IMAGINING CLIMATE FUTURES: WORLDMAKING THROUGH COMMUNITY-BASED STORYTELLING AND CLIMATE FICTION

By

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ABSTRACT

Climate fiction, or Cli-Fi, is a subgenre of science and speculative fiction that explores themes of environment, climate change, and society. Narratives associated with the genre can exist on a spectrum ranging from apocalyptic to utopian in nature, often critiquing modern society and portraying aspects of personal and community resilience, social and environmental justice, technology, and adaptation in times of crisis. As the world continues to face rising temperatures, more frequent and extreme weather events and natural disasters, as well as political and social unrest globally, climate nihilism and so-called "doomerism" can take hold, leaving people and communities feeling hopeless and powerless about the future. With a greater call in climate change scholarship for new and imaginative ways of understanding, knowing, and working with climate change, this document offers a case study using storytelling practices and fiction-writing to develop experiential forms of knowledge about climate change. In the spirit of Cli-Fi anthology collections that illustrate uncertain, critical, and resilient futures, *Imagining Climate Futures* is a research project designed to invite participants to engage in creative, imaginative, and collaborative storytelling practices to envision possible futures that reflect the experiences, knowledge, ideas, and values of those involved. This thesis discusses the process of working with participants to engage in speculative and creative storytelling practices rooted in lived experiences and centered around climate change and climate futures, providing an opportunity to learn from one another and expand on personal and collective visions of the future in light of the climate crisis.

POSITIONALITY

I approach this project and research as someone whose academic and artistic background largely lies in music; my primary studies are in oboe and my secondary focus is environmental studies. I am not a published science fiction writer, nor do I claim to be an expert in creative writing, although I have explored themes of climate change and futures through fictional work in my own artistic practice and have found it both meaningful and helpful. My hope is that this type of creative practice can offer similar benefits to others.

As part of my studies in the Applied Intercultural Arts research Graduate Interdisciplinary Program, I have taken a variety of courses spanning academic disciplines such as ecology, environmental history, and climate change studies which inform my interdisciplinary perspectives. I do not claim to be a trained scientist with authoritative knowledge about ecology and climate science, nor am I trained in psychology and cannot claim that my work is therapeutic. I do believe, however, that the type of work I conducted in this project provided a space for participants to learn about climate change while working through complex feelings related to the climate crisis and the future.

I am someone who contends with the future often. This is largely informed by my identity as a queer person and the child of an immigrant living in America in the mid-2020's, which is a time of great social and political unrest. I also call the Sonoran Desert home, which is one of the hottest and driest places on Earth—a place that is and will face many challenges related to climate change in the near future. I am also a musician, a collaborative multimodal artist, and a reader of climate fiction. I am deeply interested in the ways that the arts can help us understand one another and to make sense of and shape the world around us, for the good of all—human and non-human alike.

CHAPTER 1

INTRODUCTION

"What Lies Ahead? Reimagining the world. Only that."
- Arundhati Roy

In 1993, Octavia E. Butler published her resounding work of speculative fiction, *The Parable of the Sower*, depicting a near-future, dystopian American society collapsing under the pressures of climate change disaster and a rising Christian nationalist regime. Set in the year 2024, the book follows the main protagonist, Lauren Oye Olamina, a young Black girl with a peculiar ability to feel the pain and pleasure of others as if it were her own, as she flees the catastrophic burning and pillaging of her fictional walled-in community of Robledo in Southern California, set 20 minutes outside of Los Angeles.

On January 7, 2025, news emerged of catastrophic wildfires erupting across Los Angeles, exacerbated by a perfect storm of drought conditions and powerful winds attributed to climate change and natural cycles (Lindsay 2025). One of those wildfires, the Eaton fire, destroyed more than 9,400 homes and killed nearly 30 people (Jarvie 2025) in Altadena—the unincorporated community north of Los Angeles home to historically Black communities, just a few miles from where Butler was born and raised in Pasadena.

Butler's work has long been deemed eerily prophetic, from the aforementioned fires to the "prediction" of a far-right authoritarian president coming into power who promises to "make America great again" (Butler 1993, 273-275). How could she have imagined these scenarios with such accuracy?

The term *palimpsestuous memorialization*, stemming from feminist studies and used by scholars working to uphold Butler's legacy, used here describes "the ways Butler's writings were

extracted, reconstituted, and fictionalized from her personal histories and histories at large while being inextricably linked to the geopolitical landscapes and locations of Southern California, Los Angeles, and Pasadena" (Bailey and Jamieson 2019, 1). Butler's work was intimately tied to geographic place, as well as her personal lived experiences and historical knowledge of the world around her. Butler, an early, working-class Black woman science-fiction writer, was a known collector and researcher, her archive (now housed in the Huntington Library in San Marino, CA) filled with journals, letters, newspaper clippings, and spiral-bound notebooks. These materials record her thinking and theorizing about—among many other aspects of her own life—humanity, society, and environmental change that served to inform her writing and the worlds she created. As a result, her work often explores the legacies of slavery, systemic racism, sexism and misogyny in speculative and science fiction settings. Likely, Butler's near-accurate predictions were not the result of clairvoyance, but rather based in astute observations of the world around her, historical knowledge, and a strong sense of pattern recognition.

This applied intercultural arts research thesis provides a case study in using artistic practices to develop new knowledge about how people experience climate change through storytelling and participatory climate fiction-writing. My project *Imagining Climate Futures: Worldmaking Through Community-Based Storytelling and Climate Fiction* investigates perspectives on climate change, informed by a combination of influences such as the diligent, well-researched and prophetic work of Octavia E. Butler, the work of other speculative/science fiction writers and editors of climate/solarpunk/speculative/visionary fiction anthology collections, activists and community organizers, scholars of climate change, society, and futures, as well as my own thinking and creative practices exploring climate futures through creative multimedia. I was particularly inspired by the anthology *Octavia's Brood: Science Fiction*

Stories from Social Justice Movements (2015), edited by adrienne maree brown and Walidah Imarishah, who invited social justice activists, many of whom had no experience in fiction or even science fiction writing, to write science fiction short stories deemed "visionary fiction."

In this thesis, I discuss how these influences helped to inform and shape the design of *Imagining Climate Futures*, position this work within a participatory worldmaking framework (Vervoort et al. 2015), and present my analysis of the creative works that were developed by project participants. I suggest that we may use creative and collaborative practices that can be useful in fostering meaningful dialogue and intercultural understanding about the impacts of climate change in our communities. This is because creative and interactive practices, like those in this project, can invite pluralistic and multivocal perspectives on living in the climate crisis by developing spaces to imagine alternative futures through storytelling and climate-fiction writing that centers experiential ways of knowing climate change.

