

Stories of the Sky

by

Zhanyi Chen

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Authored by: Zhanyi Chen  
Department of Architecture  
April 29, 2024

Certified by: Renée Green  
Professor of Art, Culture, and Technology  
Thesis Supervisor

Accepted by: Leslie K. Norford  
Chair, Department Committee on Graduate Students  
Professor of Building Technology

**Thesis Supervisor**

**Renée Green**

Professor of Art, Culture, and Technology

**and reader**

**Nida Sinnokrot, MFA**

Ford International Career Development Professor  
Associate Professor of Art, Culture, and Technology

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## ABSTRACT

My art practice probes how soft science fiction provides intervals to contemplate the tension among the relentless advancement of infrastructural technologies, their environmental and psychological repercussions, and the metaphors and culture in weather and environments. In this thesis, I explore such tension with a specialized focus on the sky via a series of artworks that engage with clouds, weather satellites, and human feelings. My experience receiving image signals from the Russian weather satellite *Meteor-M2* has led me to understand the pervasive presence of satellites and their silent integration into, and control over, various environments—similar to numerous other contemporary infrastructures. The sky has never been merely a smooth surface but is striated with all kinds of machines, politics, and power dynamics. My thesis can be seen as exploring methods of coping as responses from an individual caught in such an intermingled environment, and as an inquiry into how we perceive things that are distant from us. Referring to soft science fiction approaches, I strategically misuse technologies to prioritize human subjectivity over technological functionality. In moments where the misused technologies cease to function, but to obscure, to resist, to complicate, to affect, I put the current dynamics between the self and technologies into play.

Parallel to my artistic practice, I also take inspiration from elemental media studies for their broader theoretical discourse on the interplay between the environment and media. Media historian John Durham Peters argues for a more encompassing definition of media that includes environmental elements, including the sky, challenging the traditional dichotomy between nature and culture and the previous academic emphasis on culture over nature. This perspective allows for the exploration and appreciation of the sky's cultural, emotional, and historical values which are just as important, if not more so, than any other conventional media, resonating with the intentions behind my artworks. Thus, "media" becomes a term that is semantically richer than it already is and requires a nuanced interpretation embracing all its connotations, and my thesis provides ways to explore this materially.

By focusing on the sky as a juncture where nature and culture collide, my thesis advocates for a synthesized view that recognize the multifaceted narratives woven through the sky—stories of technology, of culture, of grand dreams and of small melancholy.

Thesis Advisor: Renée Green

Title: Professor of Art, Culture, and Technology

## **Table of Contents**

<b>List of Figures</b>	<b>5</b>
<b>Glossaries</b>	<b>9</b>
<b>1. Introduction</b>	<b>10</b>
<b>2. Methodologies: Misuse of Technology</b>	<b>15</b>
<b>3. The Story of the Air</b>	<b>17</b>
<b>4. The Story beyond the Atmosphere</b>	<b>23</b>
<b>5. The Story of Sunny Day</b>	<b>29</b>
<b>6. The Story of Domestic Space</b>	<b>39</b>
<b>7. The Story of Rainy Day</b>	<b>46</b>
<b>8. Conclusions</b>	<b>54</b>
<b>9. Bibliography</b>	<b>55</b>

## List of Figures

Figure 1.1. Documentation of my antenna setup: dipole antennas connected to an RTL-SDR device, which is linked to my laptop to receive signals from weather satellites.....	11
Figure 1.2. Close-up of the software I used for my satellite tracking setup: “SDR#” to locate signal frequencies and “Orbitron” to track satellite positions.....	13
Figure 3.1. Screenshot of the homepage of the low-cost software-defined radio Reddit forum. Accessed June 15, 2023. <a href="https://www.reddit.com/r/RTLSDR/">https://www.reddit.com/r/RTLSDR/</a> .....	18
Figure 3.2. Heavily glitched NOAA-15 image received and posted by Karsey Renfert. Renfert, Karsey. “Is NOAA 15 Dying? NOAA Won’t Rule It out! (Update: Appears to Work Now),” July 24, 2019. <a href="https://karsey.dev/me/2019/07/23/is-noaa-15-dying/">https://karsey.dev/me/2019/07/23/is-noaa-15-dying/</a> .....	19
Figure 3.3. One of the satellite images I received from <i>Meteor-M2</i> weather satellite in Providence, Rhode Island, on May 13, 2021.....	20
Figure 3.4. Still from <i>Do Clouds Hate Weather Satellites?</i> (2021), 5'6". A screen recording of me editing and stitching the glitches in the images I received.....	21
Figure 4.1. Work-in-progress documentation of me drawing horoscopes for <i>Artificial Satellite Astrology</i> . I combined the data from a satellite position tracking program with charts from a modern astrology horoscope generation website. ....	23
Figure 4.2 A horoscope of Hurricane Katrina, drawn using the positions of meteorological satellites instead of planets. ....	24
Figure 4.3. Documentation of the process of making divination antennae, utilizing a common method many radio amateurs employ. They gather copper cores in coaxial cables to listen to signals from meteorological satellites for leisure.....	25
Figure 4.4 Divination antennae that I made up for <i>Artificial Satellite Astrology</i> .....	25
Figure 4.5. Stills from video <i>How to Create Your Satellite Birth Chart</i> , 13'37". A fictitious video tutorial on how to navigate a website dedicated to the practice of artificial satellite astrology. ....	26
Figure 4.6. Poster of Sky Art 24 Symposium, designed by Vinzenz Aubry.....	27
Figure 5.1. A characteristic example of sky art, showcasing windsocks of various shapes adorning the sky; Otto Piene, <i>Windsock Sculptures</i> , 1969. GM, “Air Time - Group Exhibition,” Sprüth Magers, August 13, 2021, <a href="https://spruethmagers.com/exhibitions/otto-piene-air-time/">https://spruethmagers.com/exhibitions/otto-piene-air-time/</a> .....	29
Figure 5.2. A scanned page from the introductory section of the first Sky Art Conference catalogue, written by Jerome B. Wiesner, attached with “Memo from President John F. Kennedy to Lyndon B. Johnson, Vice President” .....	31
Figure 5.3. Photograph of Aldo Tambellini's <i>Tele-Sky</i> (1981), featuring slow scan television and audio link between MIT and Australia for Sky Art '81, September 25, 1981. MIT program in art, culture and technology, “Tele-Sky,” Center for Advanced Visual Studies Special Collection, accessed April 27, 2024, <a href="http://act.mit.edu/cavs/item/cavsd_f_tambellini_a_Sact-office16122010440">http://act.mit.edu/cavs/item/cavsd_f_tambellini_a_Sact-office16122010440</a> .....	32

Figure 5.4. Sketch of *Tele-Sky Unplugged* drawn by Jacob Geiger during our conversation, a TV that does not need electricity transformed with a camera lens, a mirror, and a diffuser that acts as a screen. ....33

Figure 5.5. Sketch of *Tele-Sky Unplugged*, the initial idea of me constructing what the work would be like. ....34

Figure 5.6. Prototyping the combination of TV case, Fresnel lens, and diffuser panel that would be used to make the work. ....34

Figure 5.7. Prototyping the combination of hard-stock paper box, film camera’s focusing screen, and mirror. ....35

Figure 5.8. Work in progress documentation of disassembling the CRT TV. ....35

Figure 5.9. Installation view of *Tele-Sky Unplugged* (2023) outside of List Visual Art Center. ....36

Figure 5.10. Installation view of *Tele-Sky Unplugged* (2023) outside of List Visual Art Center. ....37

Figure 5.11. Installation view of *Tele-Sky Unplugged* (2023) in Distillery Gallery. When installed indoors, it almost becomes a parasite, dependent on the ceiling lights within the infrastructure. ....37

Figure 6.1. Sketch I made to help visualize my feeling towards dissociation. I think dissociation feels like the momentary freedom of being a ghost, floating in the air, leaving my body and surroundings behind. ....39

Figure 6.2. Sketch I made to help visualize my feeling towards dissociation. I see dissociative moments as strategies that help me take breaks from the hustle of life.....40

Figure 6.3. First iteration of the installation of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024), installed in the ACT Cube during the Fall 2023 final critique. A wall of newspaper clippings about the female painter in the story gathers information on her love rival, the *TIROS* weather satellite.....40

Figure 6.4. First iteration of the installation of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024), installed in the ACT Cube during the Fall 2023 final critique. Close-up shot of the painting tools used by the female painter in the story.....41

Figure 6.5. Work-in-progress documentation of making “windows” in MIT Mars Lab: stretched canvases with the backs painted blue. The size and style of the “windows” are modeled after the windows in the gallery where the work is about to be shown, Harvard GSD Kirkland Gallery. ....42

Figure 6.6. The poster for my duo-exhibition with Huirong Ye (GSD Narratives ’24), designed by me. The pixelated cloud image symbolizes the intermingling of nature and technology. ....43

Figure 6.7. Exhibition plan and introductory texts for “Blame It on the Falling Sky, Blame It on the Satellite.” .....44

Figure 6.8. Installation view of the second iteration of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024) in my duo-exhibition with Huirong Ye (GSD Narratives ’24) “Blame it on the Falling Sky, Blame it on the Satellite” at Harvard GSD Kirkland Gallery 2/23 – 3/1, 2024. ....45

Figure 6.9. Installation view of the second iteration of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024) in my duo-exhibition with Huirong Ye (GSD Narratives '24) "Blame it on the Falling Sky, Blame it on the Satellite" at Harvard GSD Kirkland Gallery 2/23 – 3/1, 2024. ....45

Figure 7.1. The original Rain Poems I made back in 2019 when I was studying at Rhode Island School of Design, Digital + Media department. *Rain Poems #1*, 2019, rain, water transfer printing paper, ink.....46

Figure 7.2. The original Rain Poems I made back in 2019 when I was studying at RISD Digital + Media. *Rain Poems #2*, 2019, rain, water transfer printing paper, ink. ....47

Figure 7.3. The original Rain Poems I made back in 2019 when I was studying at RISD Digital + Media. *Rain Poems #1*, 2019, rain, water transfer printing paper, ink. ....47

Figure 7.4. Scanned book pages from Peter Reich, *A Book of Dreams*, 1973. ....49

Figure 7.5. Work-in-progress documentation of creating *Rain Poems*. I placed water transfer printing papers (tattoo papers) on top of wooden boards to ensure they remained sturdy even when wet, and allowed the raindrops to affect them. ....50

Figure 7.6. installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition "The Whole Star is a Moving Skin" at MIT ACT Gallery 4/26 – 5/06, 2024. ....51

Figure 7.7 Close up of installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition "The Whole Star is a Moving Skin" at MIT ACT Gallery 4/26 – 5/06, 2024. ....52

Figure 7.8. installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition "The Whole Star is a Moving Skin" at MIT ACT Gallery 4/26 – 5/06, 2024. ....52

Figure 7.9. Close up of installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition "The Whole Star is a Moving Skin" at MIT ACT Gallery 4/26 – 5/06, 2024. ....53

All images created by author unless otherwise noted.



## Glossaries

Counter-mapping: “Counter-mapping is creating maps that challenge ‘dominant power structures, to further seemingly progressive goals.’ Counter-mapping is used in multiple disciplines to reclaim colonized territory.”<sup>1</sup>

Dissociation: I am using the concept of dissociation as a means of attaining a strategically planned ghostly experience that is different from escaping: when you escape, you escape *with* your body; when you dissociate, you dissociate *from* your body.

Elemental media: a concept in media studies that suggests environments *are* media (in reverse to the common conception of media as environments). This idea is explored in depth in John Durham Peters’ book, *The Marvelous Clouds: Toward a Philosophy of Elemental Media*.

Situated knowledge: “knowledge that is embedded in, and thus affected by, the concrete historical, cultural, linguistic, and value context of the knowing person. The term is used most frequently in perspectives arising from social constructionism, radical feminism, and postmodernism to emphasize their view that absolute, universal knowledge is impossible.”<sup>2</sup>

Sky Art Conferences: a series of conferences revolving around sky art, organized by Otto Piene, that were held at MIT during the 1980s. There was also a sequential Sky Art Conference that took place in Delphi and Ikaria, Greece in 2002.

Soft science fiction: science fiction that prioritizes human emotions over the scientific accuracy or plausibility of hard science fiction.<sup>3</sup>

Speak nearby: According to Trinh T. Minh-ha in her *Cinema Interval*, speaking nearby is “a speaking that does not objectify does not point to an object as if it is distant from the speaking subject or absent from the speaking place. A speaking that reflects on itself and can come very close to a subject without, however, seizing or claiming it. A speaking in brief, whose closures are only moments of transition opening up to other possible moments of transition-these are forms of indirectness well understood by anyone in tune with poetic language.”<sup>4</sup>

Vertical montage: Inspired by an orchestral score, which consists of several parts that develop horizontally while the vertical structure is equally important, Sergei Eisenstein applies the same principle to visual elements in his films to create vertical montages.<sup>5</sup>

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1. “Counter-Mapping,” in *Wikipedia*, March 1, 2024, [https://en.wikipedia.org/w/index.php?title=Counter-mapping&oldid=1211259006#cite\\_note-1](https://en.wikipedia.org/w/index.php?title=Counter-mapping&oldid=1211259006#cite_note-1).

2. “APA Dictionary of Psychology,” accessed April 21, 2024, <https://dictionary.apa.org/>.

3. “Soft Science Fiction,” in *Wikipedia*, December 6, 2023, [https://en.wikipedia.org/w/index.php?title=Soft\\_science\\_fiction&oldid=1188633574](https://en.wikipedia.org/w/index.php?title=Soft_science_fiction&oldid=1188633574).

4. Trinh T. Minh-ha, *Cinema Interval* (London: Routledge, 1999), 218.

5. Sergei Eisenstein, *The Film Sense* (New York: Houghton Mifflin Harcourt, 1947), 74.

## 1. Introduction

By the winter of 2021, I had completed a series of works that engaged with water bodies in the natural hydrological cycle. Seawater responded to the questions I engraved, raindrops formed and composed image-like concrete poetry, and river water left painterly marks and traces, embodying their memories. However, I struggled to find a way to work with clouds, the most distant and elusive component of the hydrological cycle. I then discovered I could receive image signals from weather satellites through self-assembled equipment. These satellites continuously capture images of clouds, and the electromagnetic waves carrying this image information to Earth physically pass through and are interfered with by the clouds. I simply thought I had found the perfect apparatus to engage with clouds. This unexpectedly led me to a broader theoretical field that examines the relationship between the environment and media—where they are mutually constitutive, the one shaping the other—and the gaps that exist within this relationship.

I have dedicated several months to receiving image signals from the Russian weather satellite, *Meteor-M2*. Like other meteorological satellites, it monitors the earth's weather and climate conditions. One of its functions is photographing the earth from space to monitor cloud cover, enabling ground-based receivers to observe, track, and predict cloud movement. For a time, I allowed the schedules of overhead satellite flyovers to dictate my personal routine—when the satellite approached, I would cease my current activities and move to a relatively radio-quiet zone to listen to its signals. I have personally experienced parts of the logistics of such imagery, as stated by Jussi Parikka, that are “not located only on the screen but also in the circulation of information and data from sensors to machine learning processing.”<sup>6</sup> The process of attuning to the satellite's trajectory, and of immersing myself in the rhythm of satellite activities made me acutely aware of the plethora of satellites that daily orbit the earth—I had never realized their existence until now. The sky can never be considered a smooth space anymore; it is now striated, like the ocean, full of human-made debris, as well as politics and power dynamics.<sup>7</sup> I realized that this has effectively transformed the earth into a half-organic and half-mechanical mixture. Benjamin Bratton prompts us to envision the iconic Blue Marble image of Earth that the *Apollo 17* astronauts captured as a Blue Marble movie portraying our planet's 4.5-billion-year journey. As it unfolds, we witness ancient volcanoes, storms, moving continents, and primordial oceans, which toward the end of the movie abruptly yield to an intricate artificial planetary crust wrapped in a web of satellites and wires made of metal and glass.<sup>8</sup> Media historian John Durham Peters eloquently points out this condition of our built environment, stating, “Humans and their crafts have entered into nature and have altered every system on earth and sea, and many in the sky, to the point that ‘nature,’ understood as something untouched by humans, only exists on earth where humans have chosen to set

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6. Jussi Parikka, “Operational Aesthetic: Cinema for Territorial Management,” in *Operational Images: From the Visual to the Invisual* (University of Minnesota Press, 2023), 150.

