 4, 2021), https://www.instagram.com/p/CLRqiGNL20g/?hl=en.

programmable LED lights to render three-dimensional forms through accumulated light points. Inspired by pointillism, the *Infinite Crystal Universe* (2018) uses the light points of multiple LED strands to create a multidimensional light projection (fig. 17). With the use of mirrors, the effect seems to spread infinitely in every direction. The space itself is open so that visitors can wander amongst crystalline curtains of threads that twinkle in sparkling lights. In this space, the smartphone serves as a tool for creation. As effects are virtually tossed and flung into the environment, one still needs to pay attention to their surroundings by looking and walking around to observe what is happening.

People can download a specific app on their smartphones and use it to upload different effects into the installation by browsing a gallery and swiping up their desired effects as projections (fig. 18). As the suspended LED strands receive the data from people's smartphones, the uploaded elements are then rendered in shimmering and glittering lights. These effects are responsive and react to the presence of people's interactions within the work. As people swipe effects into the piece, their interaction influences how the effects are visualized in the piece. Colorful lights will flicker to create intricate patterns that change constantly but only if people work together to upload these elements. The assorted light combinations might also cause the installation to stimulate spectacular natural phenomena like rainfall, star showers, or auroras. The resulting light sculptures are constantly evolving with every interaction to show how the actions of the individual can impact the group and vice versa. The space is designed to inspire playful participation to trigger unexpected and wondrous moments inside the gallery space.[112]

TeamLab is trying to position their art as models of potential human progress through the participant's involvement with play. As mentioned before, the act of play can grant a momentary

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[112] TeamLab, "The Infinite Crystal Universe," teamLab, 2018, https://www.teamlab.art/w/infinite_crystaluniverse.

existential alternative to current reality where the everyday is suspended. Inside this suspension, players can also envision new possibilities and form transitory communal bonds.. It is becoming more widely accepted for artistic activities to concentrate on interpersonal connections. Artists working in this manner now focus on the possible interactions that can be created for an audience to form their works.[113]

As a means of stimulating participation, play is an informal yet investigative activity that transfers agency from the artist to the audience. Artistic activities are viewed as a continuous development of structures, dynamics, and purposes. In other words, it is a metaphorical game that adapts to temporal and social constructs.[114] Artist-initiated interactions are frequently configured into art through games, which are simple or complex rule systems that organize and establish play. Generally, the rules of a game formalize and define play towards the achievement of a common goal through communicative and social functions.[115] In conceptualizing art as a game, play becomes an instrument to rouse or maintain interpersonal encounters by including some degree of serendipity and spectacle.[116] Future worlds can be proposed and revealed inside the aims of these relational artworks. Artists can build realities where utopias become feasible through their experimental prototypes of what human interaction can do and could be.[117]

The exhibition space becomes a forum for exchanges where the encounter between art and participant enacts a mutual articulation of meaning. *Ludic participation* describes any interaction that places a premium on games and play to devise sociability between others whether it be from the participant to the artist or from participant to participant. With the

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[113] Bourriaud, *Relational Aesthetics*, 28–9.
[114] Ibid., 11.
[115] Stott, *Play and Participation in Contemporary Arts Practices*, 138–39.
[116] Sharp and Thomas, "The Search for Fun," 30–1.
[117] Bourriaud, 13–4.

growing prevalence of ludic participation in art, the term *playground* has become an apt

description for this arena of exchange. A playground refers to artworks that span across a range

of interconnected disciplines and genres that enable people to join in on a course of activities that

involve various conditions, devices, and others who are within the space. It is a magic circle of

limits and of possibilities where play is possible. It is organized by delineating dividing lines

between play and non-play, between players' teams, and between the playing area and beyond.[118]

Inside the playground, the artist recognizes inter-subjectivity and interaction as necessary

components of ludic participation. These ideas are used as the core of their activities with play

working as a means of social organization. The playground is the space of interaction

and transparency that welcomes new interchanges. It allows for an artistic praxis that is

embedded in the inter-human circle of social exchange as the aesthetic experience. It is a tangible

dimension that links individuals and groups together – other viewers are now fellow interlocutors

to the artwork.[119]

    A key factor behind much of teamLab's creative motivations in digital art is the

exploration of relationships. The collective is conscious of how a traditional exhibition

experience usually occurs and hopes to transform it into what they believe is better. The most

optimal viewing of traditional works is static and based on a relationship of aesthetic

contemplation with an individual viewer which teamLab perceives as an implicit boundary.

Within the standard exhibition experience, art does not typically react to viewers and the

proximity of other viewers might pose an interference to one's experience as people jostle for the

best position to see. In contrast, teamLab proposes that the interactivity of digital art has the

capacity to redefine the relationships amongst people who are in the same environment. The

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[118] Bourriaud, *Relational Aesthetics*, 97–8.
[119] Ibid., 43.

collective stages their digital art installations as playgrounds where the physical boundaries

between artwork and audience are dissolved. Through a playfulness enacted through bodily

motions or supplementary tools, viewers become participants and are absorbed as part of the

artwork itself. Interactions with the work and others have a significant impact in which the

experience of the art transcends the individual to include all. Overall, teamLab seeks to cultivate

a positive atmosphere that is generated by the presence and actions of those who enter their

playgrounds.[120]

Located in their teamLab *Planets* museum, *Expanding Three-Dimensional Existence in*

Transforming Space – Flattening 3 Colors and 9 Blurred Colors, Free Floating (2018) is an

example of a playground work that applies ludic participation for relational connection. This

piece is one of many teamLab works that involve interspersed balloons of light, which the

collective regularly describes as spheres or ovoid forms, to either constitute an interior or

complement an outdoor space. The title of this work was drawn from kimono color combinations

from the Heian period (*kasane no irome* 襲の色). Silk textiles from this era were so transparent

that fabrics could be layered over each other to create a spectrum of complex colors. Inspired by

this aspect of kimonos, the collective replicated the color effect through these spheres of light.[121]

Free-floating spheres fill and illuminate a space with a colorful light. Inside the

installation, the visual elements are limited to the round forms of the balloons and the pure colors

that emanate from within. Upon entering the room, one is surrounded by bouncy clusters of

wobbling spheres that nearly fill up the entire area from floor to ceiling in a bubbling mass. The

floor is mirrored so that the room seems to expand infinitely. Due to the closeness and size of the