CLIMATE FICTION

First, it is important to understand what climate fiction is, its boundaries as a genre, as well as what some of its primary goals are. It is also important to note that the way climate fiction is defined in this research project fits a looser definition of the genre that also encompasses more speculative writing than is often focused on in narratological studies of climate fiction. In these studies, climate fiction as a genre is often limited in academic study to stories that very closely mirror the real world, though many authors, including Butler, employ speculative and fantastical elements in their stories to further explore life in risk societies and in the climate crisis. For example, this can manifest as supernatural, magical, technological, or unusual abilities that characters use to interact with their worlds. In Butler's *The Parable of the Sower* (1993), the main character Lauren Oye Olemina is born with the ability (induced by

substance use by her mother during pregnancy) to endure the pain of others; and in "The Metamorphosis of Marie Martin," a climate fiction short story by Nadine Tomlinson (2022), the main character Marie Martin, a Jamaican woman, physically becomes a parrotfish (a creature that performs the ecological function of creating sand by consuming hard corals) after illegally overfishing the protected species. In this project, I argue that such speculative elements are critical tools to have available for writers to explore climate change if they so choose.

While literary and dramatic works, including a wide variety of books, short stories, and films, have long portrayed human-nature relationships, climate fiction is a narrative genre that has emerged in recent history that centers climate change as foundational part of its worldbuilding. The term "climate fiction" was first coined by Dan Bloom in 2011, and the genre became particularly popular in the early to mid-2010s. In a report on NPR in the Spring of 2013, the genre was introduced using the now-popular shorthand "cli-fi." The genre can be characterized as "novels and short stories in worlds, not unlike our own, where the Earth's systems are noticeably off-kilter" (Evancie 2013, par. 6).

Key to understanding the genre is the idea that the worlds depicted in these works are "not unlike our own," (Bracke 2020, 169) often set in a not-so-distant future, holding up a mirror to present day social and environmental issues, and contrasting with traditional science fiction that often takes its settings into more distant futures and more distant worlds. As Bracke (2020, 170) states, "the potential and strength of cli-fi is that the works are set more or less right now." Unlike other works of post-apocalyptic literature and media, there is no sudden and immediate rupture, rather cli-fi describes life in a risk society (ibid.) resonating with the concept of slow violence ascribed to living in our own age of global anthropogenic climate change. As noted by Frederick Buell (2023, 257), environmental crisis "has become more and more a place in which

people dwell, a context in reference to which they represent themselves", and thus literature and popular culture offer reflections of environmental crisis as a part of people's everyday lives now and in the past, rather than in some far-off, nightmarish future.

Furthermore, Bracke suggests that a key function of climate fiction is the tension between familiarity and defamiliarization, that is, depictions of places and times that could easily blend into our current conceptions and experiences of the world that are made unfamiliar by the effects of the climate crisis. Thus, climate fiction works tend to blur the boundaries between the actual world of readers and the textual world, which Bracke (2020, 166) argues is what makes it possible for climate fiction narratives to enable readers to "experience some of the epistemological uncertainty typical of climate crisis."

According to Ballard et al. (2023) climate fiction narratives follow four key patterns: climate fiction 1) typically works to increase the saliency of climate change, 2) emphasizes adaptation over mitigation, 3) centers narratives of adaptation around forms of robust community and collectivism, and 4) critiques, rejects, or does not address ecomodernist technological solutions, but rather focuses on how social structures render people more or less resilient to the effects of climate change (50).

In the case of *Imagining Climate Futures*, I sought to engage participants not simply as *readers* or *audiences* of climate fiction, but as creators exploring first-hand the process of making worlds that allow them to experience climate change in new ways. This was accomplished by eliciting real lived experiences through dialogic practices, and inviting participants to create future-facing stories that build upon their own experiences and knowledge, as well those learned from others from within their communities through active listening and discussion.

THEORETICAL FRAMEWORKS

The theoretical frameworks used to position this participatory climate fiction project draw from systems and research in the fields of social ecology, futures studies, genre studies, and anticipatory anthropology. Worldmaking, a framework developed by Nelson Goodman (1978) which describes how multiple worlds are shaped by a multiplicity of perspectives and symbolic systems, functions as a primary framework for this research. Worldmaking contends with objectivity and truth, acknowledging that worlds are constructed through creative processes and are always in progress of becoming (Vervoort, et al. 2015). It is this inherent creative aspect of worldmaking that is useful in participatory practices like scenario planning and, in this case, participatory climate fiction for research into perspectives on climate change.

Across disciplines, it has become increasingly evident among researchers and policymakers in recent years that in order to address the challenges of global environmental change, a broader range of societal actors are needed. Because of this, there has been a call for greater use of novel methods that incorporate different types of knowledge production, and in particular, for research that may be created through processes of co-production that engage both scholars and stakeholders. This approach can help to define important questions, relevant evidence, and convincing forms of argument (Kates et al. 2001). As scholars of climate grief can attest, our capacity to feel often goes unconsidered or unacknowledged as legitimate ways of understanding climate change—though this is an area in which the arts and humanities excel. Climate change is often seen as a phenomenon relegated to the realm of the sciences, which can make for a disengaged public at a time when public action and engagement is imperative (Verlie 2022, 2).

Scientific communications that discuss and analyze future uncertainties are often inaccessible to non-specialist audiences, whereas media sources like films and news stories provide more vivid and engaging ways of affecting social attitudes. It is important to note that these forms of communication are often ineffective in providing insight on systems dynamics underlying social and environmental change (Beers et al. 2010), as these two communication methods connect to fundamentally different ways that human beings process information (Marx et al. 2020). Climate change as a concept is most commonly understood from an analytical, western science-based perspective. This can offer critical knowledge, but it is limited in that it often fails to engage the public by not offering relatable or inspiring accounts of relationships between human beings and their environments (Verlie 2022, 3). My focus here with *Imagining Climate Futures* is not to communicate hard science in order to affect social attitudes, but rather to leverage the accessible and inviting qualities of creative writing as a practice to tap into experiential ways of knowing and imagining climate change. These stories can then be shared with others to generate dialogue about emotions and experiences living in climate crisis, and the futures that we envision as a result.

Another important point to consider is that within the environmental sciences, non-epistemic values including social, ethical, cultural, and political values may be crowded out within application, though they often shape the way science is conducted. In fact, in many cases, certain non-epistemic values are considered instead of or over others, privileging the perspectives and worldviews of select groups (Gillette, et al., 2020). A creative practice like climate fiction-writing, I argue, provides opportunities for stakeholders to illustrate how their non-epistemic value systems inform their understandings of climate change and visions of the

future. Perhaps this may prove useful in dialogue with the environmental sciences or governance similar to other anticipatory practices like scenario planning, but that I leave to future research.