7. Gilles Deleuze, “1440: The Smooth and the Striated,” in *A Thousand Plateaus: Capitalism and Schizophrenia*, (Minneapolis: University of Minnesota Press, 1987), 474–500.

8. Benjamin Bratton, “Planetary Sapience,” Noema, June 17, 2021, <https://www.noemamag.com/planetary-sapience>.

it apart as ‘natural.’”<sup>9</sup> This resonated deeply with me. When I attempted to weave a story about clouds, the story would also include satellites, our beautiful dreams and desires for elevation, and the darker aspects of arrogance and selfishness. It unfolded to be a story that is as much about nature as it is about humanity’s culture and history.



**Figure 1.1.** Documentation of my antenna setup: dipole antennas connected to an RTL-SDR device, which is linked to my laptop to receive signals from weather satellites.

Another factor that greatly concerned me from this experience, shamelessly to say, is my late realization of the subtle yet pervasive penetration of satellites and other infrastructures into our environment. These structures extend into corners of the earth that most of their beneficiaries living in cities do not see in their daily lives, yet they remain intimately connected to the beneficiaries’ living experiences. Shannon Mattern has identified the transition of infrastructure design from venerating the visible to blending seamlessly into a naturalized background. She also shows how this unseen experience in contemporary times implies the great privilege of residing in developed areas. In the nineteenth century, people in Western cities celebrated and prominently displayed their infrastructures, such as water towers and sewage systems, because they symbolized technological progress and transformation. However, as the myths of progress proved hollow and the darker side of rapid advancement appeared with social, environmental, and political consequences, these networks were hidden underground,

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9. John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (Chicago: University of Chicago Press, 2016), 1.

allowing for a cleaner, more functional aesthetic and making infrastructural technologies mystical once more, seemingly “coming from nowhere in particular and from everywhere.”<sup>10</sup> Today, approximately 7,000 active artificial satellites and millions of pieces of space debris orbit the earth, but are barely noticeable to the naked eye. Most people, like myself, seldom consider their presence. This is similar to the deceptively named “cloud” supported by distant data centers, which despite its significant environmental impact, remains largely unknown and out of sight to its users. In line with this, John Durham Peters likens infrastructure to a barely perceptible light rain outside a window as an example to support what Lisa Parks calls “infrastructural concealment.”<sup>11</sup>

Indeed, media (as in technical instrument or means of [mass]communication including satellites) are quietly, almost invisibly, becoming the environment. Conversely, media scholars have come to recognize that environments are media as well, having always been an intrinsic and inseparable part of human culture and history. In his book *The Marvelous Clouds—Toward a Philosophy of Elemental Media*, Peters argues for a refocusing on a more fundamental understanding of media—as “vessels and environments,” as “conditions of possibility of life,” or as the “infrastructure” of life.<sup>12</sup> This perspective extends the definition of media to include more environmental entities like water, fire, and sky. Once these elements are encompassed within the scope of “media,” they inherit characteristics typically associated with the term, becoming “vehicles of communicating meanings” and “infrastructures of data and control” akin to any other media that traditional media historians historically studied. As a result, the scope that the definitions of media created also became a medium itself. This is similar to what Walter Benjamin’s concept of “language as archive” could do—“a Medium into which the earlier perceptual capacity for recognizing the similar had, without residue, entered to such an extent that language now represents the Medium in which objects encounter and come into relation with one another.”<sup>13</sup> In Peters’s extended conception of media, he analyzes both elemental and newer kinds of media—nature and culture—together, facilitating a synthesized view of their interactions. The strategy of how we understand the term “media” can benefit by adopting the approach Douglas Kahn uses in his exploration of the concept of “energies.” In his book, *Energies in the Arts*, Kahn advocates that “it is better to talk about energies, in the plural, rather than energy. Different concepts, forms, meanings, usages, and their associations cannot be neatly cordoned off from one another.” Similarly, he suggests that we should consider all the definitions of one word (“media” in this case) simultaneously when evaluating its cultural significance and nuances.<sup>14</sup> This approach cultivates an environment where different interpretations of “media” can intra-act, sparking new relations, understandings, and knowledges.

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10. Shannon Mattern, “Cloud and Field,” *Places Journal* (2016), <https://doi.org/10.22269/160802>.

11. Peters, *The Marvelous Clouds*, 35.

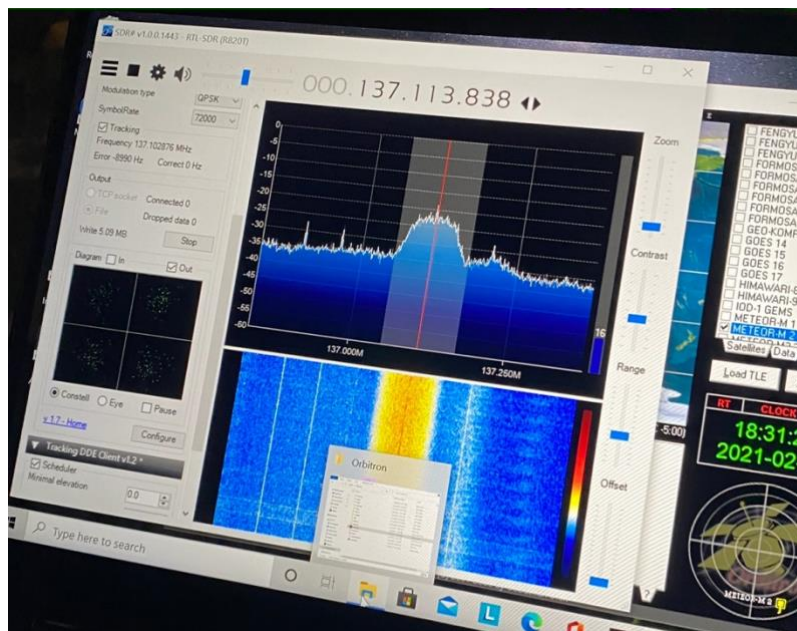
12. Peters, 2.

13. Antonio Somaini, “Walter Benjamin’s Media Theory: The *Medium* and the *Apparat*,” *Grey Room* 62 (2016): 6–41, [https://doi.org/10.1162/GREY\\_a\\_00188](https://doi.org/10.1162/GREY_a_00188).

14. Douglas Kahn, “Introduction,” in *Energies in the Arts*, ed. Douglas Kahn (Cambridge: The MIT Press, 2019), 1-46.

In the field of media studies, advocating for a more synthesized perspective essentially means bringing greater attention to environmental elements often relegated to the background. Those elements include both the natural environment and the newer forms of media that constitute our surroundings. Whether it is Peters wanting the inclusion of more elemental and foundational aspects within the media study discourse; Eva Horn suggesting a view of air as a medium rather than mere matter in her article, “Air as Medium”;<sup>15</sup> or Jane Bennett advocating recognition of the intrinsic power of things (the thing-power, without giving them new definitions, like from “matter” to “medium”),<sup>16</sup> there is a consistent effort to elevate elements typically considered inert or relegated to the background and to expand or challenge our current understanding of the relationship between nature and culture, although each of these scholars phrases it differently.

These scholars and writers use shifts in definitions to advocate for change, seeking to transform perceptions through the power of concepts and knowledge. As an artist, I ask how I can resonate with their efforts, not through language alone, but by integrating a combination of objects: How can I highlight the transformations in media and environment in an interesting way, combining my subjective feelings as an individual living within such environments? I developed a body of artworks centered on the sky—a place where artifacts, air, clouds, and dreams intertwine. With each piece in this collection, I engage with the overlap between environment and media differently, expressing the melancholy of existing in a world where the two intermingle. I convey my understanding of media in its broader concepts, infused with a touch of my subjective imagination and aesthetic sense.



**Figure 1.2.** Close-up of the software I used for my satellite tracking setup: “SDR#” to locate signal frequencies and “Orbitron” to track satellite positions.

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15. Eva Horn, “Air as Medium,” *Grey Room* 73 (December 2018): 6–25, [https://doi.org/10.1162/grey\\_a\\_00254](https://doi.org/10.1162/grey_a_00254).

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

This thesis begins with a chapter introducing my methodologies—the underlying philosophy and beliefs of my works, followed by five chapters, each documenting one work that engages the complexity in the sky from different angles: *Do Clouds Hate Weather Satellites?* (2021) explores the violence in vertical politics and the resistance from amateur communities; *Artificial Satellite Astrology* (2023) probes how a sense of connection can evoke care and attunements to celestial entities; *Tele-Sky Unplugged* (2023) raises questions about the history of sky art that intertwined with the history of sky technologies; together, *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024) and *Cloudbusting (Rain Poems)* (2024) explore how the interplay of yearning and mourning persist in the environments around us.

The title of each chapter suggests a specific spatial or temporal context for each work: “The Story of the Air,” “The Story beyond the Atmosphere,” “The Story of Sunny Day,” “The Story of Domestic Space,” and “The Story of Rainy Day.” Their chronological order and their spatial order are different. You are welcome to start at any point in these chapters, following either order, or none.

Meanwhile, there are multiple threads that tie each chapter/work together and appear intermittently throughout the thesis. These threads include my exploration of expressing emotions through art, my studies and engagement in elemental media studies, perceiving and connecting with distant beings, and many more. I arrange these threads like vertical montages, where each thread acts like an instrument that develops its own timeline, but also forms dialogues with other instruments within each chapter/work.<sup>17</sup>

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17. For a detailed definition of “vertical montage”, see “Glossaries,” page 6. Eisenstein, *The Film Sense*, 74.

## 2. Methodologies: Misuse of Technology

My practice probes how soft science fiction provides intervals to contemplate the tension among the relentless advancement of infrastructural technologies (specifically, space technologies in the greater part of this thesis), their environmental and psychological repercussions, and the metaphors and culture in weather and environments.<sup>18</sup> I try to reflect on the predicament of an individual caught in this situation, often presented in layers of absurdity and melancholy. By utilizing weather satellite data, early Space Age artwork archives, and fictional storytelling, I make objects that suggest how celestial and other infrastructural technologies can be strategically (mis)used to prioritize human subjectivity over technological functionality. They are responses derived from individual precariousness experienced in such intermingled environments—a coping mechanism, putting the current dynamics between the self and planetary technologies into play. Giorgio Agamben, in his “What Is an Apparatus?,” suggests that we become de-subjectified when we use various types of apparatuses and that merely using technology in the “right” way is not enough to counter this effect. Therefore letting “more apparatus pervade and disseminate their power in every field of life” will lead us toward catastrophe.<sup>19</sup> I suggest that we use it in the wrong way. The technologies discussed range from the traditional, such as human language, to high-tech, like electronics. In those moments when technologies cease to function, they become conduits for emotion, devices of connections, speaking about our perpetual yearning for miraculous connections.

I disregard the designated functions of satellites and misuse them based on my intuitive responses during my research process. Each story/artwork in this thesis addresses a different variation of satellite misuse: In *Do Clouds Hate Weather Satellites?* (2021), “glitches” in satellite images, which are supposed to carry useless information and thus should be abandoned or avoided, become intended “signals.” In *Artificial Satellite Astrology* (2022), the actual broadcasting functions of satellites are ignored and nullified; only their trajectories and positions are considered. In *Tele-Sky Unplugged* (2023), the receiving end of the satellites operates independently, severing its dependence on the satellites. In *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024), a satellite plays the role of a love rival in a romantic para-fiction story. *Cloudbusting (Rain Poems)* (2024) is a slightly different case, where I do not misuse satellites but a more ancient technology: language. Language in those poems loses its linear structure and its meanings. In each case of misuse, I attempt to capture the different layers of absurdity and melancholy an individual might experience living in a world where artifacts intrude into every corner of natural and meteorological environments, constructing multiple scenarios of Frankenstein-like tragedies instigated by an infatuation with technological determinism.

Considering the physically distant nature of the subjects that I have been working with in this thesis, I also probe how to perceive things that are physically distant from us. I investigate what mediations or strategies—be it electronic signals, mapping, or even imagination—can be employed to bridge this distance, along with the unexpected events, surprises, and failures arising from these approaches. Given

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18. For a detailed definition of “soft science fiction,” see “Glossaries,” page 6.

19. Stefan Pedatella and David Kishik, trans., “What Is an Apparatus,” in *What Is an Apparatus? and Other Essays*, by Giorgio Agamben (Redwood City: Stanford University Press, 2009), 1–24.



that clouds are always physically remote, does this mean that all our attempts to speak about them will always ultimately be “nearby”?<sup>20</sup>

Adhering to the ethos of being skeptical towards techno-determinism, I have kept the medium and techniques for constructing my works as lo-fi as possible. In most cases, the final products presented to the audience were responsive to the environments they inhabited—yet remained still, quiet, and clean. This underpins my affinity for drawings, installations, and objects fall in between drawings and installations as my favored mediums. My affinity continues to involve materials like paper, mirrors, wood, and fabrics—elements that could be considered old-time technologies but significantly elucidate how we organize and navigate natural elements, the fundamental infrastructures that constitute the world we live in.

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20. For a detailed definition of “speaking nearby”, see “Glossaries,” page 6. Minh-ha, *Cinema Interval*.



### 3. The Story of the Air

#### *Do Clouds Hate Weather Satellites?* (2021)

Glitches represent more than mere indicators of malfunction within machinery; they can also offer informative insights into the functioning and existence of those systems. On many occasions, a glitch momentarily reveals previously hidden aspects of infrastructures that appear to integrate seamlessly with their environments. As Peters suggests, “Glitches can be as fruitful intellectually as they are frustrating practically.”<sup>21</sup> In *Do Clouds Hate Weather Satellites?* (2021), I strategically use glitches in satellite images caused by clouds and other factors. The signals transmitted by weather satellites travel through outer space and clouds, experiencing journeys that human bodies can only dream about. The glitches are the embodiment of these journeys, their memories, our souvenirs. I aimed to highlight the physicality of the satellite imagery transmission process and to consider these glitches as manifestations of the clouds’ agency and their role as media that function as information bearer. Instead of treating the sky as mere backdrops for signal transmission, I mosaicked the glitches to highlight the sky’s active role. This act embodies the intriguing speculative nature–culture relationship proposed by Peters that subverts the subject–object relationship: “What if we took not two human beings trying to share thoughts as our model of communication, but a population evolving in intelligent interaction with its environment? What if we took technologies not just as tools that chip away at solid materials, but as means by which nature is expressed and altered, at least for human beings?”<sup>22</sup> Clouds, those ephemeral entities that once puzzled Renaissance painters with their resistance to linear perspective, continue to play a challenging and confounding role in human image-making processes.<sup>23</sup>

Satellite imagery, characterized by its unidirectional, overhead, and vertical perspectives, implicitly carries strong connotations of political power and hierarchy levels.<sup>24</sup> Jussi Parikka points out an invisible reference of such images—“a vast, distributed capacity to sense, register, and digest the world as images and spit it back as models,” and how national grasps of the technologies that constitute those images become part of implicit geopolitical soft power, which can potentially lead to violence and persecution.<sup>25</sup> However, the access to the image signals broadcasted by satellites is *surprisingly* democratic, considering their connotations of power dynamics. The NOAA and GOES weather satellites from the United States, along with Russia’s *Meteor* weather satellites, transmit electromagnetic waves on public frequencies that anyone with the appropriate receiving equipment can access. On online platforms such as Reddit and YouTube, thousands of radio amateurs share their experiences of using

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21. Peters, *The Marvelous Clouds*, 35.