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[120] TeamLab, "Relationships among People," teamLab, 2001, https://www.teamlab.art/concept/relationships.
[121] TeamLab, "Expanding Three-Dimensional Existence in Transforming Space – Flattening 3 Colors and 9 Blurred Colors, Free Floating," planets.teamlab.art, 2018, https://planets.teamlab.art/tokyo/ew/transformingspace.

spheres, navigating the space requires some maneuvering, one must hit or push the balloons away. A visitor exclaimed, "I was surprised that the balloons are actually heavier than they look. Have fun headbutting, hugging and touching them but no punching!"[122]

Ludic participation here is accomplished through tactile action. As people whack, thump, or slap the spheres, their bodily impact prompts the balloons to change color. Once a single sphere is hit, it switches to a new color that radiates throughout the whole room as the rest of the balloons blink to adopt the adjustment. There is a musical accompaniment that also reflects the player's interaction, its tinkling melodious chimes crescendo and overlap as more spheres are struck. The spheres are all wirelessly connected and programmed to function as a single group even though they may float separately. A kind of relational experience transpires as people activate the spheres to change their color. As players hits a sphere, its color information is transmitted from one sphere to another until all are united in the same color. The action of one can grow to influence more.

TeamLab cites the internet as the inspiration for how interaction is structured in this work. Since the global spread of the internet, information has been easier to access as more people have become connected. Much of the content available online is created by participating in communities generated and driven by users. Virtually anyone can contribute information in some way on the internet. Images, videos, and comments may be posted by a one account but are incorporated as part of a site that is hosted on the worldwide web. Content from one person can also become viral, an online phenomenon where something becomes so popular that it is shared by thousands if not millions of users on multiple platforms. The individual becomes part of a

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[122] Siree, "Step into Tokyo's Most Photogenic Art Experience!"

greater network with the ability to openly exchange knowledge with the potential to instantly transform the world.[123]

The optical effect and appearance of the installation is reliant on the interactions that occur within. With less interactions, the spheres will reflect a monochromatic color that oversaturates the environment and its contents. The spheres' overpowering light seems to abstract the real space by washing things out to disappear into a single, flat color (fig. 19). With the presence of others, a simple cause-and-effect game coalesces. Whenever more people choose to play, the spheres will oscillate in pulsating colors rather than sustain a stable, unitary light. As players push and collide together, the ripple effect ramps up the speed and transition of the spheres' colors to flash in tumultuous yet rhythmic cycles. The colors become blurred and layered over each other for a luminous gradient effect (fig. 20). The space is constantly being transformed based on people's behavior.[124] With others in the space, sociability arises when it is realized that playful cooperation can result in creating something exciting.

The playfulness and interactivity of teamLab's works have not been limited just to their physical exhibition spaces as shown by their recent responses to world affairs. Considering their insistence that technology is a supplement and not a substitute for real life, this attitude took on new meaning in light of an international catastrophe. On March 11, 2020, Dr. Tedros Adhanom Ghebreyesus, the World Health Organization's director-general, officially declared that the world was suffering a pandemic by as result of the novel coronavirus disease (COVID-19).[125] In the year of 2020, many countries underwent new societal guidelines (i.e. lockdowns, social

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[123] TeamLab, "Homogenizing and Transforming World," teamLab, accessed February 16, 2020, https://www.teamlab.art/w/hatw.

[124] TeamLab, "Expanding Three-Dimensional Existence in Transforming Space – Flattening 3 Colors and 9 Blurred Colors."

[125] World Health Organization, "WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 - 11 March 2020," www.who.int, March 11, 2020, https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020.

distancing, and facial coverings) to circumvent the spread of the disease. For large portions of

the population, work and school routines were shifted from real life to be entirely online since

the remoteness helped in stopping the spread. While Japan did not impose a lockdown and has

had one of the lowest statistics of infected cases internationally, the adverse effects of the

pandemic were still felt by the country. In the first half of 2020, Japan entered its biggest

economic recession since the 1980s.[126] National mental health was also in decline as people were

more susceptible towards feelings of anxiety, despondence, and desolation.[127] With the

worldwide pandemic affecting millions, numerous people have been restricted to their homes

and are confronting a deeper sense of isolation since technology has been the only means of

communication for many.

The COVID-19 pandemic also upended the traditional art world. Following stay-at-home

mandates in March 2020, art museums and galleries closed off their exhibitions to the public. Art

spaces needed to reinvent public access to an online format.[128] Displaying steadfast optimism in

the face of uncertainty, the pandemic seems to have left teamLab unfazed in its efforts to provide

interconnected ludic experiences through the web. Considering their digital background, the

Internet crossover was an easy transition for teamLab. The collective was already been

meticulously documenting their works in videos and photographs available in open online

archives.[129]

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[126] Karishma Vaswani, "Japan Suffers Its Biggest Economic Slump on Record," BBC News, August 17, 2020, sec. Business, https://www.bbc.com/news/business-53802967#:~:text=Coronavirus%3A%20Japan%20suffers%20its%20biggest%20economic%20slump%20on%20record.

[127] Jun Shigemura and Mie Kurosawa, "Mental Health Impact of the COVID-19 Pandemic in Japan.," *Psychological Trauma: Theory, Research, Practice, and Policy*, June 11, 2020, 478–79.

[128] Ted O'Callahan, "The Art World in the Age of COVID," Yale Insights, October 15, 2020, https://insights.som.yale.edu/insights/the-art-world-in-the-age-of-covid.

[129] This self-awareness that is a conscious act of self-preservation. A common roadblock in historically writing or discussing digital art is the fact that there is little archival documentation. Many works simply disappear into the ether since the technology used to make and maintain them are obsolete and hard to find.

As a modest but hopeful gesture, teamLab has modified their art for people to enjoy from the comforts of their own homes. Since August 2020, the collective has premiered two participatory pieces, *Flowers Bombing Home* (2020) and *Walk, Walk, Walk Home* (2021), via YouTube's livestreaming capabilities. They are attempting to lessen the psychological burden of loneliness and physical isolation through these works. Both works are based on the interactive component of visitor-drawn "graffiti," which was a popular practice from their in-person works that has since been translated for online access. People are asked to create their own design from a flower or character template which they either print to color or decorate digitally through a smartphone app. Once finished, the completed designs can be uploaded online to join a community of hundreds of other drawings sent in from all over the world. There is an option to leave a name and location to be included with a drawing. All uploads are processed through a rendering program that brings them to life on the YouTube livestream.