In order to address the need for a greater representation of experiential knowledge in climate change scholarship, especially one that taps into emotional ways of knowing climate change, this research focuses on experiential processing (also known as experiential communication), which scholars suggest can make social-ecological systems dynamics—defined as the workings of systems that integrate both social and ecological factors (Berkes and Folke 1998)—both concrete and imaginable (Shaw et al. 2009) and as vivid and engaging (Fagerlin et al. 2005). This style of communication can be more relevant and engaging to ordinary people and can facilitate active participation in environmental governance (Vervoort et al. 2012). One way that this manifests in the world is through scenario planning, which is a participatory practice that can offer descriptions of possible futures that reflect different perspectives on past, present, and future developments (Gallopin 2002). Scenario-planning is commonly used by scientists, governments, and businesses to explore future uncertainties in ways that reflect and incorporate a broad range of perspectives (Kok et al. 2006). These scenarios can manifest in the shape of images and vivid scenario storylines (Gallopin 2002) similar to those expressed in climate fiction narratives. Whereas participatory scenario planning offers a framework for generating foresight, especially in the case of complex social ecological systems (Rutting, et al. 2021), I argue that participatory climate fiction-writing can serve as a creative, arts-based practice that allows people (both as writers and audiences) to enter into alternative future worlds to explore climate change. My practice-led research suggests that stories like those created in this project can offer insights into diverse non-epistemic values, as well as attitudes toward and understandings of climate change that may more easily be accessed through fiction-writing.

Adapting Scenario Worlds to Climate Fiction Worlds

Situating this study within a worldmaking framework, I am partially adapting from Vervoort et al.'s (2015) exploratory framework that applies worldmaking to scenario planning. The authors of this paper represent an interdisciplinary team of researchers that specialize in the fields of environmental governance, environmental sustainability, design, language, and environmental change. In their paper "Scenarios and the art of worldmaking," they assert that one of the primary goals of scenario practice is "to unleash the human imagination to explore and embrace the future, rather than simply endure it," (62) empowering people to imagine future worlds in the face of the unknown, generate and recognize solutions to future challenges, or envision and pursue better worlds (ibid.). In this way, the process of worldmaking in scenario planning resonates with many of the aims of climate fiction, and it poses a number of interesting questions that can assist in unpacking works generated through participatory climate fiction.

Worldmaking as a framework asserts that to make sense of the world is to participate in remaking it, recognizing that the world (or *worlds*) is not something that is "fixed and found," but is always in the process of becoming (Vervoort et al. 2015). Worldmaking, then, is inherently a creative act involving all human faculties, which scenario planning utilizes by asking participants to use imaginative thinking to speculate about things immaterial or events that have not yet come to pass. Imagination is always rooted in present and future worlds, using existing perceptions, experiences, and memories as raw materials while simultaneously reaching into the future and the unknown (ibid.). Scenario planning as a narrative practice uses narrative forms to allow participants to reflect on and share, in non-didactic ways, common and divergent values, worldviews, histories, and memories (ibid.) which I suggest a participatory climate fiction practice can also achieve.

The framework designed by Vervoort et al. (2015) suggests the question: "if we accept the notion that we are all worldmakers, how do we make that explicit in scenario processes in a way that harnesses the proposed strength of scenario worldmaking?" To this, I propose a similar question, but instead considering the proposed strengths of climate fiction as a narrative genre. How might a praxis centered around exploring worldmaking through climate fiction help us to better understand how people make sense of present and future worlds within a changing climate, aided by the expressive and affective capabilities offered by literary writing?

For this research I borrow from Vervoort et al's (2015) framework by considering the essential elements they propose for scenario worldmaking and applying it to climate fiction worldmaking through participatory means. Their framework seeks to use worldmaking to develop understandings about how available present and future worlds are plural and constructed in nature, how those constructed worlds manifest as reconfigurations of available present and future worlds, and analyzes the relationships between them.

Vervoort et al. (2015) offer two sets of questions for operationalizing scenario worldmaking, which I use to generate new insights by applying them to climate fiction worldmaking by considering them in my analysis of worlds constructed by participants in their climate fiction stories. These questions are outlined in Tables 1 and 2, with the questions on the left being taken directly from the Scenario Worldmaking framework, and my summary of what each question investigates on the right.

Table 1. Questions asked from within the world

Who are we?	considers identities and how the constructed world relates to them
Why was this world constructed like this?	considers how the world shows its constructed
Where are we?	considers spatial aspects of the world including scale and scope (global/local), rooting, movement, and interactions within different geospatial and transpatial networks
How do we come to experience the world?	considers sensory experiences of the world, language and distribution of information, and the nature of encounters, providing experiential richness
What are sources of discomfort and gaps in this world?	considers knowledge gaps, blind spots, and identifies unexplored spaces; acknowledges areas that may be normally avoided due to fear or discomfort.

Table 2. Questions about relationships between worlds

How do new worlds draw on available worlds?	considers what is taken into account, left, out and emphasized when constructed worlds draw on multiple present worlds
How are worlds interacting?	considers the overlap and influence one world has on another, acknowledging the pluralist nature of worlds
What relevance does this new world have for available present/future worlds?	considers the relative usefulness of worlds, as newly constructed future worlds could threaten or provide opportunities for present worlds, present new ideas, challenge values associated with present worlds; focuses on the contrasts and tensions between a multiplicity of present and future worlds.

By adapting this applied worldmaking framework to climate fiction, I sought to see how new knowledge may be produced by asking similar questions in the making of climate fiction worlds, specifically in an arts-based, participatory way. One of the guiding questions for Vervoort et al. (2015, 63) is this: how can imagination be freed to create powerfully engaging and meaningful future scenario worlds? I am curious to know if freeing the imagination to envision alternative futures through these expanded boundaries that the genre of climate fiction provides may offer novel insights into how people envision the future (and reflexively the present) of a climate-changed world.

Constructing Climate Fiction Worlds: A Genre Studies Approach

If a "scenario world" is a constructed world that confronts the unknown for the sake of *planning* for events that may occur in the future, one must consider what a "climate fiction world" is. In her chapter "Worldmaking Environmental Crisis: Climate Fiction, Econarratology, and Genre," Bracke (2020, 172) refers to worldmaking as "the ways in which the textual world is created, and, in turn, how readers are able to make sense of it." In particular, it is the process of constructing storyworlds that facilitate transporting readers or listeners from the actual world to the textual world, "[scaffolding] a variety of sense-making activities," (ibid) allowing for access, understanding, and some experience of it. She emphasizes the important role that genre plays as a framework in the process of worldmaking and constructing storyworlds, identifying how the social and physical dimensions afforded by genre guides the reader of climate fiction stories to envision fictional physical environments. These imaginative environments can allow readers to tap into and make sense of social and physical changes within their own world, which is key to employing worldmaking to creative practices like participatory scenario planning and climate fiction.

