para//e/s

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Abstract

para//e/s is an audio-visual piece that explores imaginative and creative interpretations of parallel worlds. Developed as part of a three-month collaborative project between a new media artist and two composers, the work delves into the theme of parallel worlds and multiverse. Utilizing a five-screen video projection with fixed media sound, the piece navigates through multiple layers of parallel worlds and perspectives using diverse tools and mediums. Through open-ended prompts and collaborative discussions, the work investigates the concept of multiplicity, integrating storytelling elements both visually and sonically. The work explores notions of space and time, incorporating elements such as déjà vu and the Big Bang theory. *para//e/s* presents imaginative iterations of parallel universes: a world made of mirrors; a world without gravity; a world where humankind consists of alternate physical forms; a world where humans are extinct and; a world where motion is visually manifested through overwhelming color.

Keywords

parallel worlds, multiverse, dimensions, audio-visual, collaboration, imagination, performance, intermedia, storytelling, juxtaposition

Introduction (Concept)

para//e/s is an intermedia collaboration—consisting of a five-screen video projection and stereo fixed media—that imaginatively explores the concepts of parallel worlds and the multiverse. The three artists, Jae Eun Suh (new media artist), Insun Choi (composer), and Samuel Montgomery (composer) collaborated on this work for a graduate level intermedia course taught by Professor David Stout at University of North Texas in Spring 2023. The course culminated in a showcase on April 17, 2023, for which *para//e/s* was divided into two parts. While *para//e/s* primarily adopts a more artistic approach, this work's formal structure does draw inspiration from multiple scientific and philosophical concepts regarding the big bang, the multiverse, and parallel worlds.

para//e/s immediately invites audiences into imaginative alternative realities through a colorful big bang. Modern scientists such as Dr. Neil Turok, mathematical physicist and string theorist [1], and Dr. Michio Kaku, theoretical physicist and widely renowned futurist [2], have speculated that multiple Big Bangs may have possibly existed prior to the Big Bang of the current, ever-expanding universe. If past big bangs have occurred, then multiple iterations of universes have existed—thus, multiple iterations of various worlds. From this big bang emerges expanding layers of distinct parallel worlds that are individually explored throughout the work. The fixed media throughout this work features variations of an eleven-note motive within each parallel world, creating a sense of déjà vu—a phenomenon that Dr. Michio Kaku describes as a possible indication that the multiverse may be a reality [3]. Kaku and Noble Prize winner Steve Weinberg have theorized that humans are vibrating waves, and like a radio tapping into radio waves, humans may potentially tap into other, similar parallel universes and worlds.

When exploring concepts of parallel worlds and multidimensionality, we (the artists) were inspired by Buddhist cosmology and Dante's *Inferno*. Within Buddhist cosmology, multidimensionality is perceived as reality consisting of multiple planes of existence. There are 31 planes of existence that conceptually stack on each other, creating a diverse and rich multidimensional reality layer upon layer [4]. Dante's *Inferno* implements a similar idea of multiple layers within a given reality through the nine circles of hell (limbo, lust, gluttony, greed, anger, heresy, violence, fraud, and treachery) [5]. While *para//e/s* does not explore the 31 layers of cosmic or the nine circles of hell, *para//e/s* does explore five worlds of the artists' own creation: a mirror world, a world with zero gravity, a world where humanity takes other physical forms, a world without humans, and an overstimulating world. *para//e/s* concludes with another big bang event, thus continuing the cycle of reality (realities).

Creative approaches

Throughout this work, we created a narrative of interconnected worlds. In this section, we will discuss the visual and sonic decisions we made throughout our creative process. Visual images and videos were created using a range of programs, including Adobe After Effects, Adobe Premiere Pro, TouchDesigner, Blender, Polycam, and various artificial intelligence programs such as Animated Drawings demo version, Stable Diffusion, Adobe Firefly, and Runway. For audio production, Logic Pro X and Ableton Live were the primary tools utilized.
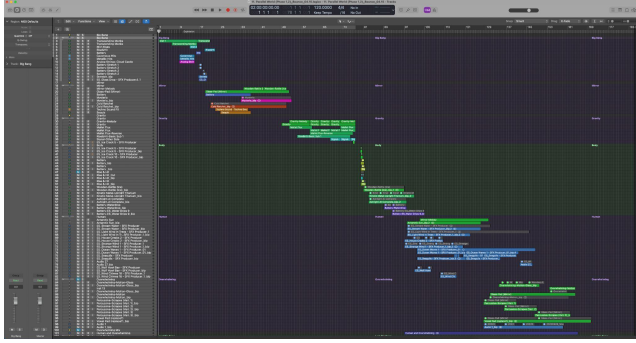
Figure 1. A screen capture of the Logic Pro X session for the fixed media for *para//e/s*. ©Insun Choi and Samuel Montgomery.