In *Flowers Bombing Home*, the theme of cycling nature returns. Flowers, made up from the contributions of many, blossom and scatter onscreen in mesmerizing fractal formations (fig. 21). As petals disperse, their delicate movements are faintly traced in intersecting lines that create a swirling expressionistic background.[130] *Walk, Walk, Walk Home* plays off of teamLab's whimsical parade pieces which are loosely inspired by the *emaki* "Caricatures of Animals and Humans" (*Chōjū-jinbutsu-giga* 鳥獣人物戯画) and the traditional Buddhist autumnal celebration of the Awa Dance Festival (*Awa Odori* 阿波踊り). People can upload their own character design to perform in a worldwide procession from a series of templates consisting of a frog, rabbit, peasant, nobleman, or monk (fig. 22). As they move along through scrolling landscapes, each character undergoes different situations on their journey but somehow manage

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[130] TeamLab, "Flowers Bombing Home," teamLab, August 6, 2020, https://flowers-bombing-home.teamlab.art.

to keep up their pace. This is a visual manifestation of *Hoho kore dôjo* (歩歩是道場), a Zen expression stating that the path to learning is done step by step.[131]

The drawings of the flowers and characters become playful avatars for real people who cannot be physically together because of the circumstances imposed by the pandemic. As with the rest of their works, the distance between the art, self, and others are bridged through a virtual medium. *Flowers Bombing Home* and *Walk, Walk, Walk Home* each directly tap into already established online mediums of exchange. For virtual play and game communities, livestreaming content and allowing for user submissions are widely adopted practices that can bond random people together due to the unpredictable yet entertaining events that can ensue. Perusing through the uploaded galleries for the drawings is a fun task to see what kind of playful graffiti others have sent in. A few users have put in a lot of effort into their designs by rendering meticulously detailed facial expressions and clothes. Some have chosen to draw cartoon characters to overlay the templates – Pikachu, Doraemon, and Disney's Mickey Mouse can be seen dancing in the procession (fig. 23). The submissions by children are obvious with erratic colorful scribbles or wacky emoji-style expressions. One child uploaded a green-colored frog with pink writing that reads "froggy" (*kaeru* かえる) and another drew a screaming figure with an erupting Mount Fuji on his clothes.

These projects were launched so that participants could understand and find some comfort in the fact that this suffering is only transitory part of the spiritual life cycle. Despite the weight of the pandemic, everyone is interconnected in the universe. Art and culture will endure. Although home may not be a conventional art space, teamLab offers the tools to

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[131] TeamLab, "Walk, Walk, Walk Home," walkwalkwalk-home.teamlab.art, 2021, https://walkwalkwalk-home.teamlab.art.

help transform it into a provisional art playground. With computers and smartphones in most households, anybody can access these art projects, stay safe, and find a relational place in the bigger scheme of the works. Using a television or projector, one can also view teamLab's livestreams as an artistic addition to the domestic space. The livestreams will continue to grow and exist in perpetuity as people contribute their drawings. Though smaller in scope, these pieces still articulate teamLab's central objectives in which the creative experience continues to be readily accessible, collaborative, and enjoyable.

CONCLUSION

From its beginnings as a web development startup, teamLab continues today to experiment through the digital platform where the fluid margins of real life and art can become blurred together through playful interactivity. The multisensory quality of their digital works has launched new queries into how people can perceive art and ultimately the world around them. The collective has a distinctly Japanese flair as they are influenced by their native country's rich creative heritage. This is evident in their works as they appropriate traditional visual motifs and use avantgarde conceptual practices. Since digital art in Japan sprang from multi-industry partnerships to highlight national innovation, art and technology has always had cultural significance. Contemporary Japanese digital artists are also adapting East Asian philosophies on interconnectedness to the high-tech world. In interactive digital art, mind and body are treated as one since the engagement of all the senses are indispensable to the aesthetic experience. Artists like teamLab are going beyond mere observation by providing embodied experiences that integrate ludic and participatory elements.

As the art world finds itself in competition for public interest with other entertainment avenues, play and fun has infiltrated art spaces as a way for these settings to be more accessible than ever before. Situating the significance of play in art necessitates a manifold of various methodologies drawn from overlapping game and aesthetic theories. A clear-cut definition of play is hard to pinpoint but there is a consensus that playing with art allows for a greater sense of freedom and engagement. In play experiences, artists use games to organize and produce play. By involving a degree of chance and spectacle in their games, play can inspire interpersonal experiences. *Ludic participation* refers to components that can facilitate playful interactions among participants, whether it be from artist to participant or from participant to participant. This arena of exchange is described as a *playground*, a shared space that enables people to join in on amusing activities.