The principle of minimal departure, developed by Ryan (1980), states that the reader's starting point for understanding a narrative's world is their own world and environment, projecting upon new worlds everything we know about our own reality, adjusting only as dictated by the text (Ryan 1992, 51-52). Expanding on this principle, Bracke suggests that the genre of climate fiction involves the reader (or audience) in a two-step process that includes: 1) depicting a world that very closely mirrors the actual world, while providing cues that do not raise suspicion about different circumstances or developments within the world, and 2) extending the narrative from the familiar into the unfamiliar, without necessarily using the narrator to help the reader navigate the new space. In effect, climate fiction worlds are those that share many of the same properties as real worlds, with some degree of weirdness influenced by climate change.

Climate fiction uses imaginative thinking in its creation and by way of audience reception, situating visions of future worlds spatially and temporally in close proximity to present worlds. Being an extension of science fiction, however, climate fiction allows some space to incorporate more speculative and fantastical elements, exploring themes and ideas via symbolic, metaphorical, and poetic means that are not strictly tied to the structures of physics or biology (as they are presently understood). For example, I again cite Octavia Butler's *The Parable of the Sower* (1993), wherein the main protagonist exists in a future world in which social, environmental, and economic collapse has led to mass displacement and the rise of an oppressive Christo-fascist government, a projection of a future world that is plausible given understandings of present and historical worlds. However, a key speculative element of the story arises from Lauren's status as a "sharer," or someone with "hyperempathy syndrome," a condition that forces her to experience the pain (and pleasure) of others as if they were her own. This sci-fi element serves the literary function of exploring empathy both as a sign of weakness

and a tool for resistance through its uses in the narrative (Roy 2023), negotiating the role and risks of empathy in a post-apocalyptic world. I argue that this type of literary device, afforded by the boundaries of speculative science fiction, can enrich futures narratives crafted through participatory climate fiction, providing an extra layer of exploratory possibility regarding participants' non-epistemic values, worldviews, and perceptions of the future.

In the project *Imagining Climate Futures*, lived experiences with climate change were shared in story circles prior to the fiction-writing component of the project. The goal was to ground participants in the experiences of present climate worlds (their own, and those of others from within their current communities), so that they may make fictional worlds that build off current understandings and experiences of climate change in the world as held by individuals within the group. The fictional stories that emerged through the process adhere in many ways to these worldmaking principles. Through the process of making fictional worlds that reflect real lived experiences and perceptions of climate change, we can move forward and create opportunities to make and shape new "real" worlds that we might walk through together.

RESEARCH PRACTICE

This project serves as applied research using qualitative and arts-based methods to collaboratively investigate the experiences of a group of community members living through climate change. This multi-phase, practice-led and practice-based research project (Candy and Edmonds 2018) investigated both the process of facilitating and experimenting with participants to create fiction short stories, and assessed the stories themselves as artifacts and objects of study. Both dialogic and creative practices were utilized to elicit experiential information from within a group of participants. This experiential knowledge was then used in the process of making climate fiction worlds set in the near future. Discussion prompts, story circles, and

interviews served as qualitative research methods to elicit rich reflective narrative information that both informed the crafting of the resulting fiction stories and were used as a reference in analyzing them. In this project, fiction-writing functioned as an applied arts-based methodology that generated texts that I analyzed using a multidisciplinary lens informed by futures studies (scenario planning), narrative and genre studies (econarratology), and climate change studies more broadly. In essence, personal experiential information shared by participants throughout the project, as well as established academic research about climate change, work in concert to aid in unpacking complex narratives by participants. This process makes complex perceptions and experiences of climate change in people's lives more salient and tangible through fictional story writing.

The resulting product of this research is an anthology of four short climate fiction stories (which can be found in the appendix of this document), an analysis of those works, and rich personal accounts of living with climate change by a group of individuals encompassing a range of ages and cultural backgrounds with connections to Tucson, Arizona. Through the analysis of these stories, I identified emergent themes that connect to various areas of research and discourse related to climate change studies more broadly. These themes that emerge from their fictional worlds provide clues about the perspectives and values held by participants, providing insights into how each individual understands climate change in their own actual (or "real") worlds.

CHAPTER 2

IMAGINING CLIMATE FUTURES

This applied research project was designed with the goal of providing space for participants to explore the realities of living through climate change through dialogic and creative means to generate creative works that may offer further insight into the ways in which people know and live with climate change. Group conversations invited participants to share and reflect on personal narratives; the process of creating climate fiction short stories asked participants to imaginatively consider futures in relation to those narratives.

PROJECT STRUCTURE

Imagining Climate Futures was designed as a three-phase process:

Phase 1 (Weeks 1-3): Story Circles - sharing and discussing personal stories of real, lived experiences with climate change; preceded by short reflective discussion prompts

Phase 2 (Weeks-4-6): Imaginative Fiction - generating creative visions of alternative future worlds inspired by themes explored in story circles, creating an anthology of short works based in individual and shared values and experiences

Phase 3 (After Week 6) - Participant Interviews | inquiring about practice-based experiences and takeaways

PARTICIPANTS

For *Imagining Climate Futures*, I was initially aiming to recruit between 5-10 participants from the Tucson area to allow for a variety of perspectives, experiences, and visions to emerge through the different phases of the project. From the outset, my target demographic was fairly broad with no specific parameters for age, cultural background, education level, gender, or political alignment. That said, recruitment flyers were displayed in local businesses such as natural food stores and coffee shops that cater to environmentally conscious consumers.

Recruitment materials were also shared through University of Arizona email lists (especially those that serve diverse groups including racial/ethnic minorities, women, LGTBQIA+, and diverse abilities) and on my personal social media. I personally invited one individual to participate because I knew they had an interest in environmental justice, and they invited some of their own friends to join. All of these factors led to a group that skewed younger, more liberal, and mostly college educated. The total number of participants in my study fluctuated at times, though I maintained a core group of five participants, not including myself. Two part-time participants were also present that did not finish out the project, for a total of seven participants across the six weeks in which the project was conducted.

The core group consisted of three high school students from the Tucson area, an undergraduate student at the University of Arizona, and a University of Arizona alumna doing creative, community-based activism work in Tucson. The majority of participants had some experience or interest in the arts, had a range of knowledge and experience with climate change, and represented a variety of cultural backgrounds. One part-time participant was a high school senior, while the other was a working professional based on the east coast with ties to the Tucson area who attended virtually for three sessions.