World 1: A World Made of Mirrors

For the first world, we explored the concept of repetition and reflection. We imagined a landscape made entirely of mirrors, reflecting endlessly into each other. In creating visuals for this world, our focus was to create a repeated, abstract landscape across five screens. We used terms like hyper-realistic buildings with detailed mosaics and mirrored surfaces, along with cityscapes, to generate images using Stable Diffusion. After creating these images, we added motion effects in Adobe After Effects and Premiere Pro to enhance the immersive experience of this mirrored world.

When approaching the music and sound design for *para//e/s*, we collaborated on creating an eleven-note motive that would be uniquely presented in each world. The motive itself is rather simple in nature yet expands and contracts in shape to emulate the constant expansion of the universe. This motive is introduced within the world made of mirrors, for we sought to sonically express the texture of evolving reflections by emulating glass timbres, featuring soft pulses, and integrating wind sound effects. We also wanted to ensure that the music presented in this first world smoothly transitioned into the following parallel world.

World 2: A World without Gravity

For the second world, we imagined a place without gravity, operating under its own unique system. We considered how objects might float or scatter freely, and how to distinguish between ground and sky. To set it apart from reality, we also decided to exaggerate certain body parts. Inspired by Cinta Vidal's art, which challenges gravity and architecture norms, we added 3D models of floating and falling figures in various positions, continuously rotating [6]. We also used Salvador Dali's "Le Sommeil" painting as inspiration, animating surreal figures with the Animated Drawings demo version [7]. Additionally, programs like Adobe Firefly and Runway were used to depict a world with different physics laws.

To capture this world sonically, we established a contrast between "lighter," floating synthesizers that mimicked flight and suspension and the "heavier," low percussive frequencies that mimicked a sense of weight and rare gravitational pulls. We further emulated wing-like movements within the sound design and integrated sound effects of a broken egg towards the end of this world to signify the concepts of resurrection, new life, and the rebirth of a new world and universe.

World 3: A World where Humanity Takes Other Physical Forms

For the third world, we aimed to explore the concept of depicting humans in other forms, challenging the idea of their traditional physical appearance. We wondered: what if humans were in data, ice, fog, water, or even something else? This prompted us to question and challenge alternative physical forms. We integrated Polycam to generate a 3D model of both ourselves and our surroundings, fine-tuning the RGB color data using Adobe After Effects. In Blender, we sculpted and animated 3D models depicting moving ice cubes. To convey the impression of water and fog, we utilized Adobe Firefly and Runway to transform moving figures into organic shapes, rendered as lines.
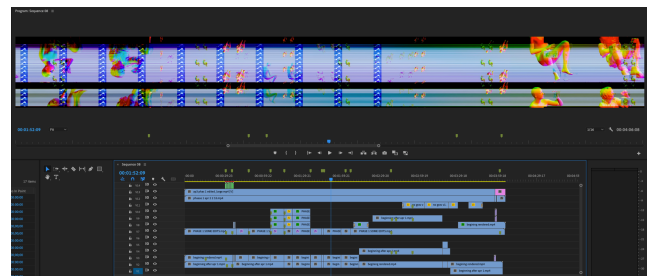

Figure 2. A screen capture of the Adobe Premiere Pro session for the third world featured in *para//e/s*. ©Jae-Eun Suh.

We experimented with samplers to convey the physical manifestation of the human experience in other forms through sound. Ultimately, the composers found sounds and timbral qualities that resembled ice to be more interesting and engaging and weaved together an aural narrative of these ice forms slowly and eventually melting, which facilitated a natural transition into the next world.

World 4: A World without Humans

For the fourth world, we considered what the world would be like without humans, with everything else remaining– animals, nature, objects. We pondered what the world would be like if humans suddenly disappeared, questioning the impact of human influence on Earth, especially in light of current environmental concerns and the experiences of human lockdown during the pandemic. To explore this idea, we drew inspiration from Josh Keyes' paintings, which blend eco-surrealism with dystopian themes to express concerns about our time and the Earth's future. We created multiple versions of these short clips by experimenting with

We combinations of moments from everyday life. They also utilized different AI programs to align the video style with their own reference images. Through the depiction of a world without humans, our goal was to visually depict emptiness and abandonment with a focus on greenery and deserted spaces.