The discovery of relationships is the core aspect behind many of teamLab's artistic incentives. They recognize that digital art can redefine connections between people who are in the same space. At the crossroads of art and technology, teamLab nurtures play by indulging audiences' curiosity and childlike desires. Immersed in the technological dreamscapes, people can find themselves in a transformative magic circle where works beg for active and collaborative participation. Whether it be in real-life or virtual spaces, people can realize that we all exist as one part of a greater whole through play. In teamLab's digital playgrounds, the individual first finds agency through a subjective and embodied perception. Once the visitors all understand the rules of the game, their ludic participation moves from self-determination to shared activities to unleash a greater influence on their visual environments. Through a network of positive interactive connections, the playful aesthetic experience moves away from the self to become universal.
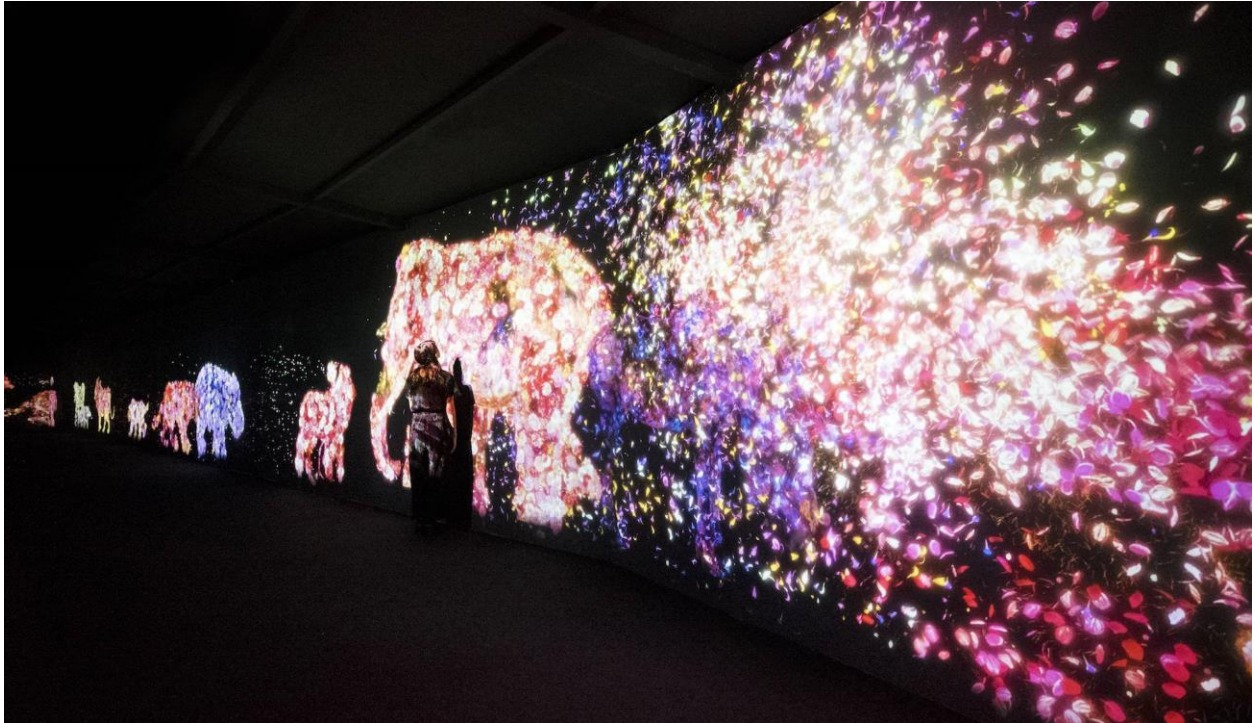
Figure 1

teamLab
Animals of Flowers Born in the Flower Forest, Symbiotic Lives, 2018
Interactive digital installation, Sound: Hideaki Takahashi
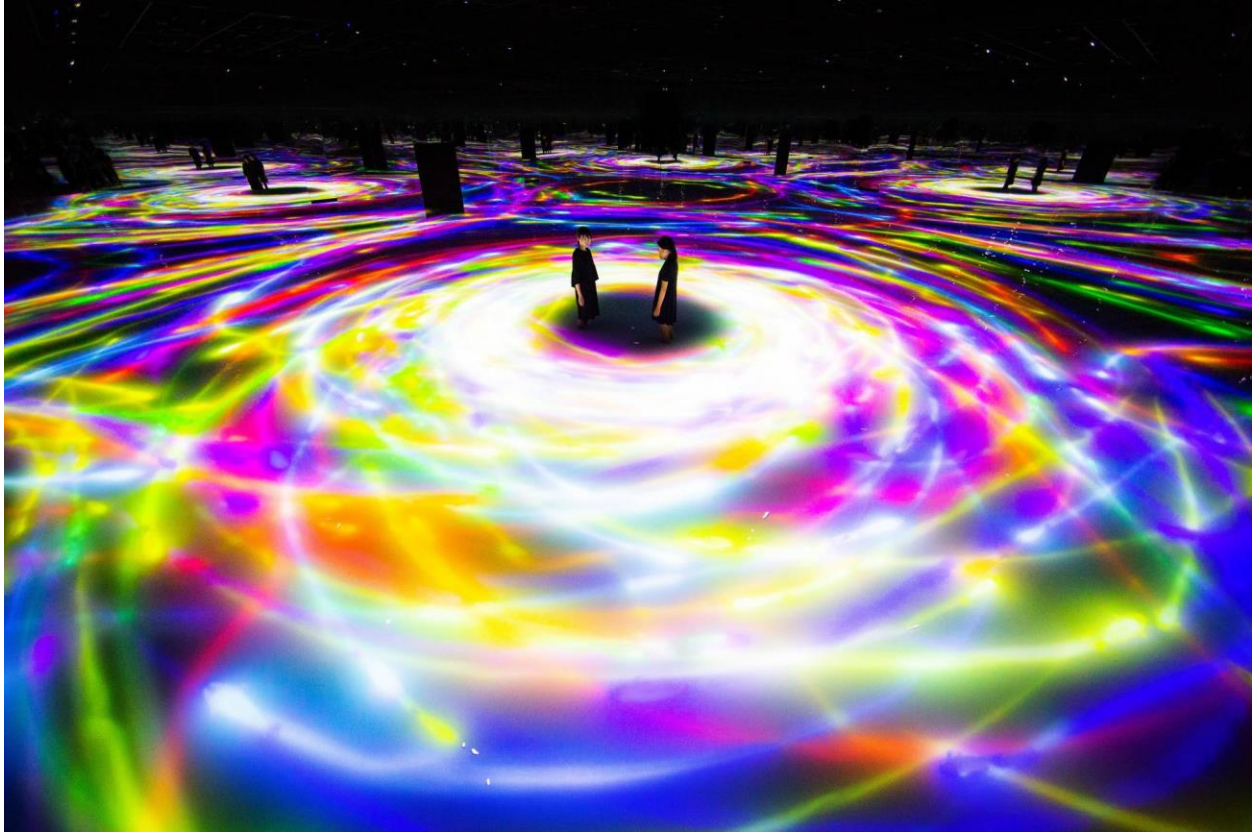MORI Building Digital Art Museum: teamLab Borderless, Tokyo, Japan
Reproduced https://www.teamlab.art/ew/symbiotic

Figure 2

teamLab
Drawing on the Water Surface Created by the Dance of Koi and People – Infinity, 2017
Interactive digital installation, Sound: Hideaki Takahashi
teamLab Planets, Tokyo, Japan
Reproduced https://www.teamlab.art/w/koi_and_people

Figure 3

teamLab
Flutter of Butterflies, Born from Hands, 2019
Interactive digital installation, Sound: Hideaki Takahashi
Espacio Fundación Telefónica, Madrid, Spain
Reproduced https://www.teamlab.art/w/flutterofbutterflies

Figure 4

Sisyu and teamLab
What a Loving, and Beautiful World, 2011
Interactive digital installation, Sound: Hideaki Takahashi
Yebisu Garden Place, Tokyo, Japan
Reproduced https://www.teamlab.art/w/whatloving