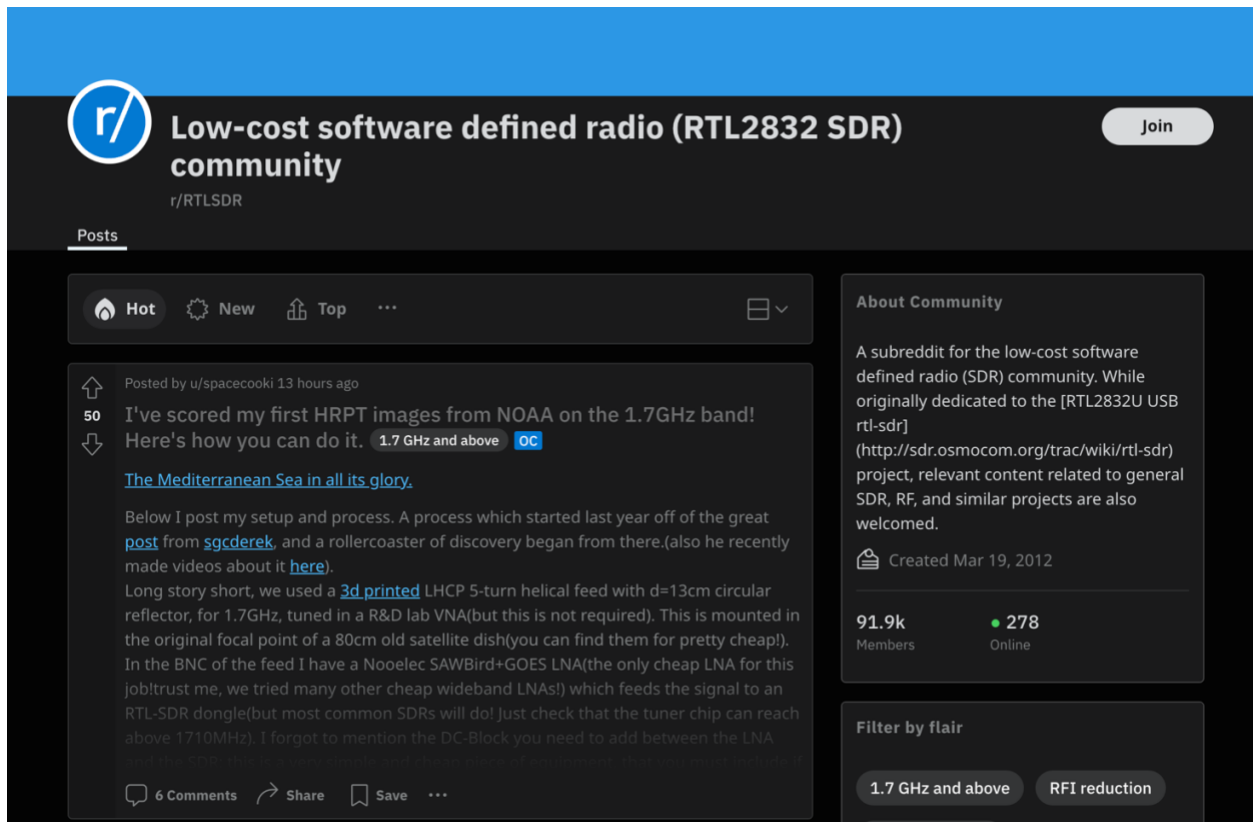
22. Peters, 4.

23. Hubert Damisch, *A Theory of /Cloud/: Toward a History of Painting* (Redwood City: Stanford University Press, 2002).

24. Hito Steyerl, “In Free Fall: A Thought Experiment on Vertical Perspective,” *e-flux* 24 (2011), accessed June 15, 2023, <https://www.e-flux.com/journal/24/67860/in-free-fall-a-thought-experiment-on-vertical-perspective/>.

25. Parikka, “Operational Aesthetic.”

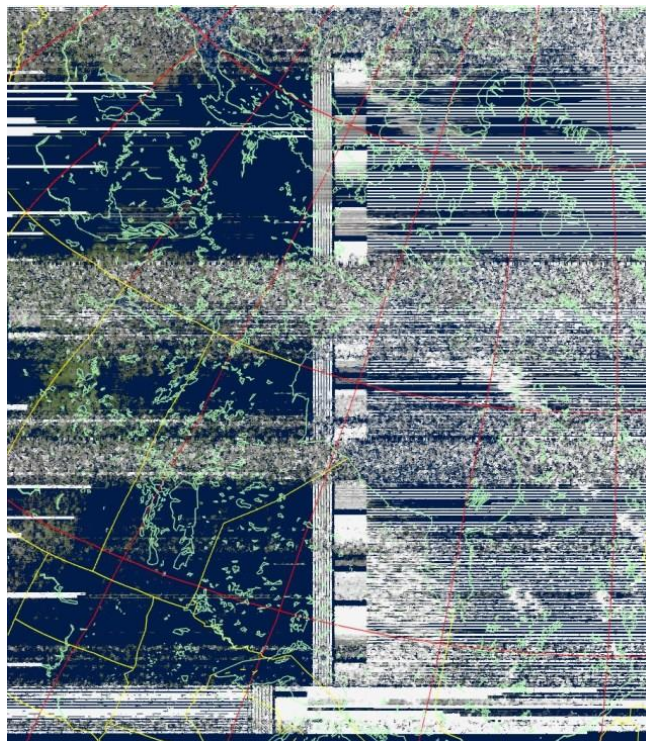
homemade antennae and decoding setups to receive signals from weather satellites and complete other radio scanner activities like listening to police radio or aircraft messages. They share stories and exchange ideas about their equipment and handy tricks, all in the spirit of mutually improving the quality of the satellite images they receive.



**Figure 3.1.** Screenshot of the homepage of the low-cost software-defined radio Reddit forum. Accessed June 15, 2023. <https://www.reddit.com/r/RTLSDR/>

The NOAA satellites that are being listened to by radio amateurs consist of three active satellites from its series of five meteorological satellites: *NOAA-15*, launched in 1998; *NOAA-18*, launched in 2005; and *NOAA-19*, launched in 2009. The other two satellites in this series, *NOAA-16*, and *NOAA-17*, were respectively decommissioned in 2014 and 2013 due to operational failures. These satellites incessantly collect and broadcast a blend of visual and numerical meteorological data on the earth. Although the anticipated operational lifespan of these satellites is three years, all five satellites remarkably extended their service beyond their designated life expectancy. Even with the launch of newer satellites equipped with more advanced instruments, the NOAA (National Oceanic and Atmospheric Administration) does not immediately decommission the older, replaced satellites. It appears that the NOAA will only retire these satellites when a serious anomaly is detected. Upon occurrence of such an event, the remaining fuel is utilized to relocate these satellites to a “graveyard” orbit, a location that does not interfere with operational satellites. Concurrently, all their systems and functions are deactivated, resulting in the termination of signal transmission. Consequently, these satellites cease to be detectable by their listeners.

The process of tracking the position of these satellites, and assembling the necessary equipment to receive and decode their signals, seemingly cultivates an intimacy between these satellites and their listeners. An intriguing incident transpired during the summer of 2019, stirring discussions within the radio amateur community. Unusually glitched images were being received from *NOAA-15*, which sparked off their concerns even before an official statement was issued by the NOAA. The dialogues preempted the formal announcement, leading to speculation about the satellite's health. Questions like "Is *NOAA-15* dying?" permeated the community, prompting conjectures as though they were witnessing the gradual aging and eventual death of a satellite. Like how an anthropologist might argue that funerals serve to unite individuals, the anomalies in the satellite's operation similarly evoked emotional responses and fostered a sense of unity among its listeners. Fortunately, by the end of July 2019, the images received from *NOAA-15* had returned to normal, and the satellite has continued to function properly since then.

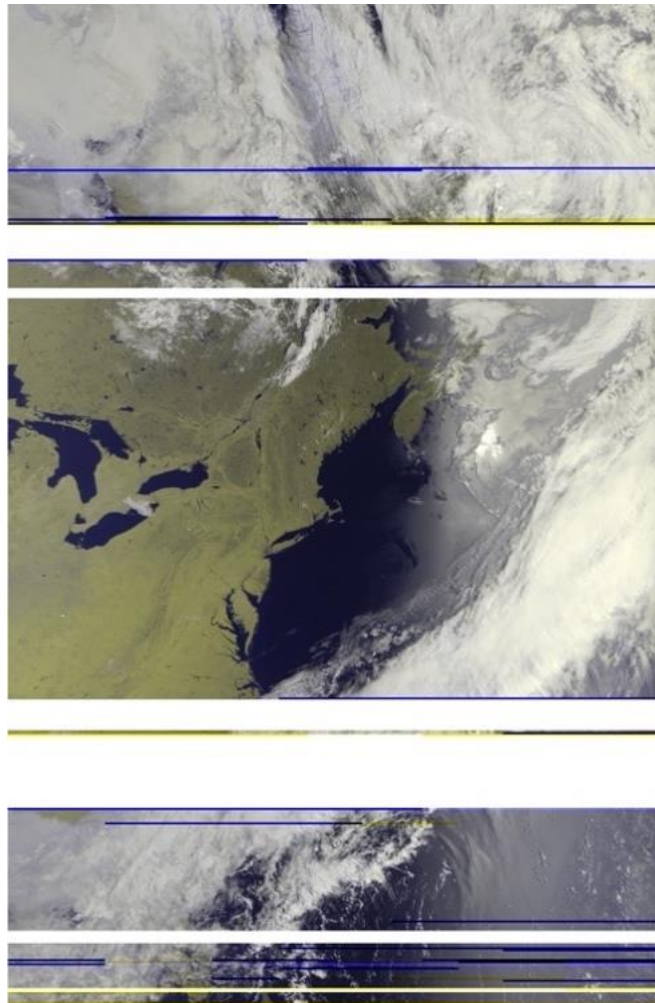


**Figure 3.2.** Heavily glitched *NOAA-15* image received and posted by Karsey Renfert. Renfert, Karsey. "Is *NOAA 15* Dying? NOAA Won't Rule It out! (Update: Appears to Work Now)," July 24, 2019.

<https://karsey.dev/me/2019/07/23/is-noaa-15-dying/>.

The occurrence of glitches in satellite imagery reminds us that, although we cannot see our "eyes in the sky," they are physical entities. So too are the radio signals it broadcasts and the atmospheric interferences that interact with those signals. This reveals a series of material consequences we have caused to the formerly artifact-free outer space. These glitches also encapsulate information pertaining to file encoding and transmission methodologies. Specifically, the glitches in the imagery from NOAA's series of satellites take on a form reminiscent of snowflakes, whereas those from the *METEOR* series appear as stripes or blocks. Although both represent some sort of lost information, this variation signifies the different data transmission and decoding processes each satellite series employs, a reflection of their distinct designs and manufacturing processes in different countries.

Each image I receive from *METEOR M-2* features white line glitches, attributable to interferences with the signal present in the air emanating from other electronic products; from my own nonprofessional, flawed equipment and operation; and even perhaps from the clouds themselves.<sup>26</sup> Consequently, these glitches should not be misunderstood as shortcomings of poor signal reception through homemade equipment by radio hobbyists. Rather, they should be celebrated as a symbol of a decentralizing force inherent within them and the logistics of generating them, counteracting the sense of power and surveillance that their vertical perspectives imply.



**Figure 3.3.** One of the satellite images I received from *Meteor-M2* weather satellite in Providence, Rhode Island, on May 13, 2021.

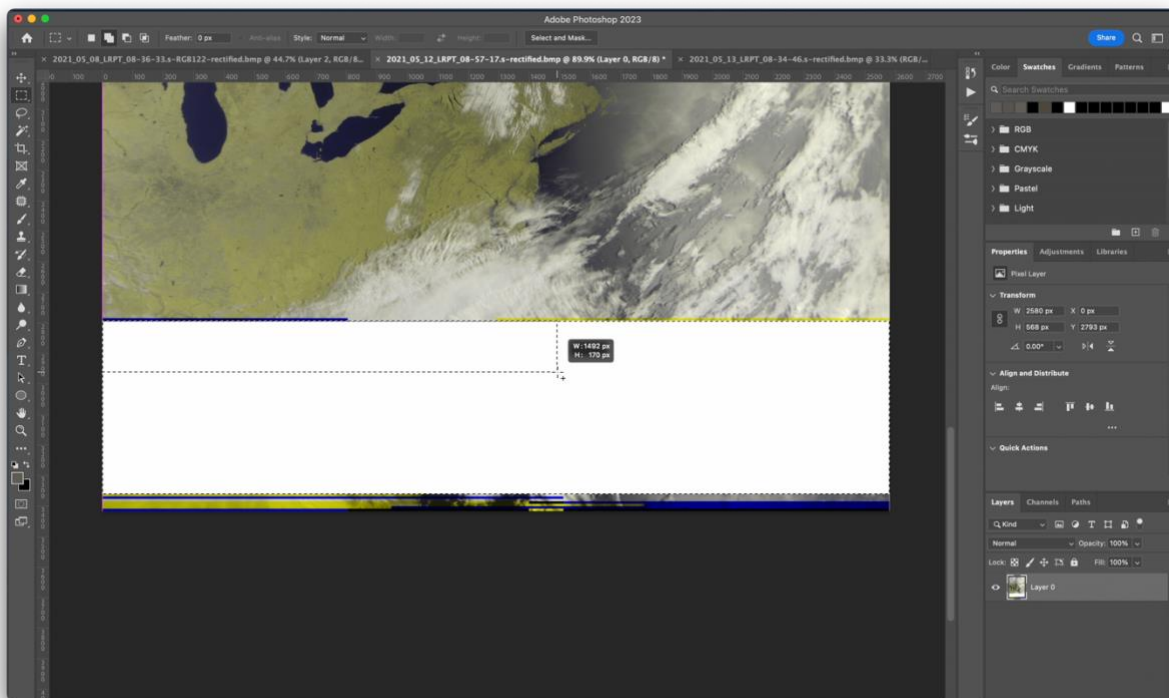
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26. Atmospheric conditions, including clouds, can influence weather satellites' signals, although the impact is significantly less than that experienced by satellite television or internet services, whose signals transmit at very high frequencies. This phenomenon, termed "rain fade," is the consequence of water droplets in the atmosphere absorbing or scattering the high-frequency signals, thereby diminishing their strength. "Rain Fade," in *Wikipedia*, April 25, 2024, [https://en.wikipedia.org/w/index.php?title=Rain\\_fade&oldid=1220796618](https://en.wikipedia.org/w/index.php?title=Rain_fade&oldid=1220796618).



In the title of this artwork, *Do Clouds Hate Weather Satellites?*, I aim to propose a story from the perspective of clouds. If we analogize the relationship between weather satellites and clouds to that between human activities and surveillance systems, the cloud or the monitored entity itself becomes a means of anti-surveillance force, disrupting the surveillance signal. Clouds, composed of minuscule water droplets and dust particles, interfere with the electromagnetic signals being transmitted from the satellite to the ground. This interference manifests as “glitches” and “noise” in the received imagery. In the human world, individuals often express discomfort upon realizing they are under surveillance. Could clouds possibly experience a similar sentiment? Reflecting on the images I received, I started a contemplative, albeit seemingly futile, close reading of these glitches.

Typically, image mosaicking plays a pivotal role in the deployment of satellite imagery within traditional human-centric research and studies. This process is undertaken to provide a comprehensive view of land or cloud cover, or, in the context of geographical environment studies—such as resource exploration and agricultural investigations—to reveal what is obscured beneath the clouds. In instances where satellite images with glitches are received, people can opt to mosaic these images, thereby compensating for the information lost in the glitches and facilitating the creation of a complete and clear satellite map. The act of mosaicking enables a more complete and holistic interpretation of the visual data captured by weather satellites.