Two of the high school students, nearing graduation, were looking to pursue degrees in the sciences, including biology, ecology, and computer science. The majority of the group either had some form of training or regularly engaged in a creative practice including music, theater, and visual arts. All of the participants in the study except for myself and a part-time participant identified as female. Ages ranged from 15 to 35 years old. Two of the participants identified as Mexican American, one participant had Chilean and Brazilian heritage, and four participants identified as white Americans.

The majority of participants had some working knowledge of climate change and environmental issues, with the exception of one individual who came from a background that included a largely conservative and religious upbringing, with limited experience discussing climate change in her social circles.

Our six 90-minute sessions were offered as hybrid in-person/virtual meetings that were held in a conference room in the Environment and Natural Resources 2 (ENR2) building (Weeks 1-3) and the living room space in the Slonaker building (Weeks 4-6) on the University of Arizona campus. Interviews were conducted both in-person and over Zoom in the weeks following our final group meeting in Week 6. During these meetings we shared food while we discussed our personal experiences of climate change and the stories the participants had created.

DATA GATHERING METHODS

The research methods employed in this study are qualitative and arts-based, used to elicit ethnographic and narrative information from the group of participants with whom I was working. The qualitative methods used include group discussion based on specific prompts, story circles, and traditional interviews. Participatory fiction-writing served as the arts-based component resulting in texts that could be studied as objects in relation to qualitative information gathered throughout the project.

Reflection and Discussion Prompts

The first three meetings served as story circle sessions. We began each meeting with a short prompt-based writing exercise in which participants were asked to reflect and then discuss what they had written with the group afterward. I devised these prompts based on my own prior experience learning and thinking about social change movements, environmental communications, and climate grief, in order to start conversations about values, worldviews, and

understandings about climate change. I presented these questions in prompt form in order for participants to speak candidly about their ideas and experiences without the need for them to be tied to a prepared formal story.

These short prompts served as an invitation for participants to reflect on how their personal views of climate change and the world more broadly are formed, and were as follows:

> **Session 1**: Create two lists, one consisting of things that you love about the world, and the other of things you wish you could change about the world
>
> **Session 2**: What are narratives about climate change that you have encountered in your own life? How does what you have seen and heard influence your own thinking about climate change?
>
> **Session 3**: Create two lists, one of things in your life (personal, political, environmental) that you are grieving, and one of things that are currently giving you hope

After about 5-10 minutes, we took turns sharing what had come up for us during our reflections. These discussions were audio-recorded and later transcribed with written consent received from each participant prior to their participation in the study.

Story Circles

A story circle, as defined by Deardorff (2020) in *the UNESCO Manual for Developing Intercultural Competencies*, is a gathering of a group of three or more people sharing personal experiences, underscoring the value of the importance of human connection and useful in generating solutions to challenges and developing intercultural competencies among people. In particular this study emphasizes the aspects of intercultural sensitivity and awareness, which are defined as a willingness to know and appreciate cultural differences and an understanding of cultural practices that influence interpretation and behavior of individuals (Zhang and Zhou, 2019). Story circles provide a space to discuss climate change and learn about the ways we experience climate crisis from our diverse backgrounds and perspectives by allowing people to

share freely and express curiosity through intentional listening, discussion, and questioning. Central to the function of story circles is that all participants (including myself, doubling as a facilitator) serve as storytellers and not just spectators. In our story circle gatherings, everyone was given the opportunity to share a story uninterrupted, and a major emphasis was placed on active listening with respect and openness.

I was initially inspired to use story circles as a productive form of gathering data after coming across the work of Sara Warner and Jeremy Jiminez (2023) in their applied theater project using story circles (based on a story circle protocol developed by Roadside Theater) to generate dialogues about climate change and climate justice as a means of creating content for playwriting. From this, I had the idea to hold three story circles with the similar goal of generating dialogue about experiences with climate change, as well as entangled social and environmental issues to serve as foundations for fictional storymaking.

Once a week for the first three weeks, we gathered to share stories about experiences with climate change in the past and present. Following this, each participant including myself, would share a short personal story based around co-determined themes. Prior to the first session, I sent a poll with three potential topics: *Food and Agriculture, Water*, and *Heat,* along with some suggestions about what types of stories this might entail. For example, the topic *Food and Agriculture* proposed considering: “stories about growing food, preparing food, or access to food. Are there specific dishes that are special to you that feel resilient? Where does food and community intersect for you? In what ways has food connected you to land and climate?” The second week was deemed an open theme, and for the third week, the theme was proposed by a participant and agreed upon by the collective. The themes selected were:

Session 1: Food and Agriculture

Session 2: Open

Session 3: The Sacred/Sanctified – defined as things we find holy, precious, and deserving of protection

For each session, participants were invited to tell either an autobiographical story, or the story of a friend, family member, or neighbor, if they were given permission to do so. The latter was provided as an option intended to inspire participants to look outside of themselves, and to have discussions with others from within their own social circles. This helped to expand the boundaries of the story circle to include outside perspectives from the wider community. If participants wanted to take the approach of retelling someone else's story at any point, they were asked to both inform the person whose experience they were inquiring about of the use of the story in this way, and to seek permission to retell it.

Each session, participants would present their stories and listen to the stories of others. Participants were asked to take notes of any points of resonance or connection, identifying themes they may wish to further explore in a personal pocket notebook I provided. Once all participants had an opportunity to share, we would ask questions and discuss elements of one another's stories, making connections to our own lives and experiences and sharing other perspectives and knowledge. This was vital to our story circle sessions, as discussion and debriefing are integral parts of the story circle experience and key to supporting the development of intercultural competencies among participants (Deardorf, 2020). In addition to recording my personal observations in my own pocket notebook, I audio-recorded each of the story circle sessions in order to code transcripts for story content, themes, and moments of connection within the group.

In this project I use story circles for two primary reasons. The first is because this project researches storytelling practices and what they reveal about individual and collective visions of

the future in the wake of global climate change. Secondly, I wanted to lean into the strengths that story circles have in developing intercultural competencies, as they focus on fundamental elements such as respect, listening, curiosity, self-and-other awareness, reflection, sharing, empathy, and relationship building. Story circles provide a non-threatening space for individuals to share personal experiences (Deardorff 2020). These stories would then inform the crafting of climate fiction stories in the second phase of the project.

Participatory Fiction-Writing

In Phase 2 (weeks 4-6), participants were given four weeks to craft short works of fiction with the goal of incorporating perspectives and ideas gleaned from our discussions and story circle sessions. For example, if a participant learned about a specific practice from another person that could be useful in navigating climate change, or they identified a theme in a discussion that they wished to further explore, they would build that into their climate fiction short story. The artistic practice of writing climate fiction serves as a participatory arts-based method that engages participants in the research process by inviting them to draw from their own personal experiences, as well as the experiences of others learned from story circles and other discussions to inspire and inform their fictional stories of the future.