Figure 5

Kim Donggyu
Interior view of a teamLab office space, 2018
Digital photograph
Tokyo, Japan
Reproduced https://kimdonggyu.myportfolio.com/teamLab-office

Figure 6

teamLab
Sketch Aquarium, 2013
Interactive digital installation, Sound: Hideaki Takahashi
Various teamLab Future Park locations
Reproduced https://futurepark.teamlab.art/en/playinstallations/sketch_aquarium

Figure 7

View of an audience hall with overlapping fusuma at *Nishi Hongan-ji* Buddhist temple
Kyoto, Japan
Reproduced https://www.japanhouse.jp/en/stories/03-house.html

Figure 8

Unknown Artist, mostly likely from the Kanō school
Scenes in and around the Capital, Edo Period, 17th century
Pair of six-panel folding screens; ink, color, gold, and gold leaf on paper
Image (each): 61 7/16 in. × 11 ft. 6 11/16 in. (156.1 × 352.2 cm)
Overall (each): 66 15/16 in. × 12 ft. 3/16 in. (170 × 366.2 cm)
The Metropolitan Museum of Art, New York, NY
Mary Griggs Burke Collection
Gift of the Mary and Jackson Burke Foundation, 2015
Reproduced https://www.metmuseum.org/art/collection/search/53428

Figure 9

teamLab
Detail of the fifth panel depicting the Spirit Tree & *Yamata no Orochi* from *Flower and Corpse Glitch Set of 12* series, 2012
Digital video work, 12 channels, 2 min. (loop)
National Taiwan Museum of Fine Arts
Reproduced https://www.teamlab.art/w/flowerandcorpseglitch/wearethefuture

Figure 10

Jirō Yoshihara
Please Draw Freely, 1956
Board, visitor's graffiti
Ashiya Pine Grove
Reproduced https://www.artnews.com/art-news/news/artists-and-crowdsourcing-2613
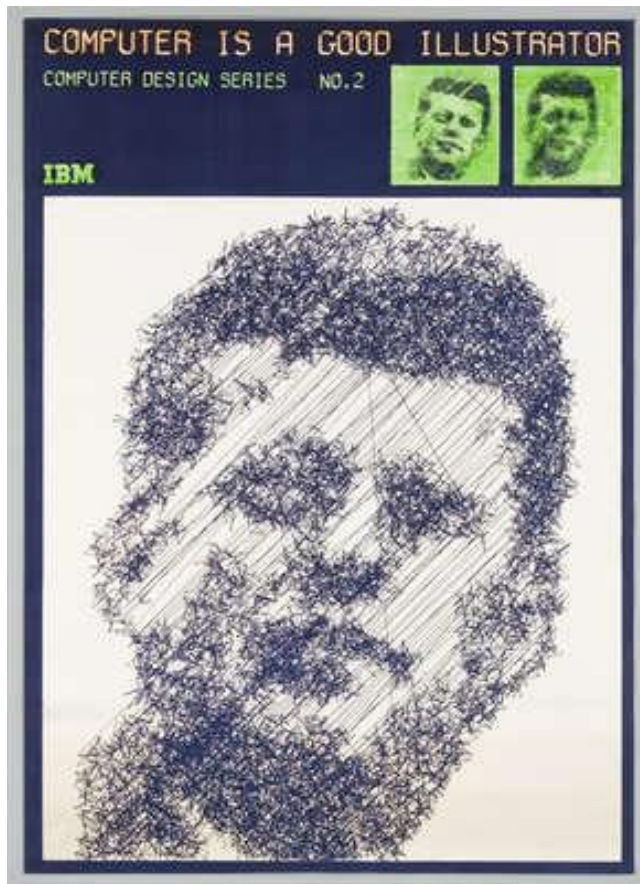
Figure 11

Masao Kohmura and Haruki Tsuchiya
Random Walk Kennedy, 1967
Computer-generated black and white drawing, Idea and design: Kohmura, Program: Tsuchiya
Reproduced http://dada.compart-bremen.de/item/artwork/854

Figure 12

Experiments in Art and Technology—E.A.T.
Photographs from Pepsi Pavilion at Expo '70 (Left: Mirror dome; Right: A young boy holds a wireless handset)
Multimedia collaboration

Photo credits:
Left: Fujiko Nakaya/E.A.T/Getty Research Institute, Los Angeles
Right: Shunk-Kender/J. Paul Getty Trust/Getty Research Institute, Los Angeles
Reproduced https://spectrum.ieee.org/tech-history/silicon-revolution/when-artists-engineers-and-pepsico-collaborated-then-clashed-at-the-1970-worlds-fair

Figure 13

Yoichiro Kawaguchi
EGGY, 1990
Digital Print from HDTV animation
1452 mm × 1032 mm
SIGGRAPH Artworks in the Victoria & Albert Museum, London, England
Reproduced https://digitalartarchive.siggraph.org/artwork/yoichiro-kawaguchi-eggy