**Figure 3.4.** Still from *Do Clouds Hate Weather Satellites?* (2021), 5'6". A screen recording of me editing and stitching the glitches in the images I received.

Maintaining the ethos of celebrating glitches, I undertook a task to subtly stitch together glitches from different images I received to create a comprehensive glitch. Through editing and mosaicking the satellite images I have received, I have assumed the role of a techno-meteorologist who crafts mosaics

that not only facilitates a better understanding of the often-neglected surrounding environment for the satellite but also aligns with the clouds' intrinsic desire for privacy and the communities' resilience to vertical politics. It is an act of counter-mapping, which challenges traditional satellite imagery mapping techniques and the controls and violence associated with them by creating "maps" with glitches—we can almost call it "un-mapping."<sup>27</sup>

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27. For a detailed definition of "counter-mapping", see "Glossaries," page 6.

## 4. The Story beyond the Atmosphere

### *Artificial Satellite Astrology* (2022)

Astrology is intriguing because it uses the regular and deterministic celestial system, yet (mis)interprets it in a profoundly human way. In ancient classical texts, “milieu” refers not only to the physical environmental conditions that affect a person but also to those that affect the human spirits, forming the basis of early astrology.<sup>28</sup> By explicitly placing the audience at the center of a web of relations, based on the physical surroundings of their birth, and endowing these relations with emotional and personal interpretations, a sense of intimacy and caring arises between the person and all the other elements in this relationality. Artist and astrologer Alice Sparkly Kat encapsulates this magic of astrology that affects people on her website: “Astrology is so much about the audacity of believing in the wrong things, of spiritualizing with humor, and magicking politically—it is a worthy antidote to the everyday gas lighting that race, gender, and class violence use to warp us psychically.”<sup>29</sup>

In my 2022 work, *Artificial Satellite Astrology*, I appropriate astrological horoscopes and made up divination radio antennae to explore the tendency to construct our own narratives as a means to cope and counter; probe how a sense of inter-connectedness can evoke care and attunement; and prompt reflection on whether the connection is physical, psychological, or a blend of both. The way I chart such relationships is not scientific, functional, or meteorological at all but elusive, cultural, and personal.

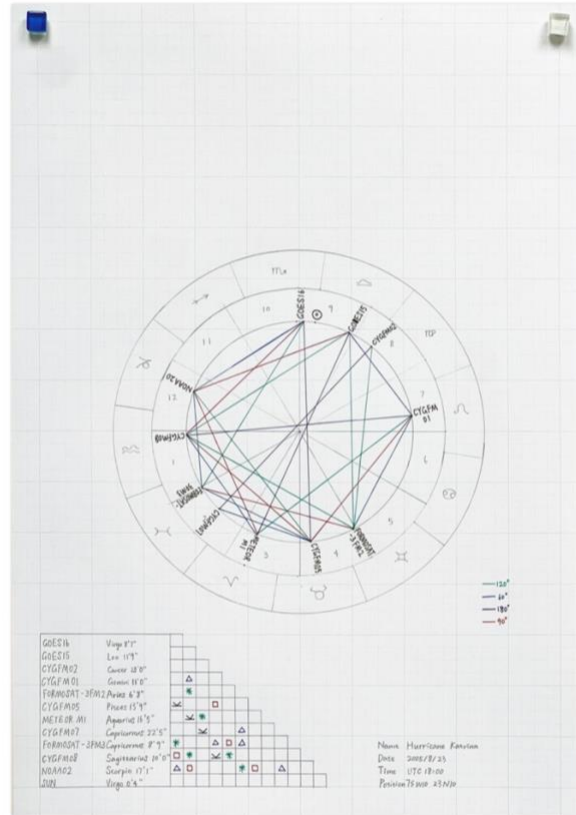


**Figure 4.1.** Work-in-progress documentation of me drawing horoscopes for *Artificial Satellite Astrology*. I combined the data from a satellite position tracking program with charts from a modern astrology horoscope generation website.

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28. Leo Spitzer, “Milieu and Ambiance: An Essay in Historical Semantics,” *Philosophy and Phenomenological Research* 3, no. 1 (1942): 1–42, <https://doi.org/10.2307/2103127>.

29. Alice Sparkly Kat, “Alice Sparkly Kat Astrology,” accessed December 7, 2021, <http://alicesparklykat.com>.



**Figure 4.2** A horoscope of Hurricane Katrina, drawn using the positions of meteorological satellites instead of planets.

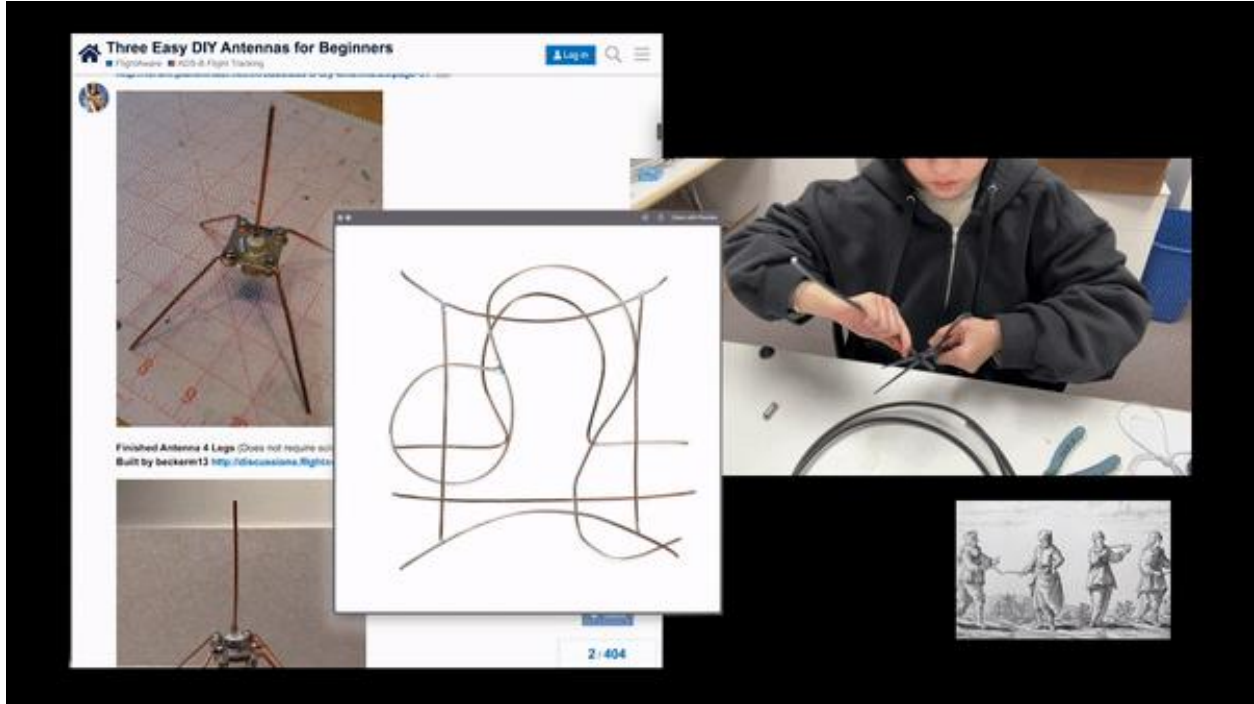
In a series of three drawings, I created astrological horoscopes with planets substituted by artificial satellites, combining the data and diagrams from satellite position tracking programs and astrology horoscope generation websites. The secretive satellites were dragged to the foreground and positioned in a web of connections, reflecting an ancient and instinctive tradition of mythmaking and cultural creation that does not rely on modern technology like antennae or software for mediation.

Besides horoscopes, I have made up a series of divination antennae in the shape of astrological symbols that reflect my experiences navigating online forums of radio amateur satellite listeners and setting up antennae to receive image signals from weather satellites. Inspired by threads where radio amateurs share their experiences of DIY antenna making by adapting readymade materials, I crafted antennae by extracting the copper core from coaxial cables and soldering it into the shapes of astrological signs. These antennae serve as tangible invitations, adding a material dimension to the astrological connections between people and these invisible infrastructures. They are reminiscent of dowsing rod, which interact with water from beneath (underground water), whereas antennae interact with water from above (water in the clouds, through satellite images). It is reported that some UK water firms use dowsing rods to find water pipes.<sup>30</sup> Putting aside the credibility of such a method, both the dowsing rod

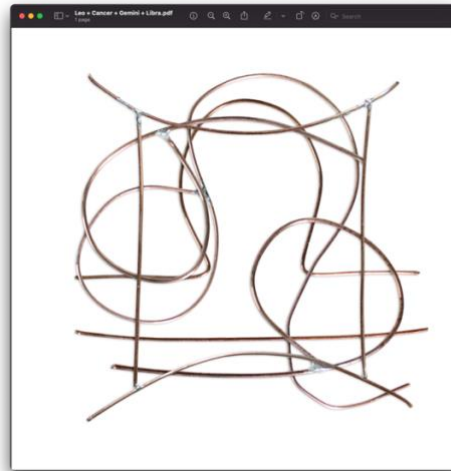
30. Matthew Weaver, "UK Water Firms Admit Using Divining Rods to Find Leaks and Pipes," *The Guardian*, November 21, 2017, <https://www.theguardian.com/business/2017/nov/21/uk-water-firms-admit-using-divining-rods-to-find-leaks-and-pipes>.



and the antenna—similar in shape and material—connect people who hold them to hidden infrastructures in urban life: water supply systems and artificial satellite systems. The connection is based on faith and individual experience, rather than on the conventional narratives and investigations surrounding infrastructure, which often carry colonialist undertones.<sup>31</sup>



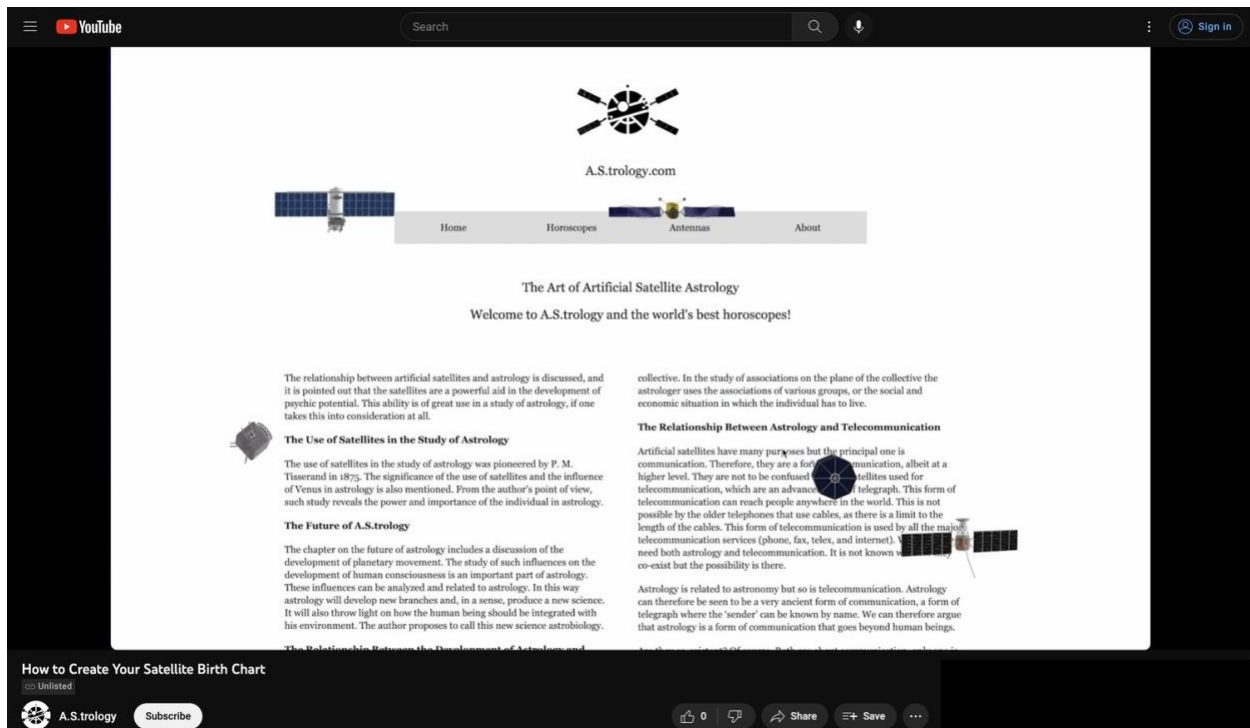
**Figure 4.3.** Documentation of the process of making divination antennae, utilizing a common method many radio amateurs employ. They gather copper cores in coaxial cables to listen to signals from meteorological satellites for leisure.



**Figure 4.4** Divination antennae that I made up for *Artificial Satellite Astrology*.

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31. Mattern, "Cloud and Field."



**Figure 4.5.** Stills from video *How to Create Your Satellite Birth Chart*, 13'37". A fictitious video tutorial on how to navigate a website dedicated to the practice of artificial satellite astrology.

Astrology centers on prediction, as does the imagery from weather satellites, which aims to predict and control nature. As I posed the question in the last chapter, “Do clouds hate weather satellites?” I probe the desire to escape prediction and control.<sup>32</sup> Using satellite positions for astrological predictions is doomed to fail, and the failure and absurdity in doing so symbolizes my hope for clouds to forever elude prediction and control. Occasionally, we can recognize and accept that uncertainty and unpredictability are inherent throughout life. We should not comply with our fear of unpredictability, nor should we allow our fears to be exploited by power structures or capital interests, becoming contributors to predictive data, or even more frighteningly, becoming contributors to agents of control.

The three horoscopes from *Artificial Satellite Astrology* were presented at Sky Art 24 Symposium, a student-driven event that I co-organized with Vinzenz Aubry (ACT '25). The symposium featured seven panel speakers and showcased a series of sky art installations at the venue. There is potential for this event to continue in the future and for participants to contribute to a publication as documentation of the event.

32. Chapter 6 also explores women’s empathy for this situation, as they too are subjects under control in a patriarchal society.