Unlike a traditional writing workshop, the focus of the creative fiction meetings in weeks 4-6 was not specifically to teach participants specific literary writing techniques, but rather to create a flexible space for the development of visions and ideas of alternative and expanded futures. Participants were also given opportunities to discuss, critique, and offer suggestions to the emerging narratives, and relate them back to both our story circles and our own experiences and understandings. Aesthetic or literary perfection were not objectives of this portion of the project. The task of writing a short climate fiction story was intended to serve as a sort of

laboratory, allowing participants to dream and play with ideas of near futures without the pressures of adhering to rigid expectations of writing quality.

With that said, participants were asked to consider some fundamental elements of writing such as 1) Who are the characters in the story? 2) Where does the story take place and in what timeframe? 3) What is life like for the characters in the story? and 4) Will your story be told in the first or third person? These parameters were informed by my own process of devising climate fiction stories in my own creative work, considering also some of the foundations of worldbuilding in fictional narratives more generally (Austin 2020).

Additionally, participants were also asked to write sensorially, taking special consideration of what their future world might be like using all of the senses. They were encouraged to draw upon and emphasize any emotions they would like, such as grief, fear, joy, and hope, without dictating that the story be utopian or dystopian in nature. These two components seek to explore and emphasize ways we come to experience the world through worldmaking (Vervoort et al. 2015). Lastly, I suggested they leave gaps in the making of their stories and storyworlds. This is an important factor, as we may consider that the more "open" a narrative is, the greater the invitation for participants (or readers and audiences) to use their own imagination to inhabit the worlds created in the story, especially as "narratives of the future fundamentally rely on our ability to imagine ourselves and others in situations that have yet to occur" (Vervoort et al. 2015, 66).

At each of these gatherings, participants read aloud their stories-in-progress to the group, followed by time allotted for other participants and myself to ask questions about narrative goals, inspirations, directions, and the writing process, as well as drawing connections to other experiences and media, and providing feedback. Finished stories were read aloud at the sixth and

final meeting, followed by another round of questions, reflections, and discussions about the works. My analyses of these stories are included later in Chapter 4 of this document. There I have worked to disentangle and interpret them by identifying emergent themes as they connect to interdisciplinary studies of climate change more broadly, as well as considering how our shared experiences participating in this project connect to and inform the works produced.

Interviews

Following the creation and sharing of the fiction short stories, for phase three of the project I conducted short interviews with three participants to gain insights about their experiences engaging in the practices that made up the project. These interviews were conducted both in-person and virtually and were audio recorded and subsequently transcribed.

Questions included:

1) Can you tell me about your experience participating in the *Imagining Climate Futures* project?
2) What did you learn about yourself and/or others through participating in discussions and story circles?
3) What did you learn about yourself through the process of writing a climate fiction story?
4) Do you think that you will incorporate anything that you did or learned in this project into your life in the future?
5) As of right now, how are you generally feeling about the future?
6) Is there anything else that came up for you through this process that you would like to share?

CHAPTER 3

WHAT WE GATHERED

Information gathered throughout the course of the *Imagining Climate Futures* project includes content from story circles, discussions, and the textual stories themselves. Here I describe the types of categorical data that emerged through the various components of the project, highlighting themes as well as key moments of connection and resonance, presenting materials that set up and connect to the following discussion section and the fiction story analyses found therein.

DISCUSSION PROMPTS

By responding to discussion prompts asked at the beginning of each of the three story circle sessions, as a group we candidly shared and discussed information about some of our current values, worldviews, and understandings of climate change. Here I present the types of responses that emerged from these prompts and provide quotes that highlight key points from our group discussions that relate to themes that are further explored in the climate fiction stories created as part of the project.

Session 1 Discussion Prompt: Create two lists, one consisting of things that you love about the world, and the other of things you wish you could change about the world.

This question was posed to elicit information about personal passions, interests, and grievances about the worlds that participants inhabit.

In responding to this question, there was one particular point of resonance that emerged: linking nature with the divine, or of "seeing God in nature" as described by one participant (TW) in her response. Following this initial statement, another participant (MF), when sharing her response said:

> … about seeing God in nature, I thought of something similar, like the way it was all created so intricately and carefully almost like it was intentionally designed by all the creatures on the planet just interacting with each other. (MF)

I interpret the above quote speaking to a process of co-creation by human, non-human, inhuman, and more-than-human beings—a multispecies assemblage of "kin" (as described by Haraway) worldmaking together, as a divine process—different in some ways from the idea of a deity-created world like that of Christian environmental thinking, but with a similar sense of reverence.

As for what the participants wished they could change about the world, the majority of answers involved mistreatment of people and planet, as seen in the following quote:

> …Things I wish I could change is similar to what y'all said about the mistreatment of ecosystems and each other. I feel a lot of that comes from corruption of the wealthy, poisoning our soils and water to keep the people sick and dependent on corporations that keep all that fault to themselves. And then also, I wish I could change people's perspectives about certain things, like sometimes it feels hopeless when people don't show compassion for our planet, but it's so easy to slip into that feeling that it doesn't matter, nothing matters, and nothing we do is gonna change it as like an individual action. But if we could just like all collectively do something, it would make a pretty powerful difference. (MF)

What we might gather from this discussion is that the participants who were present this week (TW, MF, PN, and myself) hold nature to be sacred. Whether divinely created or ecologically co-created, there is a spiritual and reverential sense to these responses, and a tendency toward a desire for cooperation, equity, and justice.

Session 2 Discussion Prompt: What are narratives about climate change that you have encountered in your own life? How does what you have seen and heard influence your own thinking about climate change?

This discussion prompt invited participants to reflect on narratives of climate change that they have personally been told in their own lives, inquiring also about from where they had been getting their information and how it shaped their own views of climate change. Participant

responses varied, with the majority citing the media, social and cultural discourse, and family as sources of climate change information.