Figure 14

teamLab
Interior view of *Digitized Cafe and Digitized Bar*, 2011
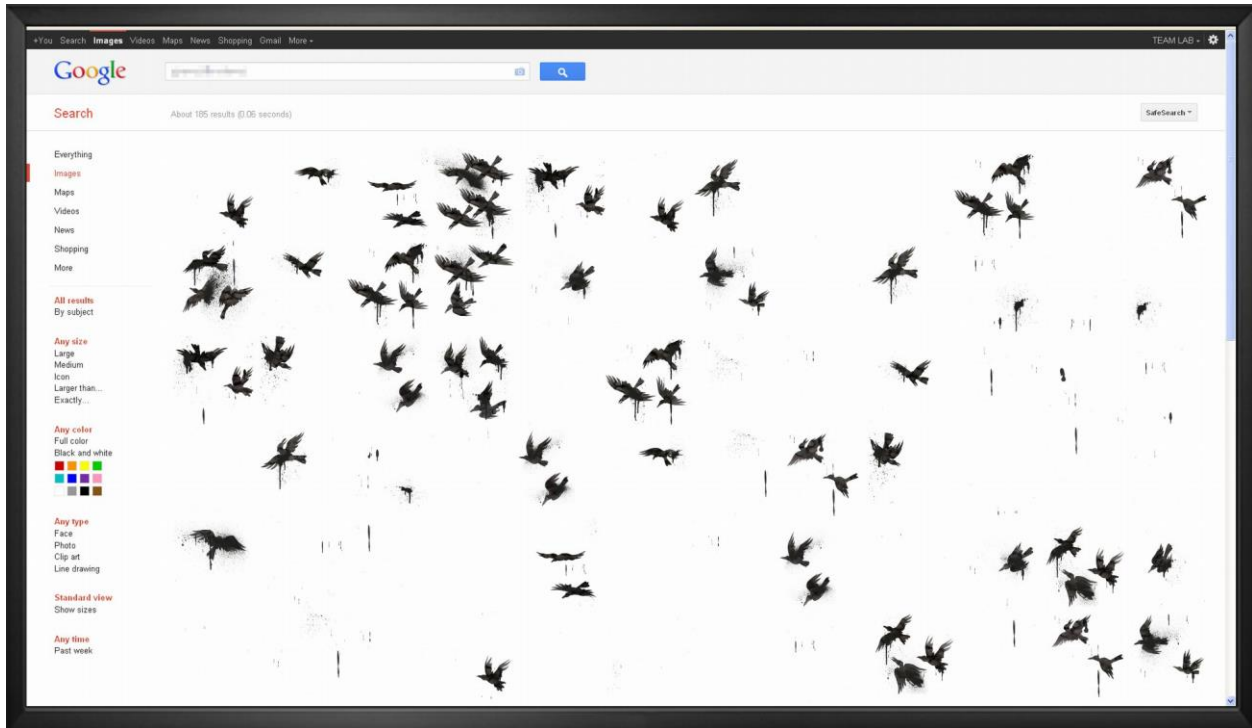Interactive Installation
Shibuya ward in Tokyo, Japan
Reproduced https://www.teamlab.art/w/maid/maidreaminshibuya

Figure 15

teamLab
Digital signage inside the wall from *Digitized Cafe and Digitized Bar*, 2011
Interactive Installation
Shibuya ward in Tokyo, Japan
Reproduced https://www.teamlab.art/w/maid/maidreaminshibuya

Figure 16

teamLab
Graffiti@Google, 2012
Online Project
Reproduced https://www.teamlab.art/w/graffiti-jp
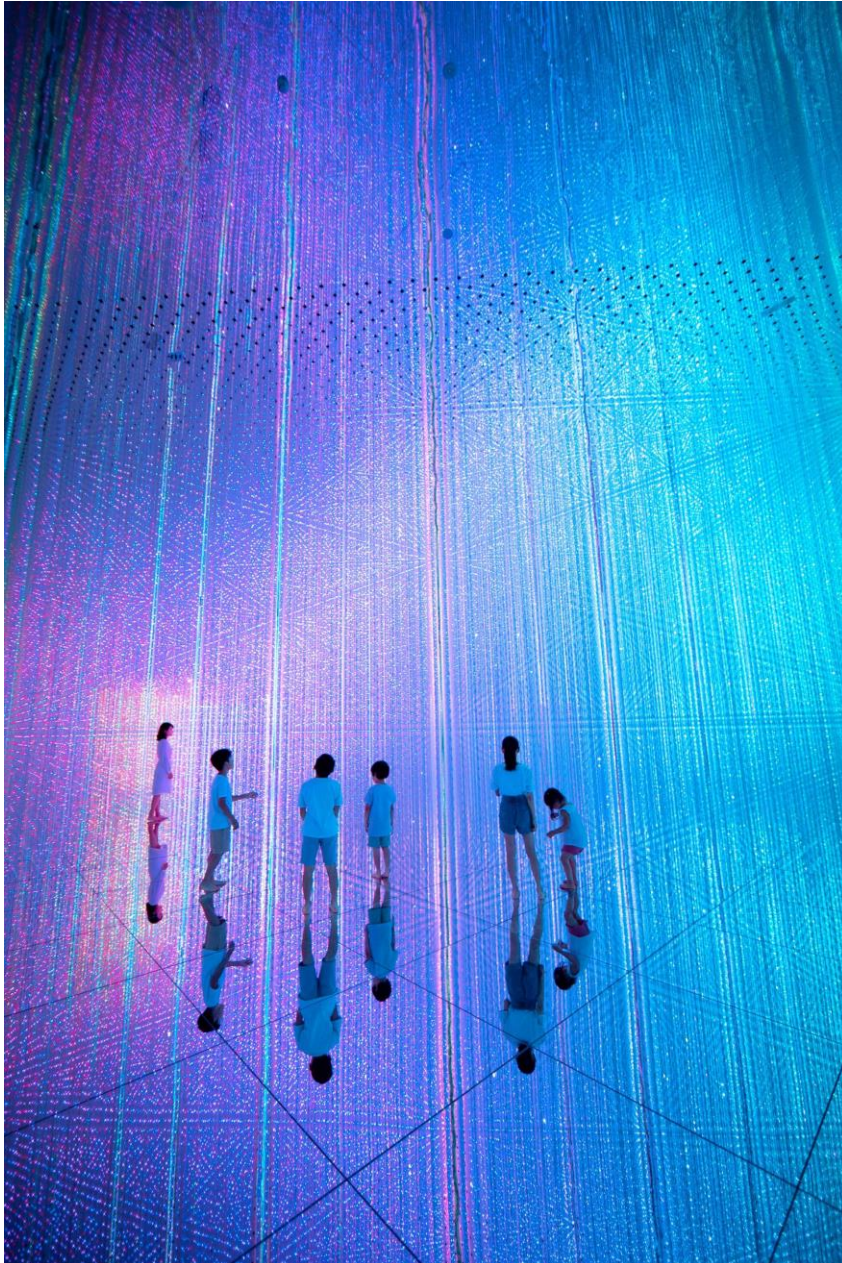
Figure 17

teamLab
The Infinite Crystal Universe, 2018
Interactive Installation of Light Sculpture, LED
teamLab Planets, Tokyo, Japan
Reproduced https://www.teamlab.art/w/infinite_crystaluniverse