S K Y  
A R T  
2 4

Sky Art Symposium & Exhibition

**Presenters**

**Aleksandra Mir**  
*First Woman on the Moon*  
Artist

**Alice Sparkly Kat**  
*Practicing a Metaphor*  
Astronomer

**Janine Randerson**  
*Susceptible Skies*  
Media artist, writer, and curator, MIT University

**Stephen Spencer**  
*The Race for Mars and Science Fiction*  
Professor in Writing, Harvard

**Marie-Pier Boucher**  
*Space Feminisms*  
Assistant Professor, UQFT

**Moderated by Hashim Sarkis**  
Dean of the School of Architecture and Planning, MIT

**Adela Goldbard**  
*Gunpowder and Stars*  
Artist, Associate Professor, RISD

**Chucho Ocampo Aguilar**  
*Incommensurable Alternatives*  
Artist

**ART CULTURE TECHNOLOGY**  
Massachusetts Institute of Technology

*Fri, April 5 2024*  
*Symposium 02:00 pm / Exhibition Opening*  
*05:00 pm / MIT Building E15-001 / The Cube*

**Figure 4.6.** Poster of Sky Art 24 Symposium, designed by Vinzenz Aubry.

The event aims to continue the history of a series of Sky Art Conferences initiated in the 1980s at the Center for Advanced Visual Studies (CAVS) at MIT, the forerunner of ACT.<sup>33</sup> These conferences, spearheaded by Otto Piene, sought to inspire artists to reclaim the sky from warfare for peaceful experiences and spoke to the then-cultural contexts of the fear of newly developed aviation technologies, new perceptual possibilities opened up by telecommunication technologies, and the desire to achieve spiritual elevation. With nearly two decades since the last conference and considering today’s evidentially different global context—marked by challenges like space debris, geopolitical tensions, and individual situations caught in between—we believe it is a pertinent moment to reassess the cultural significance of the sky through the lens of art in our own perspectives. Keeping such goals in mind, Vinzenz and I spent months planning and inviting guests for the event, which was realized on the afternoon of April 5, 2024. I co-wrote the declaration with Vinzenz for the event, highlighting the changes in the sky observed by our generation, which calls for a new interpretation of sky art, distinct from the past, which also marks the first sky art event without Otto Piene’s direct involvement. Below is an expert from it:

33. More details on the history of sky art are written in the next chapter, “The Story of Sunny Day.”

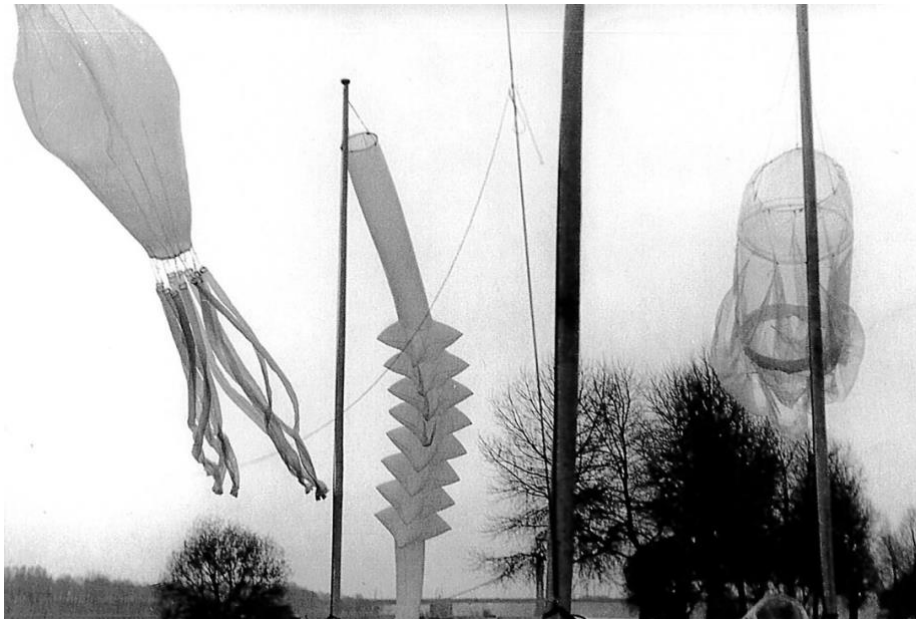
“Our relation to the sky has gone through many eras. Today there is a race for Mars, new low orbit monopolies in the making, and billionaires tinkering with space tourism; The moon, once known as the god of wisdom and knowledge, has become a temptation for rare earths; Young lovers, absorbed in their phones, monitor astrological shifts, hoping Venus, the planet of love, will bestow favorable fortunes; Satellites bring the Internet to distant rural areas in the world, while flashing across the night—becoming familiar sights to city dwellers and indigenous stargazers alike; Just recently microplastics have been found in clouds for the first time; New international conflicts transformed the sky back into a source of dread. We realize the sky can’t be considered a mere canvas anymore, but has always been an intrinsic part of human history and culture.”

Something about the sky has changed, while some aspects remain the same. I began to think about sky art again during the winter of 2023, amidst recurring huge international conflicts, for Otto Piene’s wish in the 1980s for artists to reclaim the sky from warfare for peaceful experiences. It is sad to see that nothing has changed now: the sky is still not peaceful but a source of terror. Perhaps Piene’s proposal was too optimistic, or its anti-war message too faint, leading to its failure and historical obscurity. However, it at least encourages us to question what artists, or humans, can do during such desperate times. Does occupation (the occupation of the sky through sky art) in the name of art or peace justify the behavior of occupation, since it is ultimately still a form of invading? How do you claim peace and justice, when using the same technologies and methodologies that endorse warfare? Let us keep thinking.

## 5. The Story of Sunny Day

### *Tele-Sky Unplugged* (2023)

Growing up in the late 1990s as an urban citizen, I saw the ubiquitous benefits of satellite technologies, yet I never experienced the excitement of the era when the satellite system was first conceived and developed. That period was not only a milestone in technological advancements but also a complex political arena and a significant time for art. From studying historical materials and trying to empathize with the sentiments of artists toward space technologies of that era, I am curious how people could approach these subjects differently today. In my 2023 work *Tele-Sky Unplugged*, I recreate an artwork from the archive of that era but rejects the participation of satellite technologies. Interestingly, this work also turned out to be a confluence of kinds of media, echoing how John Durham Peters interweaves different definitions of media in his writings.<sup>34</sup> My approach can be considered as a “material-discursive practice”, a knowing method defined by Karen Barad that conveys ideas not through language but by (re)configuring tangible objects and their “intra-actions.”<sup>35</sup> It resulted in a physical representation where media, in their broader definitions, mutually speak to and influence each other. Different media, such as TV (as a newer media form) and the sky (as an elemental media form), are juxtaposed in a synthesized manner, just like how old and new perspectives on satellite technologies also come together and form a dialogue here.



**Figure 5.1.** A characteristic example of sky art, showcasing windsocks of various shapes adorning the sky; Otto Piene, *Windsock Sculptures*, 1969. GM, “Air Time - Group Exhibition,” Sprüth Magers, August 13, 2021, <https://spruethmagers.com/exhibitions/otto-piene-air-time/>.

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34. Peters, *The Marvelous Clouds*.

35. Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham: Duke University Press, 2007), <https://doi.org/10.2307/j.ctv12101zq>.

Otto Piene coined the term “sky art” in the 1970s, during his tenure as the second director of the MIT CAVS, one of the predecessors of ACT at MIT. During this period, a large number of MIT-based artists used the sky as canvases, introducing artworks in the form of large-scale kites, balloons, floating ribbons, and other objects that move with the wind. Technological advancements, such as the development of hot air balloons and helicopters, along with the advent of new mass media and communication tools that space exploration technology like rockets and satellites made possible, have played a pivotal role in inspiring artists. These advancements have broadened the spectrum of mediums and methods accessible to artists, letting them see possibilities of building new perception models, and empowering them to conceive and create works that were previously unattainable.<sup>36</sup> The idea of exploring new frontiers, both within the earth’s sky and in outer space, through their art has fascinated artists.

According to Otto Piene’s own writings, sky art emerged from four major social contexts. The first was an artistic environment where artists showed interests in literal flying and spiritual elevation. In 1960, Yves Klein, also a friend of Otto Piene, “threw himself into space” for heightened sensibility, transcending physical reality and overcoming the gravity of body and mind.<sup>37</sup> Second, the development of telecommunication sparked artists’ desire to communicate. The grand scale of floating or flying objects mirrors the scale of radio or TV broadcasts in a different but related way. Third was the public’s fear of newly developed air traffic. Fourth, as a counter to warfare occupying the sky, artists needed to, according to Piene, “provide intense experience peacefully, experiences deep enough to prevent wars that would otherwise have to serve to chase away man’s boredom,” referring to the Space Race between the United States and the Soviet Union, which peaked during this period.<sup>38</sup>

Sadly, although Piene’s original intention was peaceful, it is evident that his wish to promote more sky art has led to divergences. In the introductory text of the first Sky Art Conference catalogue, the then-president of MIT, Jerome B. Wiesner, noted that the interest in the sky was indispensably political: “Domestic and international political considerations weighed as heavily as those of science and adventure.”<sup>39</sup> In the “Memo from President John F. Kennedy to Lyndon B. Johnson, Vice President” attached next to the introduction, questions like “Do we have a chance of beating the Soviets?” were raised. Given the backdrop of the ongoing Cold War, space technologies served as a representation of a militarized stronghold and symbols of technological supremacy, which both the United States and the Soviet Union used as a means to assert their power and compete with one another. Figures like Wiesner viewed Sky Art Conference as a cultural veneer to this competition. Similarly, many works in pop culture

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36. Gloria Sutton, *The Experience Machine: Stan VanDerBeek’s Movie-Drome and Expanded Cinema*, Illustrated edition (Cambridge: The MIT Press, 2015).

37. Harry (French Artist Shunk 1924-2006) and Yves (French Artist Klein 1928-1962), “Leap Into the Void,” accessed April 27, 2024, <https://jstor-org.libproxy.mit.edu/stable/community.9925975>.

38. Otto Piene, “Sky Art Research, NASA, ‘Some Material for a Book’” (Massachusetts Institute of Technology Department of Distinctive Collections, 1969), Box: 31, Folder: 1, Otto Piene personal archives, MC-0745.

39. Jerome B. Wiesner, “Memo from President Jerome B. Wiesner John F. Kennedy to Lyndon B. Johnson, Vice President” in *Sky Art Conference ’81* (Cambridge: MIT Press, 1981), 8.

share this thrill. For instance, *Star Wars* (1977) did not depict the cosmos as a leisurely place but as a realm rife with conflict and conquest.<sup>40</sup>



Jerome Wiesner  
photograph: Karsch

#### Jerome B. Wiesner

The SKY ART Conference attempts to offer a cultural context of sky and space exploration by bringing together and reviewing some scientific, scholastic, educational and artistic achievements, past and present. Having been an active participant in several theaters acting out the space drama, I take the liberty of pointing to some of the critical moments in the political process which led to the historical events we drew on.

The decision to enter this space race was not made easily. Domestic and international political considerations weighed as heavily as those of science and adventure. The documents excerpted below give a sense of those considerations, providing at the same time commentary on the cultural ambitions and idealistic concerns that motivated many of the supporters of space exploration.

#### Memo from President John F. Kennedy to Lyndon B. Johnson, Vice President

##### MEMORANDUM FOR VICE PRESIDENT

In accordance with our conversation I would like for you as Chairman of the Space Council to be in charge of making an overall survey of where we stand in space.

1. Do we have a chance of beating the Soviets by putting a laboratory in space, or by a trip around the moon, or by a rocket to land on the moon, or by a rocket to go to the moon and back with a man. Is there any other space program which promises dramatic results in which we could win?

2. How much additional would it cost?

3. Are we working 24 hours a day on existing programs. If not, why not? If not, will you make recommendations to me as to how work can be speeded up.

4. In building large boosters should we put our emphasis on nuclear, chemical or liquid fuel, or a combination of these three?

4. Are we making maximum effort? Are we achieving necessary results?

I have asked Jim Webb, Dr. Wiesner, Secretary McNamara and other responsible officials to cooperate with you fully. I would appreciate a report on this at the earliest possible moment.

**Figure 5.2.** A scanned page from the introductory section of the first Sky Art Conference catalogue, written by Jerome B. Wiesner, attached with “Memo from President John F. Kennedy to Lyndon B. Johnson, Vice President”

Italian-American artist Aldo Tambellini’s work *Tele-Sky* featured in the first Sky Art Conference held in 1981. The installation comprised several slow-scan televisions that received image signals from Australia and Japan, which then-recent advances in satellite communication technologies made possible. The poetics in the transformation of perceptions fascinated Tambellini, which was made possible by rapid growth of telecommunication technology, surrounding distance and connectivity. Concepts such as exploring new frontiers, searching for aliens, and inhabiting exoplanets excited Tambellini.<sup>41</sup>

40. Peters, *The Marvelous Clouds*, 166.

41. Aldo Tambellini, “Sky and Communicationsphere,” in *Sky Art Conference ’81* (Cambridge: MIT Press, 1981), 35.





**Figure 5.3.** Photograph of Aldo Tambellini's *Tele-Sky* (1981), featuring slow scan television and audio link between MIT and Australia for Sky Art '81, September 25, 1981. MIT program in art, culture and technology, "Tele-Sky," Center for Advanced Visual Studies Special Collection, accessed April 27, 2024, [http://act.mit.edu/cavs/item/cavsdftambellini\\_a\\_Sact-office16122010440](http://act.mit.edu/cavs/item/cavsdftambellini_a_Sact-office16122010440).

As an artwork, *Tele-Sky* not only embodied Tambellini's thoughts and efforts but also reflected the specific political and technological landscape of its time. The enthusiasm of 1980s artists for satellite communication technologies initially surprised me—it was a time when the potential negative impacts of satellites had not yet become apparent. This contrasts sharply with the contemporary art world to which I am accustomed, where major artists and scholars criticize satellite systems and other large infrastructures for their support of capitalism, state-authorized violence, and environmental impact. For instance, German filmmaker Hito Steyerl criticizes the "vertical perspective" that technologies like satellites enable, arguing that this perspective, rooted in military surveillance and power demonstrations, can disconnect us from ground realities and contribute to power imbalance, surveillance, and violence.<sup>42</sup> This is part of the political critiques of satellite imagery in Chapter 3. Not only that, I empathize more with natural environments that human infrastructure penetrates than with the excitement over satellite technology breakthroughs. I align more with Ursula K. Le Guin's ethos in "The Carrier Bag Theory of Fiction," which emphasizes the "container" over "the thing contained," values

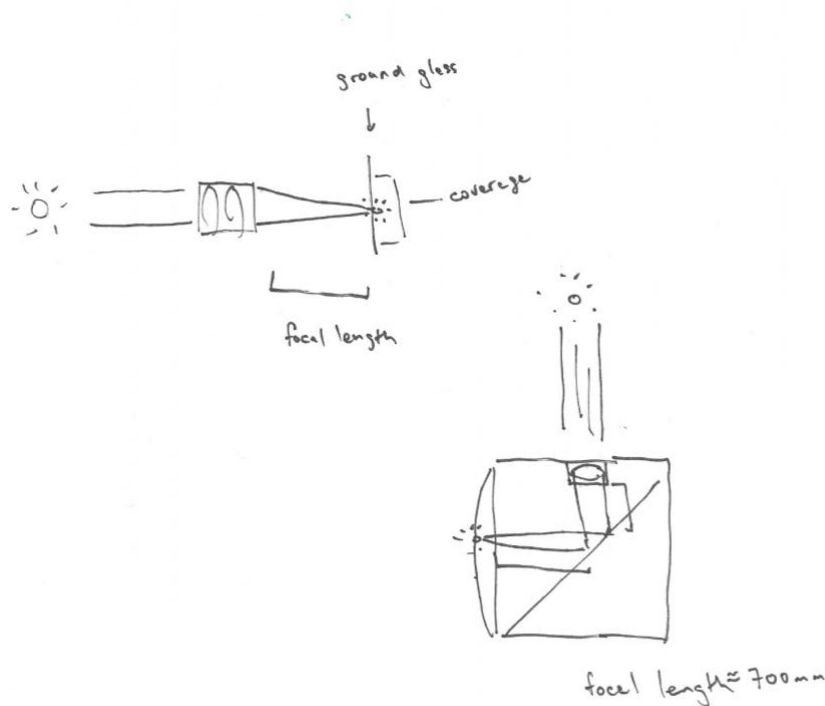
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42. Steyerl, "In Free Fall."