When discussing external influences on our worldviews and perspectives on climate change, the sources and messaging were varied. One participant (TW) said that in her family, which was mostly politically conservative, climate change was seen as a hoax meant to control the public, though she admitted that it was also seen as something "out of our control," simultaneously acknowledging that the climate was changing while also being used as a method to control the livelihoods of ordinary people:

> I kind of have like a juxtaposition with like my own family and how I was raised, and hearing about how it was a way to control us, like the government was trying to impose ways of controlling our livelihood and our way of living—and just not really valuing what the news and media says instantly. So like, if you hear a story on the news about climate change, it had to be false basically. (TW)

Others responded by saying that climate change had been a pressing issue as long as they could remember, or that it was not something they grew up with, but had learned more about as an adult. Some examples of this are as follows:

> For me, growing up, it wasn't something that was really present other than in some documentaries I would watch back in the day on PBS. Now in my adult life, it shows up in the forms of social justice, and labor, and how it affects people of color, low-income individuals, a lot of cultural connections like with Indigenous people. A lot of what I get access to now is pretty much surrounding different organizations that I'm involved in or get newsletters from, or am an active member of—pretty much now a lot of the information I get is directly from living here in Tucson. (FB)

A major theme that emerged this week was regarding who has the responsibility of addressing climate change. Does the responsibility fall on the individual, governments and corporations, or some combination of the two? For example:

> I think also where narratives differ is, where does the responsibility lie? Is it on the individual as in our consumer habits, or do we hold these governments and larger than life organizations and corporations accountable? (EM)

One participant shared:

> I hear a lot about [climate change] in the media, and especially there when I was younger. Like advertisements for actions that individuals can take to stop climate change and be more sustainable—like reduce, reuse, and recycle—and then now later, I'm learning about how 70% is like carbon emissions are by big corporations. So that kind of means its hopeless, I guess… I think our money does have a lot of impact. It says that what they are doing is ok and they should be doing it that way because we're still going to buy. (MF)

And another:

> …it was something beyond our control that even from people that do believe in [climate change], it's like if there's really no way to change it. Your choices don't really matter. I hear that a lot from people that I used to know that were really passionate about climate change and the environment in general, it's kind of become like, well recycling used to be a thing that we would hear about a lot and now behind the scenes, we've seen that they don't sort everything. So there's really no point in changing our plastic use, and then in the vegan community—because I was vegan for five years—it was the total opposite, like climate change was imminent and polluted water runoff from farms is like a big ethical issue that vegans talk about a lot—how we can change that be eating less animals, and growing animals uses a lot of water too. So hearing a lot about that, I believe that our choices can make some impact, but I don't know for sure. (TW)

And speaking on environmental causes and priorities:

> I heard a lot of echoes of my own experiences in this group, one of which was if [climate change] is real, we're focusing on the wrong issues—like everyone is talking about CO2, but we really should be focusing on plastic waste in our oceans. (EM)

Fatalism was also a common theme that emerged in this conversation, addressing the "deep existential angst" about climate, to the point of "paralysis—like there's no hope for the future," (EM) and in the words of one participant: "What's the point? It's very fatalist almost, it can border on self-defeating." (EM)

What we may gather from this discussion is that the climate change narratives that people have been exposed to are diverse and that there is general frustration or confusion about priorities and responsibilities which can lead to unclear expectations for personal action and overwhelm that can lead to doomerist thinking.

Session 3 Discussion Prompt: Create two lists, one of things in your life (personal, political, environmental) that you are grieving, and one of things that are currently giving you hope.

This discussion prompted participants to explore the grief and hope in their lives, and how they personally process those emotions. This is largely because grief is an important emotion in psychological studies of climate change, and much of my own work surrounding climate change deals with grief. Common themes that emerged from the topic of grief included mourning the loss (or potential loss) of human rights, natural landscapes, and transitional stages of life. Several participants were grappling with aging, moving from childhood or adolescence into adulthood, and others were grieving a sense of place with moving to or from a place that they had lived, or the possibility of maybe someday soon needing to find refuge somewhere else due to changing political/environmental conditions. Of the things participants cited as giving them hope for the future was the possibility of growing and learning, reconnecting to senses of identity and culture, ongoing social movements, and spending time in nature. Generally, the responses did not specifically discuss climate change, except for one case in which a participant (RN) shared that she had recently watched a documentary about the impacts of palm oil production on orangutans in Southeast Asia, showing empathy for non-human kin across the world. In absence of overtly environmental themes in this discussion, however, participants were able to tap into feelings of loss and uncertainty related to transitional periods and the loss of elders, loved ones, connections to ancestry, and place that I see as entangled with grief and fears related to navigating the uncertainties and inevitabilities of climatic change.

STORY CIRCLES

Story circles provided a different form of narrative information as participants were given a week before meeting to select and prepare a story that aligned with the theme selected for that week. In these story circles we explored themes of food and the sacred, as well as an open theme

that included other stories relating to culture, green energy, systems, and personal relationships with nature.

For the first week, the theme was *Food and Agriculture*, and four participants (TW, MF, PN), including myself, shared stories about gardening and food practices. I shared a story about participating in a partner gardener program growing an heirloom variety of squashes from the North of Mexico, sharing my personal connection to the seeds as they were collected the year I was born, with the variety descending from an area of Mexico where my father immigrated from. Another participant (TW) told a story on behalf of her sister-in-law, mostly describing how Tucson was perceptively hotter upon returning after years living out of state, while also discussing briefly the closure of a family-owned and operated mesquite mill. Another participant (MF) shared her experience volunteering at a local farm and food bank with her father and finding community, and a fourth participant (PN) shared a story of growing a mystery pepper plant in her family garden that she used to bake a hot pepper cake. The discussion that followed involved aspects of food sovereignty including seed-saving rights and practices, as well as the importance of community.

The second story circle had an open theme to account for latecomers, with five participants present (TW, MF, PN, EM, FB). Stories included a participant's (MF) family practice she learned about from her mom about sustainable seaweed harvesting conducted by her family in Chile, frustrations with recycling systems and infrastructure in the Tucson area (TW), sadness around and conversations with one's child about climatic changes that highlight discrepancies between their intergenerational childhood experiences growing up in the Tucson area (FB), visiting a rural coal-mining community in Northern Arizona fighting back against the construction of new wind energy infrastructure (EM), finding joy in exploring nature (PN), and

my own story about repurposing an invasive species for a creative activity at a workshop centered around arts and healthy aging. The conversation that followed these stories touched on shifting lifeways due to climate change and destructive practices, differences in values including between conservation and sustainability, experiences with and the discomfort of heat in the desert, and a conversation about children and the future. In response to the story about one participant's 3-4 year old son not being able to play outside for longer stretches of the year, one participant shared the following:

> I think the idea that a couple of you have brought up is about having kids, or people experiencing that kind of like doom and gloom outlook on the future. It just made me think. My boyfriend is very on the fence right now about whether or not he wants to have kids, and it's because of the environment—which was never really a thought in my mind until a few years ago. So, just the fact that it's impacting so many people in that way, like hearing your story, made me think of my boyfriend. I don't want him to hear that because I really want kids, but you know, we don't really know exactly what the future holds… but it's definitely the fact that [climate change] is impacting generations and people deciding whether they're gonna have children or not is impactful for me personally. (TW)

One of the high school-aged participants also in response shared:

> I remember when I was younger, during summer break I used to ride my scooter with the neighbors around, and I'm just wondering how that would even be possible because now I barely go outside. So I had the harsh realization that my brother just turned seven, so it's kind of a similar experience to what [FB] said about how it must be so different for him, because he's seeing the world for the first time and this temperature is just normal for him, but it shouldn't be that way. (MF)

It was largely this conversation that segued into the selection of the topic for week three: the sacred/sanctified, proposed by one participant who suggested the topic as "sanctifying things for the next generation. Returning to what can we see now that is still here or that we grew up with, and making sure that's safeguarded so that it continues to be enjoyed—the little that's within our control."