Figure 3. *para//e/s* at the Merrill Ellis Intermedia Theater, University of North Texas in Denton, Texas. ©Samuel Montgomery.

Within the soundscape for this world, we wanted to convey a sense of emptiness, serenity, yet underlying ominousness. The main musical motive is presented in a flute-like synthesizer, modulating as it continues to ascend and whistle above the soundscape beneath it. A majority of this world relies on environmental sound design–a light breeze, the creaking of trees in a forest, the cries of seagulls, the emergence and submergence of the audience's perspective in the ocean–rather than complex musical composition.

World 5: An Overwhelming World where Motion Leaves Visible Traces

For the fifth world, our goal was to portray the world in a more abstract manner, envisioning what it would be like if every experience and movement left behind traces in the form of lines and colors accumulating over time. The goal was to create a visually and sonically overwhelming experience. Using After Effects, Premiere Pro, and TouchDesigner, we abstracted and simplified various clips of nature landscapes and people walking into colors and lines. By applying different effects, we blended and layered these clips to continuously interact with each other, creating diverse color combinations and visual effects.

Creating the soundscape for this world proved to be a challenge as we strove to create an overwhelming and to an extent, an overstimulating experience, while maintaining safe decibel levels. We utilized Sculpture–a physical component modeling synthesizer that emulates acoustic instruments or other sound sources and can mimic organic materials such as metal, nylon, wood, and glass–to create a more abrasive soundscape. During the climax of this world, we decided to feature sound across the entire audible frequency spectrum to lend to an overwhelming experience.

As the fixed media was diffused in a 37.2 ambisonic dome for the initial performance, we opted to use effects such as distortion and rapid tremolos within the synthesizers to create a sense of disorientation.

Overall Experience (Reflection)

As we explored the theme of parallel worlds, we contemplated the relationship between time, space, and our surroundings. We questioned which world we inhabit and what defines our current physical reality. By closely examining our current reality, we conceived five distinct worlds—each vastly different from our own. These included a mirror world, a world without gravity, a world of alternative human forms, a world where humans no longer exist, and a world where motion is visually depicted through accumulating marks. We challenged the laws of physics and contemplated how to visually and sonically compare and contrast these realms. Through a combination of elements we gathered and created, our piece *para//e/s* captured the nuanced exploration of these five imaginative worlds in a narrative manner.

Acknowledgements

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Author(s) Biography(ies)

Jae-Eun Janis Suh is an interdisciplinary new media artist whose work explores themes of longing and embodied experiences. Suh utilizes analog methods, digital images and projection to create immersive spaces and installations. As a Third Culture Kid, she draws inspiration from her experiences in South Korea, France, and the United States. Suh holds a BFA in Visual Art Studies and an MFA in Studio Art with a focus on New Media Art from the University of North Texas. She has won the 2023 NMC Judson-Morrissey Excellence in New Media Award and the 2021-22 Talley Dunn Gallery Equity in The Arts Fellowship. Her work has been exhibited at notable venues such as the Talley Dunn Gallery in Dallas, the Centre Culturel et Littéraire Jean Giono in France, and the Czong Institute for Contemporary Art in South Korea.

Samuel Anton Quinn Montgomery composes for chamber and choral ensembles as well as electronic media. Infusing elements from film, classical, and ambient genres within his music, Samuel sonically elicits color and atmosphere within collaborative works for theater, dance, live readings, installations, and performance art pieces. Samuel earned his Master of Arts in Music Composition and Related Field in Music Business and Entrepreneurship at University of North Texas and studied under Dr. Jon Nelson, Dr. Sungji Hong, David Stout, and Jessica Muñiz-Collado. Contact him at samuelantonquinn@gmail.com for more information.

Insun Choi is a media music composer from South Korea currently pursuing a Master's degree in music composition with an emphasis on Media Composition at the University of North Texas. Her music works focus on digital electronic music as well as acoustic and orchestral music. She is studying how to blend samples of various distinctive timbres into one piece of music, writing, and producing music for the concert hall, church, musical, animation, visual arts, film, and television. She aims to convey various stories and emotions through her music, hoping to provide comfort.