“taking in” rather than “penetrating,” in all their senses—we need more vessels for carrying, sharing, and narrating, instead of tools for domination and control.<sup>43</sup>

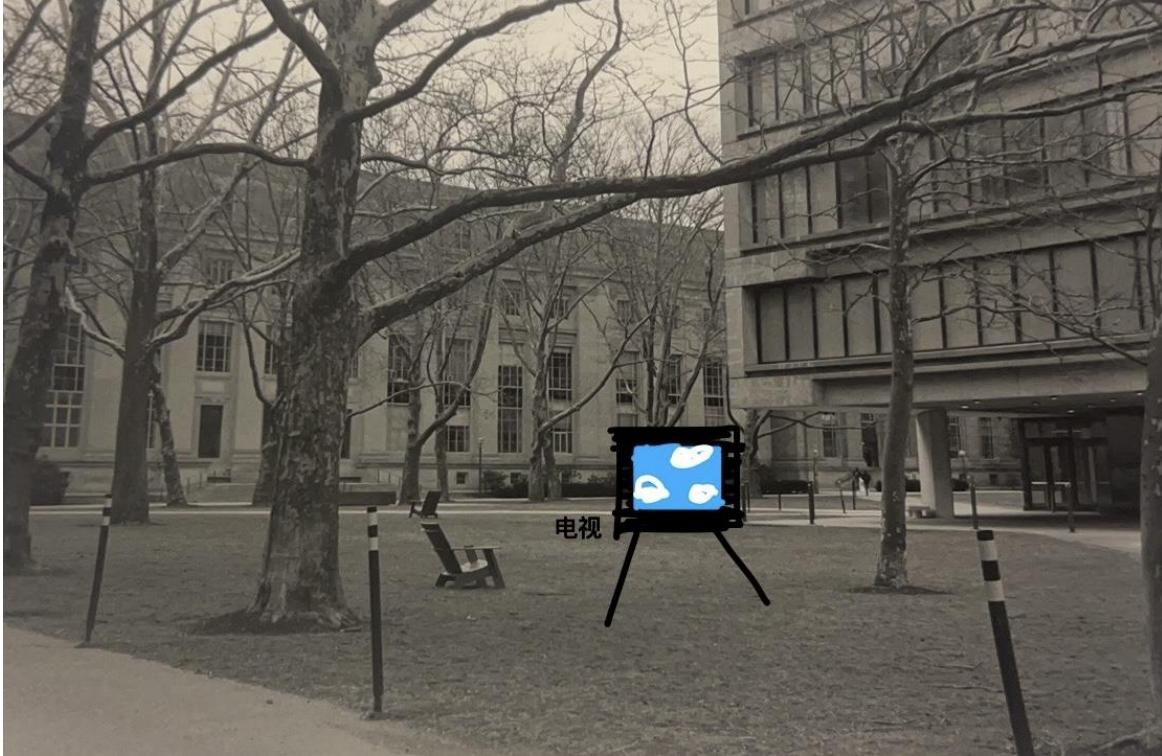
I recognize that my own context and era shape my perspective, and the shifting of artists’ attitudes over the past four decades intrigues me. I could never share the same level of excitement about satellite transmission technologies that Tambellini’s generation experienced, nor can I envision creating artworks centered on them. I aim to recreate this work, but an alternate rendition of *Tele-Sky* that functions without the need for satellite transmission technology or electricity. In essence, I want to produce *Tele-Sky*, unplugged. Inspired by the structure of a large format film camera’s viewfinder, I opted to repurpose a CRT TV into something similar to a film camera. By substituting all of its electronic components with a mirror and a camera lens, the screen now reflects the sky, rather than electronically displaying it via satellite transmission using processed signals and pixels. It still functions as “*Tele-Sky*,” but with more rudimentary technologies, metaphorically echoing what Peters argues, that “So-called new media do not take us into uncharted waters: they revive the most basic problems of conjoined living in complex societies.”<sup>44</sup> The novelty of “new media” can be neutralized once we realize that they bring out little more than the ghosts of ancient tensions among humans, the inhuman, and the natural world.



**Figure 5.4.** Sketch of *Tele-Sky Unplugged* drawn by Jacob Geiger during our conversation, a TV that does not need electricity transformed with a camera lens, a mirror, and a diffuser that acts as a screen.

43. Ursula K. Le Guin, “The Carrier Bag Theory of Fiction,” in *Dancing at the Edge of the World* (New York: Grove Atlantic Press, 1989), 165–70.

44. Peters, *Marvelous Clouds*.



**Figure 5.5.** Sketch of *Tele-Sky Unplugged*, the initial idea of me constructing what the work would be like.



**Figure 5.6.** Prototyping the combination of TV case, Fresnel lens, and diffuser panel that would be used to make the work.



**Figure 5.7.** Prototyping the combination of hard-stock paper box, film camera's focusing screen, and mirror.



**Figure 5.8.** Work in progress documentation of disassembling the CRT TV.



Reflecting and presenting actual sky light through a TV addresses three critical themes I have been considering during my repurposing: a reflection on modern infrastructure's integration into natural environments; a dialogue between artists who lived under a Cold War-era sky and those under the sky of today; and a reminder that skies, and environments in general, are also media—they are not only artistic media like the canvas as perceived by artists during the sky art movement but also “media” in the broader, plural sense that plays an intrinsic part in the root of humanity's history and culture, and prequal to all other, “newer” media. When installed indoors, the installation reflects lights on the ceiling rather than sky light—it almost becomes a parasite, dependent on the ceiling lights within the infrastructure. In conjunction with its name, it suggests another narrative that media are increasingly shaping our contemporary environments—they have now become our “sky.”



**Figure 5.9.** Installation view of *Tele-Sky Unplugged* (2023) outside of List Visual Art Center.



**Figure 5.10.** Installation view of *Tele-Sky Unplugged* (2023) outside of List Visual Art Center.



**Figure 5.11.** Installation view of *Tele-Sky Unplugged* (2023) in Distillery Gallery. When installed indoors, it almost becomes a parasite, dependent on the ceiling lights within the infrastructure.

Months after I made *Tele-Sky Unplugged*, I discovered that Yoko Ono had also made a sky TV. Like the sky art artists, Ono was also inspired by the new possibilities of perception opened up by the “live” system of real-time video and wanted to enhance this with the liveliness of weather. Ono’s *Sky TV* (1966), visually similar to *Tele-Sky* (1981), had somewhat different intentions. It encompassed Ono’s contemplations on mass media: she showcased a live sky feed within an art gallery, presenting a new mode of broadcasting during a time dominated by traditional rational masculine-oriented TV networks.<sup>45</sup> Unlike Peters’ more contemporary idea that environments *are* media, which my work responds to, Ono reversed Marshall McLuhan’s idea that “the medium is the message” and emphasized content over medium by radically curating her desired *content*.<sup>46</sup> Finally, if Ono’s work can be considered a call to engage with the natural world sensorially, my *Tele-Sky Unplugged* represents an attempt at that that goes even further.

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45. Janine Randerson, *Weather as Medium: Toward a Meteorological Art* (Cambridge: MIT Press, 2018).

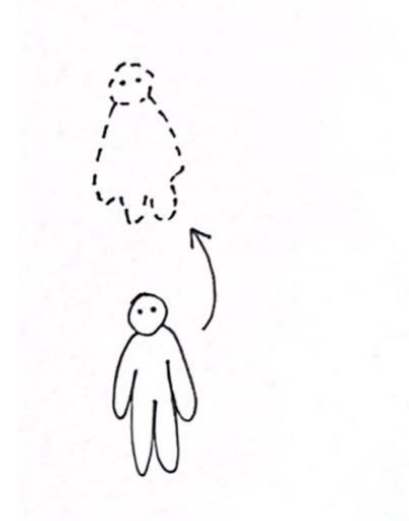
46. Randerson.

## 6. The Story of Domestic Space

### *The Female Painter Who Fell in Love with Clouds Turned into a Cloud (2024)*

Starting from my third semester at MIT, I entered a deeply sentimental phase in my life. My anxiety stems from multiple sources: the end of my program, meaning the end of the visa that allows me to stay in the United States; the unknown future of becoming an individual artist entering an art world in which I have little knowledge and few connections; the fear of aging and loneliness, particularly as a woman of color in her late twenties striving to fit in in the United States. All these factors, piling on top of one another, create a suffocating feeling. I began to practice dissociating as a way to cope.<sup>47</sup> They are void intervals in the cacophony of constantly progressing time that help me breathe.

dissociation -> ghostly experience



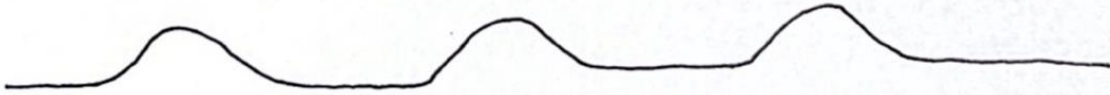
**Figure 6.1.** Sketch I made to help visualize my feeling towards dissociation. I think dissociation feels like the momentary freedom of being a ghost, floating in the air, leaving my body and surroundings behind.

Practicing music was one thing that I turned to as a “window” to dissociate from my complicated anxieties. I found it magical how, still within the creative realm, a shift in senses, from visions to hearing, can be so liberating. I also found deep emotional resonances in songs that are popular in mass culture that seem more rustic, or even silly, compared to contemporary art in galleries, but I cannot deny their power to resonate, heal and release. I wonder if I can put such strong emotions into my artworks, because it would feel like being unfaithful to myself if I ignore my current emotions and keep separating them from the art that I am working on at the moment.

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47. For a detailed definition of “dissociation”, see “Glossaries,” page 6.

dissociative moments -> intervals



**Figure 6.2.** Sketch I made to help visualize my feeling towards dissociation. I see dissociative moments as strategies that help me take breaks from the hustle of life.

Sometimes, this desire to leave your current life situation provokes disguised romantic sentiments, confusing me about the genuineness of my feelings toward someone living the life I dream of—a life I could have had, but could never achieve. This lively limerent love is simultaneously another tactic of escaping (or an empathy that works as dissociative survival strategies,) and a mirage promise that being with them will give you the life you’ve always dreamed of.



**Figure 6.3.** First iteration of the installation of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024), installed in the ACT Cube during the Fall 2023 final critique. A wall of newspaper clippings about the female painter in the story gathers information on her love rival, the *TIROS* weather satellite.





**Figure 6.4.** First iteration of the installation of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024), installed in the ACT Cube during the Fall 2023 final critique. Close-up shot of the painting tools used by the female painter in the story.

In this state of mind, suddenly, when I considered the subjects that had occupied my thoughts—the satellites gliding across the night sky, the clouds, the radio waves—they all morphed, melted, and became manifestations of my emotions.

I started to be interested in letting out my desire of dissociation-as-coping-mechanism onto my practice and to construct the form that could convey such emotions. The misuse of technologies in my previous works can also be seen as a coping mechanism for individuals stuck in undesired environments. As a coping mechanism, they do not pursue outcomes and efficiency but focus on the individual's struggle and well-being. What is different from my past works is that this time, however, my presence is stronger, and the theme of humanity is more evident: I incorporated my own vulnerability into the work, which was an uncertain first attempt and a significant challenge for me.



**Figure 6.5.** Work-in-progress documentation of making “windows” in MIT Mars Lab: stretched canvases with the backs painted blue. The size and style of the “windows” are modeled after the windows in the gallery where the work is about to be shown, Harvard GSD Kirkland Gallery.

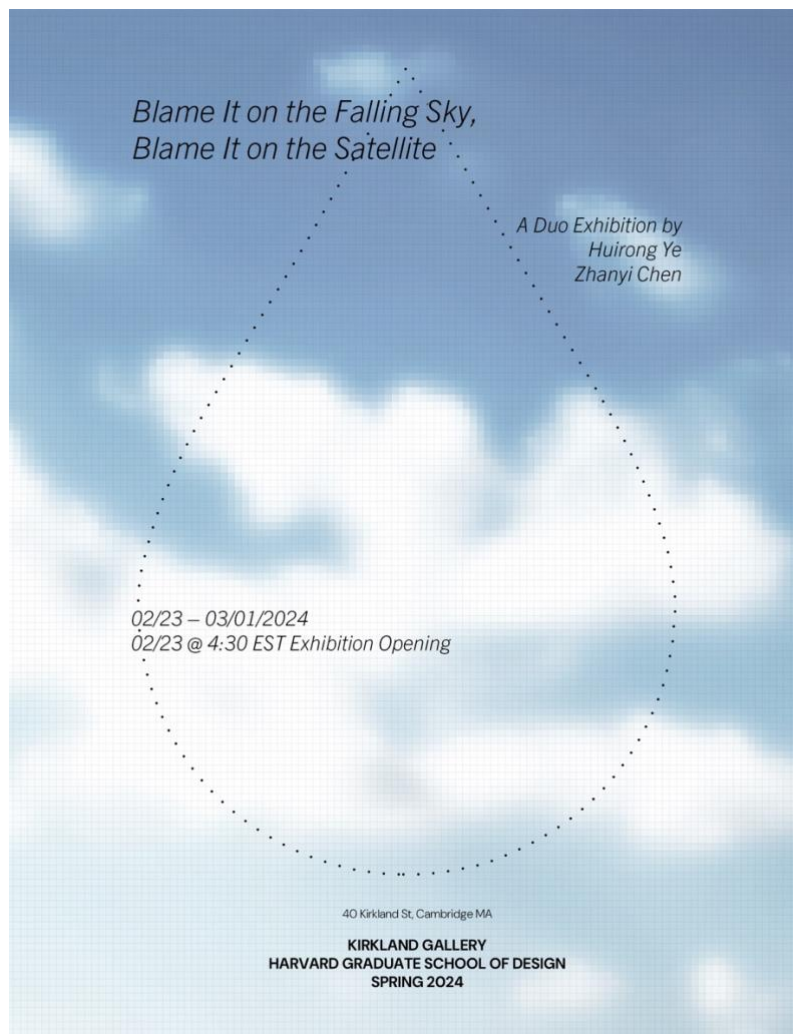
Reflecting on my personal experiences, how music has touched my emotions, I am curious to explore how a specific narrative, a story, can help convey abstract feelings or situated knowledges that inhabit specific situations.<sup>48</sup> I started to write a fictional story about a female painter who fell in love with clouds, turned into a cloud herself, and left her home studio through its window. It is a manifestation of dissociation to its extreme, the urge to literally leave one’s reality in a literal sense—she left her body and life and became what she wanted to be. There is a more realistic twist in the story: the installation that was later developed based on this story, which can be considered miniatures of the narrative, consists of a series of reversed canvases painted with the blue color of sky. They resemble windows but lead to nowhere. The duality of being window and canvas at the same time speaks to the futile desire for transcendent freedom from the anxieties of adult womanhood of a certain generation, and attach feelings to distant things—in this case, the environment where technology and nature intertwine.

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48. For a detailed definition of “situated knowledge”, see “Glossaries,” page 6.

Here is the full story:

“The lonely inhabitant of her room, a home-studio, fell in a crazy, limerent love with clouds. The weather satellite *TIROS*, according to the thoughts of the painter, is her unbearable rival in love, threatening her union with the cloud. She became a cunning detective, meticulously gathering all information about her rival. Her heart burnt with fury at the control and torment the satellite’s gaze imposed on her beloved cloud, yet she simultaneously experienced a wild joy in discovering the deeper resemblance with her cloud, as she too is a victim of patriarchy control. She believed that they were soulmates, bound by their striking similarities, and she prepared to love with all her tenderness. She kept painting clouds, slowly and lovingly, in defiance of the relentless production of cloud images by satellites. Is it an effort of an object trying to escape her own objectification? Or does it reflect a desire to be loved and saved in the same way? Perhaps her true desire was to become that beautiful, pure, white cloud, who has never been touched by the earth below, and her obsession with the cloud was her dissociation from the desolation of her life.”



**Figure 6.6.** The poster for my duo-exhibition with Huirong Ye (GSD Narratives '24), designed by me. The pixelated cloud image symbolizes the intermingling of nature and technology.

## *Blame It on the Falling Sky, Blame It on the Satellite*

*Blame It on the Falling Sky, Blame It on the Satellite* is a duo exhibition by Huirong Ye (MDes Narratives '24) and Zhanyi Chen (MIT SMOCT '24) about weather, mediation, romance, womanhood, and the desire to escape. Anchored in two parafictional stories of women—a meteorologist who exchanges messages of love through weather charts, and a painter who falls in love with clouds and sees a weather satellite as a romantic rival—the exhibition creates a milieu where technology, affection, memory, and the sky intersect. The juxtaposition of the two installations, symbolizing the duality of window/canvas and screen/surface respectively, reveals the tension between transcendent dreams and unyielding reality; between scientific precision and situated knowledge; between atmospheric projection and projected atmosphere. In the liminal space between the tangible and intangible, the factual and the imaginary, the isolated and the public, the confined and the emancipated, technologized-media and embodied-experiences both connect and distance, distort and clarify.