Figure 18

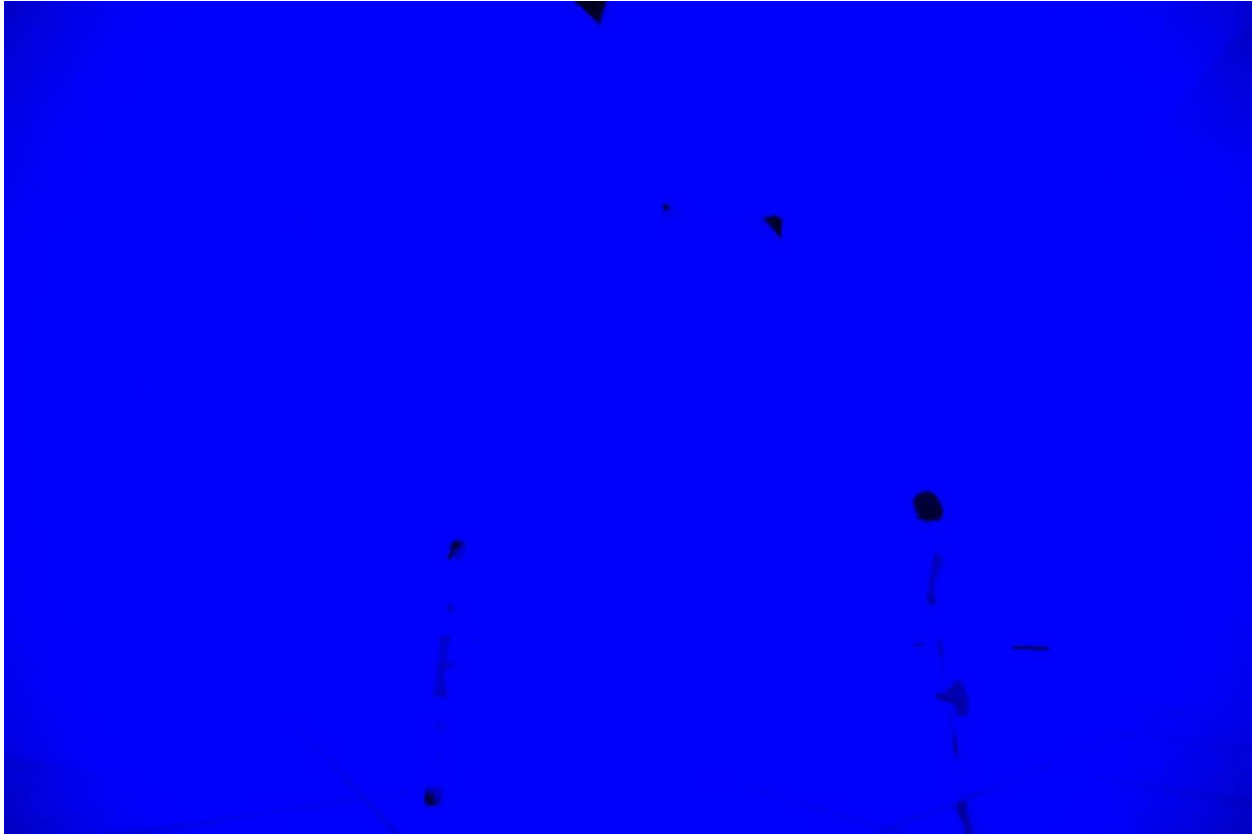Smartphone app that enhances *The Infinite Crystal Universe*, 2018
Reproduced https://www.japanvisitor.com/japan-city-guides/tokyo-museums/teamLabplanets

Figure 19

teamLab
Flat Blue Abstraction effect in *Expanding Three-Dimensional Existence in Transforming Space*
– Flattening 3 Colors and 9 Blurred Colors, Free Floating, 2018
Interactive digital installation, Sound: Hideaki Takahashi
teamLab Planets, Tokyo, Japan
Reproduced https://www.teamlab.art/w/transformingspace

Figure 20

teamLab
Expanding Three-Dimensional Existence in Transforming Space – Flattening 3 Colors and 9 Blurred Colors, Free Floating, 2018
Interactive digital installation, Sound: Hideaki Takahashi
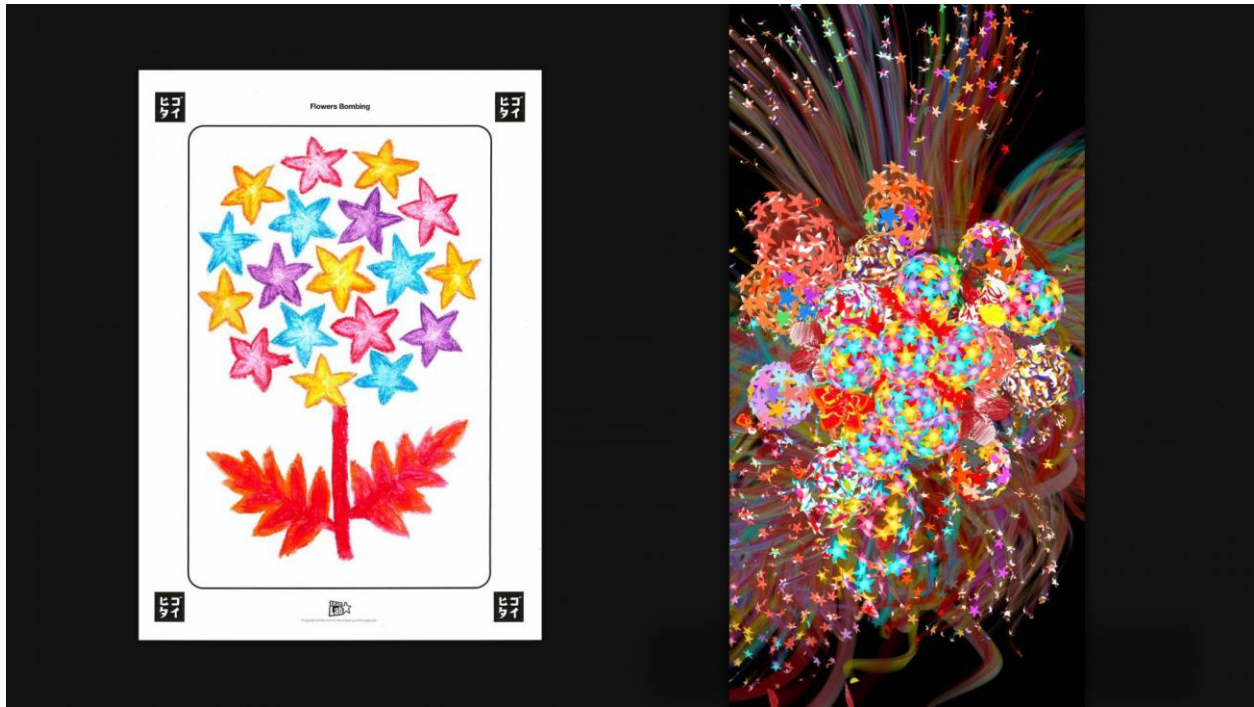teamLab Planets, Tokyo, Japan
Reproduced https://www.teamlab.art/w/transformingspace

Figure 21

teamLab
Flowers Bombing Home, 2020
Interactive digital installation, Sound: Hideaki Takahashi
Online via teamLab YouTube account
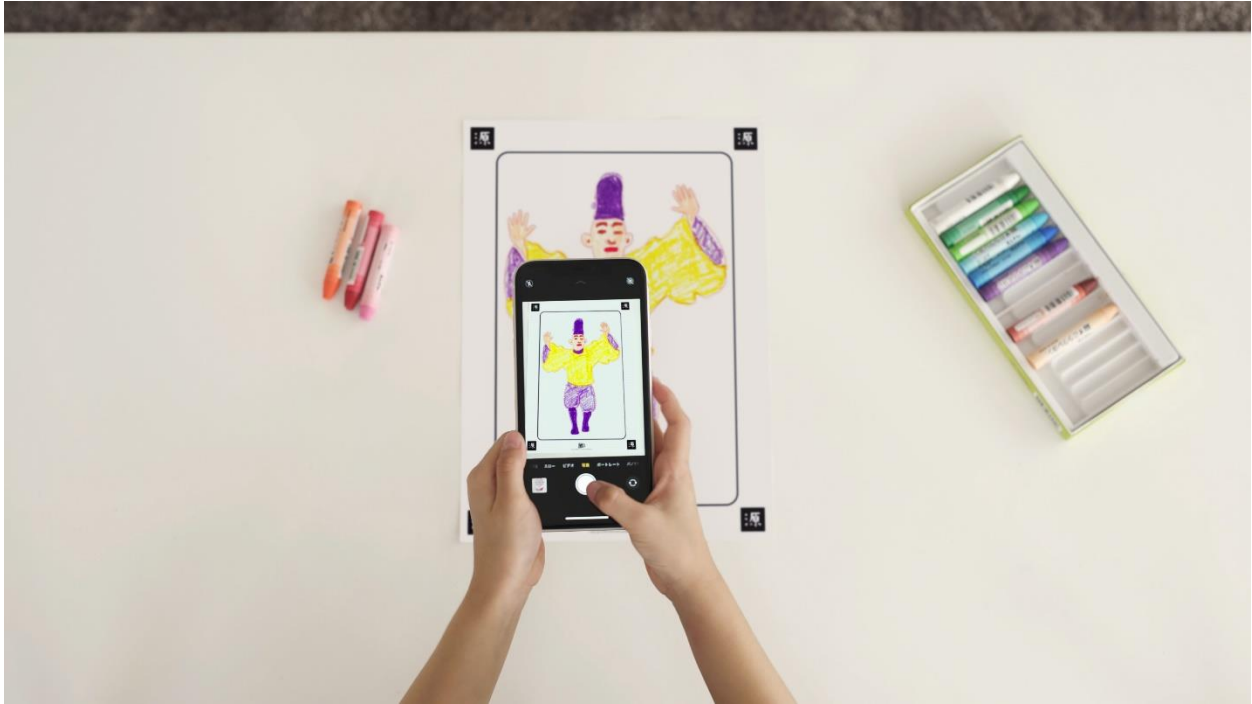Reproduced https://www.teamlab.art/w/transformingspace

Figure 22

teamLab
Uploading a graffiti drawing from home to *Walk, Walk, Walk Home*, 2021
Interactive digital installation, Sound: Hideaki Takahashi, Voices: Yutaka Fukuoka, Yumiko Tanaka
Online via teamLab YouTube account and physically at GINZA 456, Tokyo, Japan
Reproduced https://www.youtube.com/watch?v=Qds1Adl5CU4

Figure 23

teamLab
Still from *Walk, Walk, Walk Home YouTube Livestream*, 2021
Interactive digital installation, Sound: Hideaki Takahashi, Voices: Yutaka Fukuoka, Yumiko Tanaka
Online via teamLab YouTube account and physically at GINZA 456, Tokyo, Japan
Reproduced https://www.youtube.com/watch?v=Qds1Adl5CU4

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VITA

Kim Phan Nguyễn was born and raised in Texas. In 2015, she earned her B.A. in General Studies with concentrations in Women's Studies, Fine Arts and English at Texas Woman's University, Denton.

In August 2019, Kim entered the art history graduate program at Texas Christian University. During her time at TCU, Kim aided in various positions at the College of Fine Arts. She was the social media coordinator for the Art Galleries at TCU under the direction of Sara-Jayne Parsons and Lynné Bowman Cravens. She also assisted with archival work at the visual resources library and was a teaching assistant for Dr. Francis Colpitt. Additionally, Kim served as the graduate student representative for the Gallery Committee and the Diversity, Equity, and Inclusion committee. In 2021, she was the recipient of the TCU Office of Graduate Studies and College of Fine Arts Outstanding Graduate Student Service Award.

Currently, she is the artist coordinator of the art collective Third Space DFW. Prior to this, she was a curatorial intern for the Dallas Museum of Art's contemporary art department. Before beginning her graduate studies, she worked at the Arts Council of Fort Worth as the gallery assistant for its programs and exhibitions department.

ABSTRACT

TEAMLAB: DIGITAL PLAYGROUNDS

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Defined as the participation in an activity for pleasure or recreation, play can serve a greater purpose especially in art forms that express more intangible concepts. I propose the idea of play as a relational tool for the investigation and understanding of interactive artwork. Playfulness characterizes the digital installations of the Tokyo-based art collective teamLab (est. 2001). Melding premodern Japanese pictorial traditions with current digital processes, teamLab's installations function like playgrounds. Anyone who plays can interact with game-like elements in artificial environments. Visitors wander inside artworks that are projection-mapped into gallery spaces outfitted with sensors that are triggered by touch or motion. The collective encourages people to play since this act is crucial to processing their works. Each artwork has the objective of being social environments where the presence of others is a positive experience rather than a hindrance. Inside these digital playgrounds, opportunities arise for transcendence, joy, and connection.