1 Zhanyi Chen, *The Female Painter Who Fell in Love with Clouds Turned into a Cloud*, 2024

2 Huirong Ye, *How To Archive the Atmosphere?*, 2023

**Huirong Ye** is a curator, writer, and researcher in art and cultural history, based in Cambridge and Shanghai. She is currently enrolled at Harvard University's Graduate School of Design, focusing her research on the nexus between infrastructure studies, elemental media, environmentalism, and epistemology. Her current projects explore how meteorology intersects with religion, commerce, imperialism, race, and labor—socio-cultural institutions that have both disciplined and were disciplined by the once-mercurial patterns of air, wind, and water.

**Zhanyi Chen** is currently studying at MIT pursuing her MS degree in Art, Culture, and Technology. Her art practice runs parallel to her studies in media theory, exploring the metaphors and their transformations of weather and environment within contemporary techno-cultural landscapes. By intervening in the natural and meteorological environments (intermixed with artifacts), either materially or conceptually, she attempts to capture and curate the unreadable "failed" information within natural and elemental media, constructing scenes of Frankenstein-like tragedies instigated by the infatuation with technological determinism.

**Figure 6.7.** Exhibition plan and introductory texts for "Blame It on the Falling Sky, Blame It on the Satellite."

*The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024) is my experiment in trying to embed my personal feelings and experiences in my work; I stumbled and struggled a lot. To this day, I still cannot confidently tell people what this work is about or explain its "urgency." It is both an experiment and a beginning: I continue the theme of exploring the force of building upon a specific narrative and embedding my own feelings and emotions in the next chapter, which covers *Cloudbusting (Rain Poems)* (2024).





**Figure 6.8.** Installation view of the second iteration of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024) in my duo-exhibition with Huirong Ye (GSD Narratives '24) "Blame it on the Falling Sky, Blame it on the Satellite" at Harvard GSD Kirkland Gallery 2/23 – 3/1, 2024.



**Figure 6.9.** Installation view of the second iteration of *The Female Painter Who Fell in Love with Clouds Turned into a Cloud* (2024) in my duo-exhibition with Huirong Ye (GSD Narratives '24) "Blame it on the Falling Sky, Blame it on the Satellite" at Harvard GSD Kirkland Gallery 2/23 – 3/1, 2024.

## 7. The Story of Rainy Day

### *Cloudbusting (Rain Poems) (2024)*

The more I think about clouds, I think about rain: it is probably the most direct and primitive connection to clouds; it is the incarnation of clouds. To “speak nearby” clouds, we speak about rain.<sup>49</sup>

In 2019, I made a series of *Rain Poems*. It was a very simple gesture: I photocopied pages from novels about rain and printed them on tattoo papers/water transfer printing papers. This specific kind of paper only transfers the ink onto the surface beneath when it is wet. I left those papers outdoors on a rainy day and let the position and rhythm of the raindrops decide which word would stay and which would go.

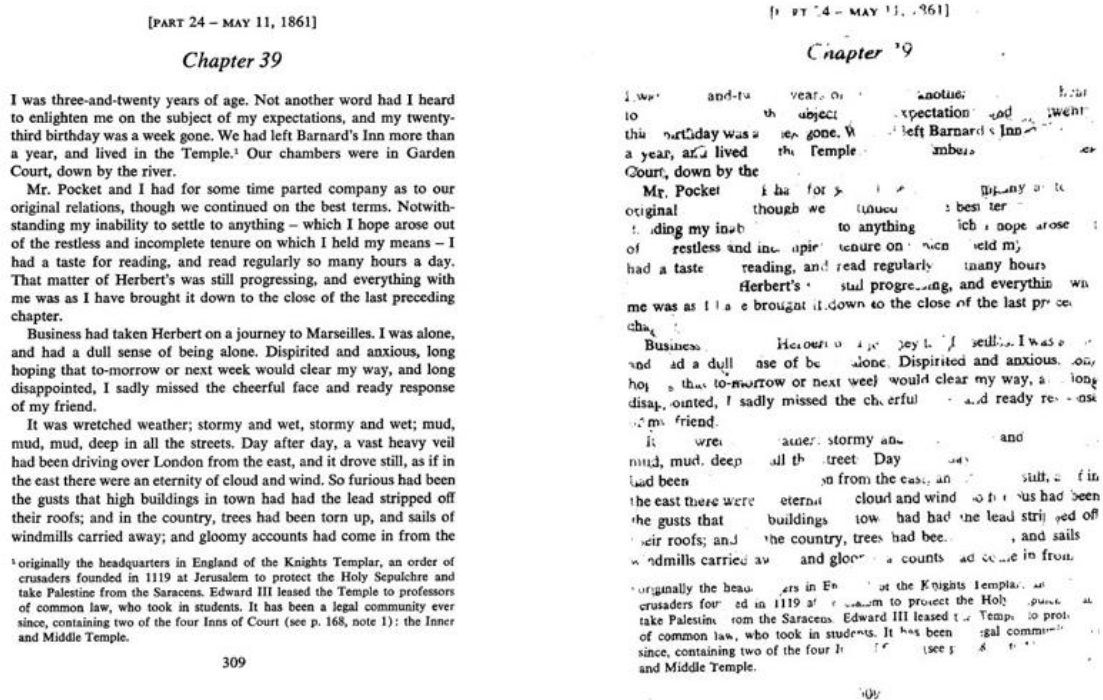
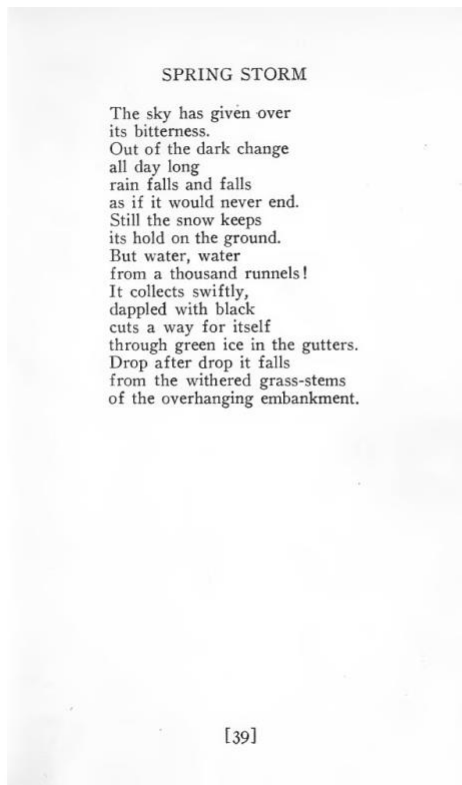


Figure 7.1. The original Rain Poems I made back in 2019 when I was studying at Rhode Island School of Design, Digital + Media department. *Rain Poems #1*, 2019, rain, water transfer printing paper, ink.

49. For a detailed definition of “speaking nearby”, see “Glossaries,” page 6. Minh-ha, *Cinema Interval*.



**Figure 7.2.** The original Rain Poems I made back in 2019 when I was studying at RISD Digital + Media. *Rain Poems #2*, 2019, rain, water transfer printing paper, ink.



**Figure 7.3.** The original Rain Poems I made back in 2019 when I was studying at RISD Digital + Media. *Rain Poems #1*, 2019, rain, water transfer printing paper, ink.

When I first made it in 2019, I was considering questions like how my working process corresponds to the construction components of writing;<sup>50</sup> the fall of a raindrop and the gesture of writing; the

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50. According to Vilém Flusser, “To be able to write, we need—among other things—the following: a surface (a piece of paper), a tool (a fountain pen), characters (letters), a convention (the meaning of the letters), rules (orthography), a system (grammar), a system that signifies the system of language

suspension in productive tension from asemic letters and words;<sup>51</sup> opening up authorship;<sup>52</sup> and the differences among immediate experience, image representation, and text explanation.<sup>53</sup> I was at a phase in my life where I consistently distanced myself from my works, suppressed the emotional evidence in the work; and articulated it in a rational, formalized manner. I would even feel bad for other artworks that used environments to express empathy because I thought those artists were exploiting nature for their own expressions of love and hate in their personal lives, which was not “non-anthropocentric” for the me of that time. I am not sure where this coldness came from. Perhaps I never felt secure being myself and by immersing myself in all these things that I appreciate, I left my body behind, dissociating from the life that I did not like.

Four years have passed, and I now find myself in a different phase of life and exploring different themes in art. I recognize the inductiveness and subjectivity in all the decision-making in my works, all derived from me, and there is no reason for me not to own it. I am not only ceasing to suppress the emotional aspects of my decision-making but also acknowledging them as the foundation of all my gestures. Not only that, I strive to embrace and bring out this facet of my works even more.

I find myself increasingly drawn back to rain, its crypto-linguistic scripts, and the crisp sound of raindrops striking papers during the making of *Rain Poems*. If my recent works have been strategic misuses of technologies that favor human subjectivity over their intended functionality, viewing them as devices of connection, then rain represents the most direct and natural link to clouds.

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(semantic knowledge of a language), a message to be written (ideas), and writing”. Vilém Flusser, “The Gesture of Writing,” in *Gestures*, trans. Nancy Ann Roth (Minneapolis: University of Minnesota Press, 2014), 19–25, <http://www.jstor.org.libproxy.mit.edu/stable/10.5749/j.ctt6wr7zm.6>.

51. This is called the asemic effect, which, according to Schwenger, is often found “suspending the observer in a productive tension”. Peter Schwenger, *Asemic: The Art of Writing* (Minneapolis: University of Minnesota Press, 2019), 10.

52. I was influenced by Umberto Eco’s *The Open Work*, where he suggests artworks that are not artists’ personal products: “The author offers the interpreter, the performer, the addressee a work to be completed”. Umberto Eco, *The Open Work* (Cambridge: Harvard University Press, 1989), 19.

53. Flusser talks about the different ways we approach the world with an example of stone: “The photograph represents the stone in the form of an image; the explanation represents it in the form of a linear discourse.... Photograph and explanation are mediations between me and the stone; they put themselves between the stone and myself, and they introduce me to it. But I can also walk directly toward the stone and stumble over it.... We live, roughly speaking, in three realms—the realm of immediate experience (stone out there), the realm of images (photograph), and the realm of concepts (explanation)”. Continuing with Flusser’s example, in *Rain Poems* immediate experience of the stone are incorporated with textual explanation and image representation to generate unusual modes of knowing. Vilém Flusser, “Line and Surface,” in *Writings*, ed. Andreas Ströhl, trans. Erik Eisel, NED-New edition, vol. 6 (Minneapolis: University of Minnesota Press, 2002), 21–34, <https://www.jstor.org/stable/10.5749/j.ctttwnk.7>.



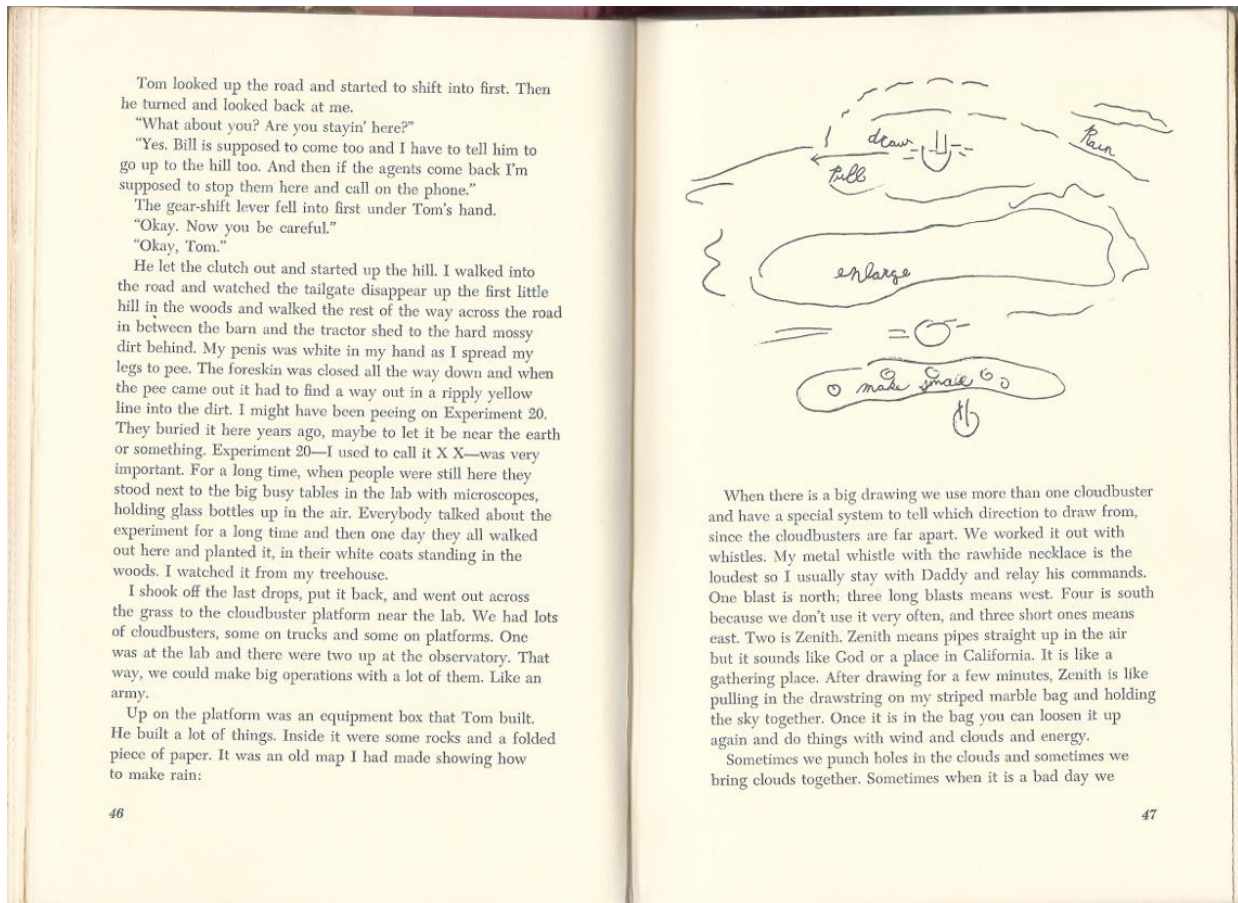


Figure 7.4. Scanned book pages from Peter Reich, *A Book of Dreams*, 1973.

Continuing the approach I started with *The Female Painter* project, I aimed to find a specific narrative that *Rain Poems* could rest upon. Inspired by reading about the story behind British singer Kate Bush's song "Cloudbusting," I became interested in the father—son relationship between Daddy the psychiatrist Wilhelm Reich and his son, Peter Reich, as depicted in Peter's memoir, *A Book of Dreams* (1973). Wilhelm Reich proposed the existence of "orgone," an omnipresent energy in both living beings and inanimate objects. He claimed to have discovered methods to control this energy, constructing orgone accumulators to treat various diseases and a cloudbusting machine capable of making rain, since orgone was believed to exist in everything, including people and the sky. His theories of orgone were considered pseudoscience, which led to his arrest, and he died in prison when Peter was about ten years old.

Wilhelm Reich wove a big, beautiful dream of discovering the mysteries of the universe's inner workings for his son, and this dream tragically perished with his own death. Written from the perspective of an adult Peter Reich, his memoir unfolds through a series of flashbacks, where he finds himself dreaming and reminiscing about his childhood spent alongside his father, and the influence his father has imprinted on him. The memoir portrays a father figure who is flawed but earnestly striving to present the best he could offer to his children, which is touching and beautiful.

It also prompts reflection on how mourning persists in the natural and constructed environments around us. After Wilhelm Reich's death, Peter's experiences with rain inevitably evoke memories of his father, and their shared memories of busting clouds together (making rain). Such moments suggest the desire

to reconnect with our loved ones and how we sometimes seek to fulfill such desire in the environment by transference, dissociation, or interpretation, making elements in the environment become conduits for connection.

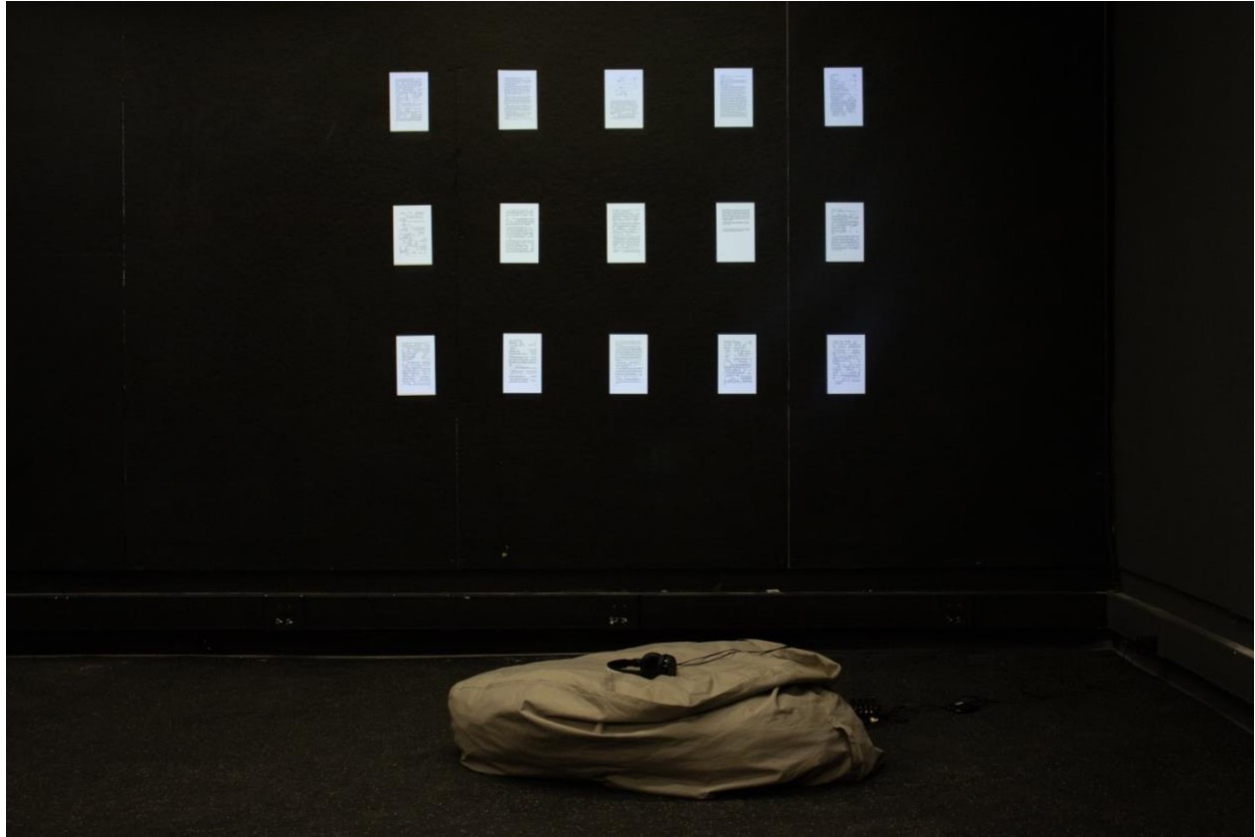


**Figure 7.5.** Work-in-progress documentation of creating *Rain Poems*. I placed water transfer printing papers (tattoo papers) on top of wooden boards to ensure they remained sturdy even when wet, and allowed the raindrops to affect them.

With this specific story in mind, I see my rain poems in a new light. By incorporating pages from *A Book of Dreams* into the fabric of the rain poems, the rain's traces become a dual medium: one that links us to the clouds and another that connects us to the notion of father figures, akin to a spiritualist who can communicate with the dead.

Another aspect I aim to explore further is the auditory dimension of creating rain poems. When I initially experimented with this concept in 2019, I captured the sound of raindrops falling on paper. Unfortunately, the recording quality was poor due to my lack of preparation and reliance on just my phone for audio capture. For this newer version of *Cloudbusting (Rain Poems)*, I used better equipment—a Zoom recorder—and edited the recording to include a human voice reading the text in

sync with the visuals, as if they were my score. The human voices, from time to time submerge in the sea of rain sounds, corresponding to the texts that were carried away with rain waters—just as all widely spoken human languages have both written and spoken forms, these audios are the phonemic version of the rain’s writings. With this exploration I aim to probe how sound can forge a distinct path for emotional engagement.

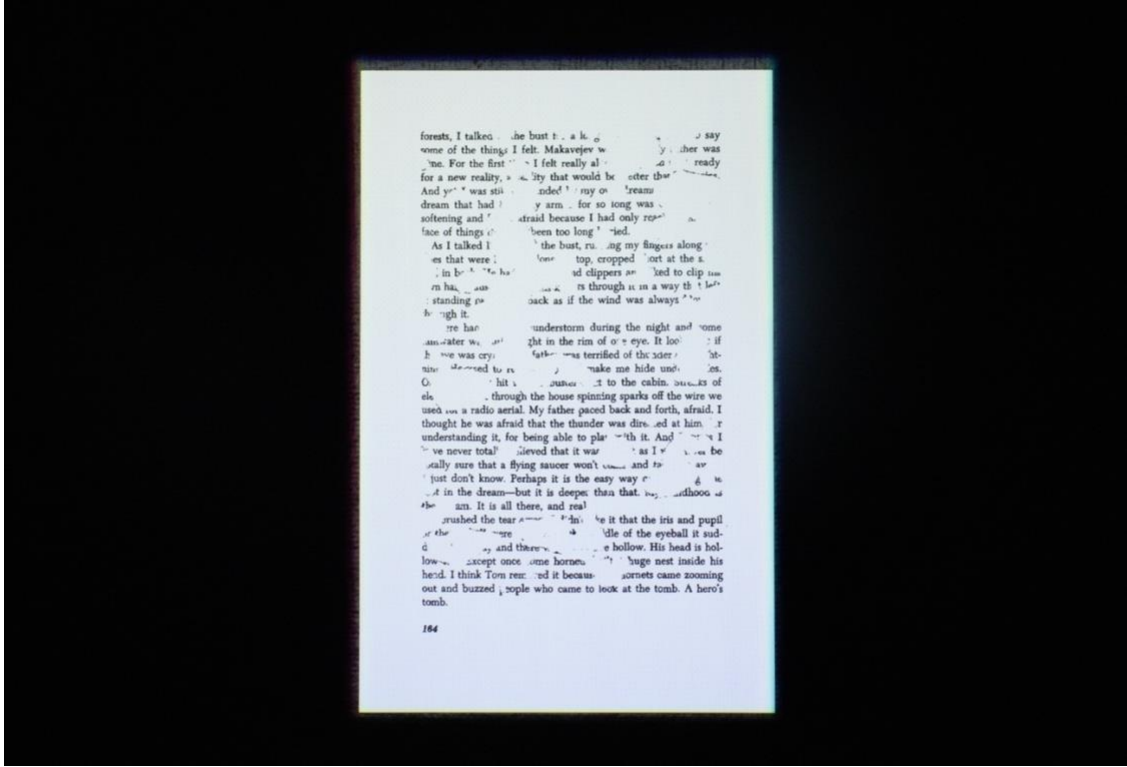


**Figure 7.6.** installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition “The Whole Star is a Moving Skin” at MIT ACT Gallery 4/26 – 5/06, 2024.

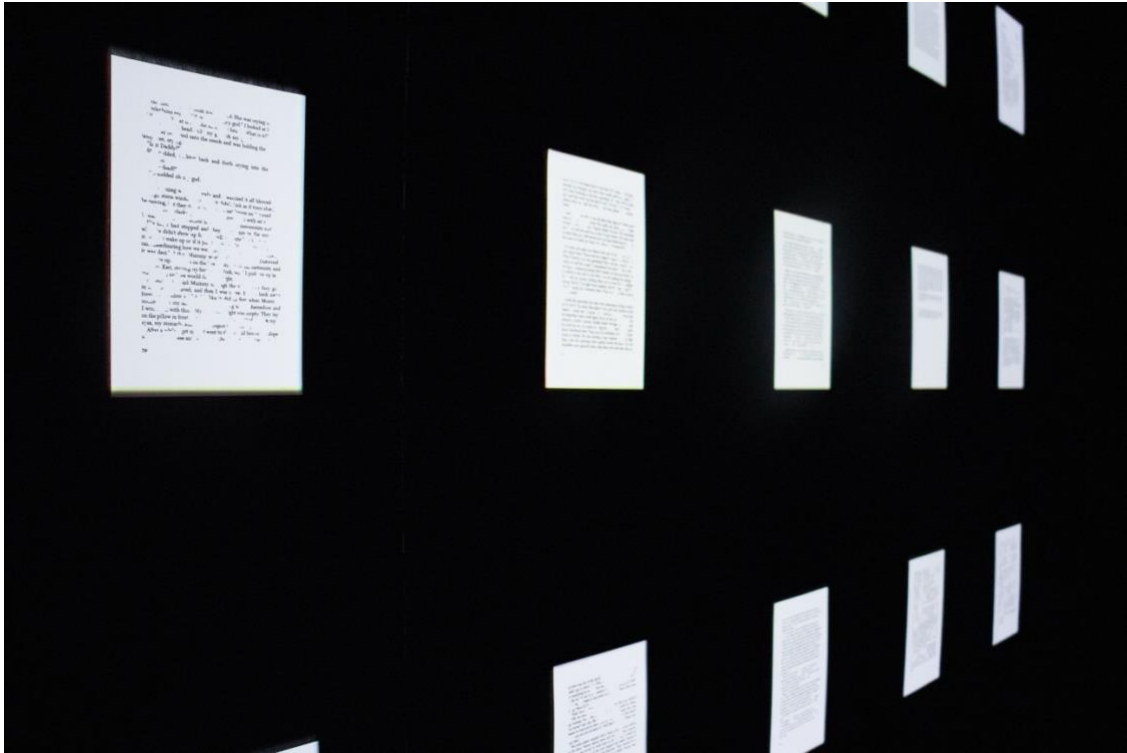
The asemic quality of the poems, as I envision it, remains, only to show us the futility of trying to connect, the absurdity and melancholy an individual might experience in doing so, and the beauty in still trying despite the futility. In “Holes in the Sound Wall,” Trinh T. Minh-Ha discusses the plasticity of languages. She posits that language, at its core, is musical, and it can be made to fail by “cutting a sentence at different places and assembling it with holes.”<sup>54</sup> It surprisingly resonates with the semantic disruption and visual effects of rain poems: a failure of language, an absence of meaning, and a longing for miracles.

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54. Trinh T. Minh-ha, *When the Moon Waxes Red: Representation, Gender and Cultural Politics* (London: Routledge, 2014).



**Figure 7.7** Close up of installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition “The Whole Star is a Moving Skin” at MIT ACT Gallery 4/26 – 5/06, 2024.



**Figure 7.8.** installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition “The Whole Star is a Moving Skin” at MIT ACT Gallery 4/26 – 5/06, 2024.



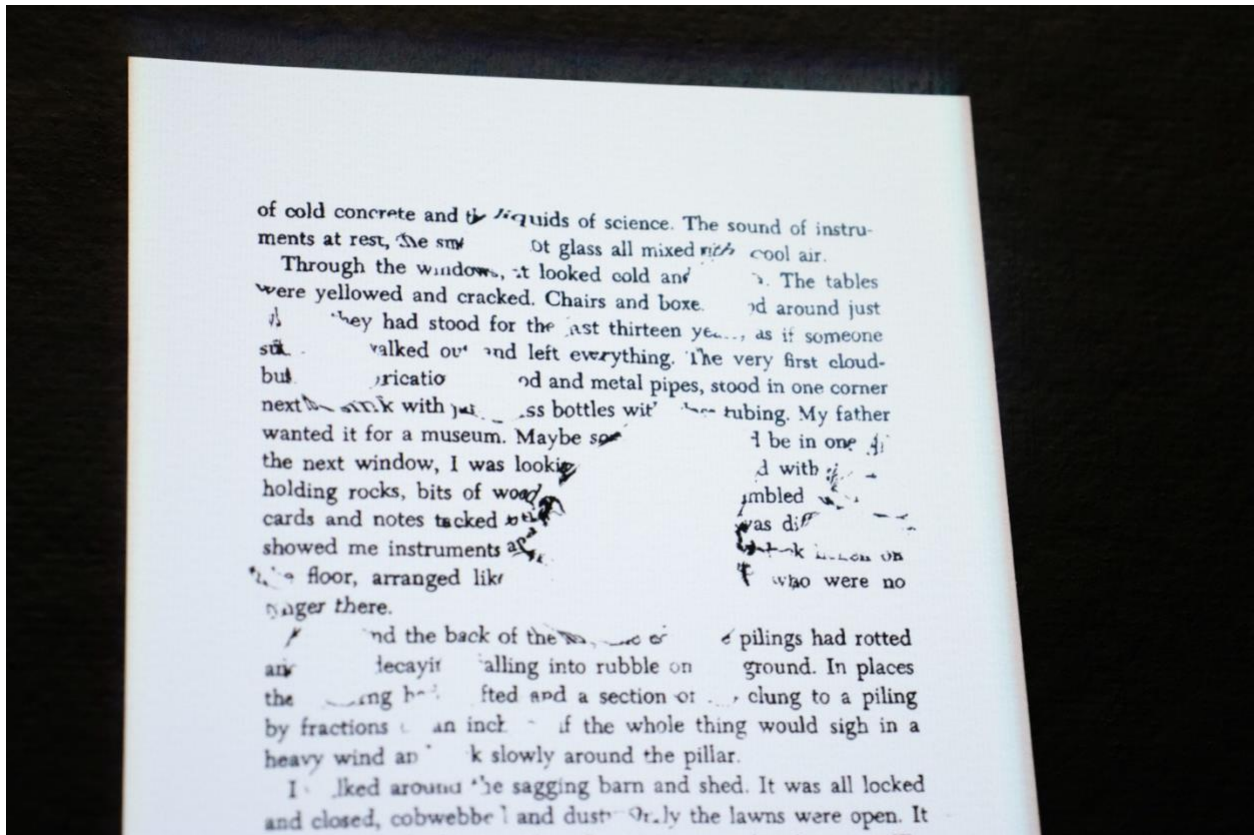


Figure 7.9. Close up of installation view of *Cloudbusting (Rain Poems)* (2024), installed in trio exhibition “The Whole Star is a Moving Skin” at MIT ACT Gallery 4/26 – 5/06, 2024.

## 8. Conclusions

Utilizing glitches, astrology protocols, mirrors, narratives, texts, and so on, I have developed a body of work that engages with the complexity tangled in the sky—clouds that veil and elude the machine's gaze and its accompanying politics; outdated satellites that still drifting in space, broadcasting electromagnetic waves that their creators no longer care; echoes and phantoms of generations of politicians, scientists, and artists; and a girl's trivial dreams and melancholies.

The sky indeed is a form of media that composites different temporalities, lives, machines, longings, and griefs. Within my stories where the actual function of technology is ignored, they become akin to a form of science fiction in which the technologies are used in a fantastical way that permits the impracticality and acknowledges the futility of doing so, driven by various kinds of yearning. It is stubborn and knowingly futile, yet I see the beauty of human emotions, resistance, and liveliness in such endeavors.

I want to prove that not just stories with grand endings, or narratives of moving forward, or those that can serve as models for others are worthy to be created and eulogized. Although I have written so much, I hope these stories/works can convey more than what words alone can express, reaching sentiments in the audience beyond textual communication, and allowing for the dreaming of different dreams, about skies, about clouds, and about ourselves.

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