In this last story circle exploring the sacred/sanctified, six stories were shared. The first story involved rescuing a caterpillar from a crowded airport (PN). She introduced the story by

saying, “When you first brought up the theme I first thought of animals, because that’s what I’m very interested in,” and her story ended with “I don’t know how it got in that airport, but it obviously wasn’t supposed to be there, or the airport wasn’t supposed to be there.” The second story was a meditation on oceans and other large bodies of water, reflecting on the finite nature of the earth’s resources and the depletion of important water sources like the Colorado River (MF). The third story was a reflection on the participant’s experiences with climate where she grew up in western Colorado, reconciling that with climatic changes in Tucson and questioning what that means for the family that she hopes to have someday (TW). I shared a story about my encounter with the ”eighty-armed saguaro” named Shiva on the outskirts of the Ironwood Forest National Monument, wrapped in orange hazard tape within inches of a path carved out by heavy mining machinery. Another participant (RN) shared how walking through nature gives her perspective on her own life, and another shared that Mount Lemmon had become a place of refuge for her, especially as worsening seasonal allergies have begun to affect her quality of life (FB). The last story was a recounting of the participant’s mother and family moving abroad to Sweden when her mother was a child, describing the dramatic changes in lifestyle the family had to make moving to a significantly colder climate and then back to Tucson (EM).

The discussion that followed included participants feeling called to live in ways that are more aligned with the seasons, acclimating to new environments, and health impacts caused by environmental factors. One participant expressed:

> I think one of the biggest things for me that I’ve picked up on is how much my body just wants to go along with the seasons… how that connects to what food is plentiful and how we’ve lost touch with the seasons. Like, tribes and people who were here before us went along with the seasons and we’re not living like that anymore, and with how extreme the seasons have become—what would that even look like? (FB)

In response to this I added, “How do we remain slow when the world around us is rapidly changing?” Speaking to a key consideration in climate fiction and climate change studies more broadly, which is the process of adaptation, but also to aspects of self and community care.

STORIES FROM THE *IMAGINING CLIMATE FUTURES* ANTHOLOGY

At the conclusion of the project, four short stories were created by participants, not including myself. Each of the stories can be found in the appendix at the end of this thesis, but I will briefly introduce and describe the texts here before contextualizing them in the *Discussion* section in Chapter 4 of this document.

The first story, *Untitled* written by FB, is a glimpse at a near-future Tucson in which the main character, Marisol, has to determine whether she will be joining the mass exodus out of the Tucson area following nation-wide power grid failures and societal collapse. The character Marisol’s story recounts how she leans on her own life experiences facing adversity as a child living within the foster care system to adapt and survive her new conditions. Over the course of a couple of days, the character shares what she witnesses in and below the streets, grappling with the thought of claiming her seat on a bus headed out of the city or remaining behind. The story ends with the main character giving up her seat on the last bus out of Tucson to the child of a pleading mother.

The second story, titled *Where Did You Go?* by MF, illustrates a cynical image of the future in which the story’s narrator looks up at an advertisement-filled sky, longing for the sight of the moon and the stars whose view has been completely obstructed. The character describes how the world’s wealthy have begun the process of migrating to space, leaving an irreparably damaged Earth behind. In this vision of the future, plant and animal life as well as human activities have been disrupted by the constant presence of extreme light and sound. Seeking

solace and peace, the narrator mournfully considers what life would be like if they left the Earth, adapting their life for a chance to once again see the moon and the stars.

In *Beyond the Grid* by TW, the third story in our anthology collection, climate transplants working in a warehouse-style fast-fashion product fulfillment center have strange and supernatural encounters that bring them into an alternative world, giving them a vision of a just and green future that is possible through climate change action. The alternative world is presented like a Garden of Eden with access given only to individuals who have made efforts to live sustainably despite the world working against their best efforts.

The fourth story of the anthology, *Untitled* by PN, tells a speculative and fantastical story set in a flooded New York City, showing how humans and non-humans have created new relationships and multispecies assemblages to adapt to their new, wetter surroundings. Two human characters find themselves working in cooperation with (and on behalf of) a colony of rats whose lifeways are threatened by intelligent marine actors including orcas and octopi who work collaboratively against the interests of the rats and their human partners, who have turned to farming sea vegetables in the inundated city streets. Told in five short parts, this story evokes caricatures of non-human animals to imagine a future in which, as a result of human-caused climate change, humans find themselves in an animal-dominated world and must renegotiate their relationships to non-human animals in order to adapt and survive.

Before moving on to the next section, I would like to briefly touch on something that came up while listening to the story about one participant's (EM) family history of traveling and adaptation to life in Sweden and Arizona. The participant references the work of the poet Joy Harjo, whom she quotes as saying "poems are like houses for spirits." She offers:

> I think that rush of recognition that we get when you recognize yourself or someone that you know or something that you know very well, back at you in a story that you're reading,

> hearing, or watching applies similarly to a landscape or a land that you know really well. I was thinking a lot about our education, like [reading] a Tale of Two Cities, the Scarlet Letter, or the Crucible. So, these places deal with the forests of Massachusetts and the Grimy Streets of London. They're very good stories to get to know on their own, but they all paled in comparison to the moment I read Joy Harjo's poetry for the first time about ten years ago and recognized my home, the desert in it in such a visceral and truthful way.
>
> And so, if poems can be homes for spirits, then I think making a home for the land in figurative language and art is a way that we can safeguard it and shelter it. (EM)

It is this last statement about making a home for the land in figurative language and art in order to safeguard and shelter it that deeply resonates with my intentions for this project, providing space for people to use the art of creative storytelling through the frame of climate fiction. Through this practice participants can shine light on what is important to them, and what they believe is worth safeguarding.

CHAPTER 4

DISCUSSION

Expanding on the climate fiction stories created by participants that make up the *Imagining Climate Futures* anthology, I provide descriptions and sample quotations for each of the stories to unpack the content, themes, and connections to the preceding components of the project. I also connect thematic material from these stories to broader issues in climate change studies and discourse such as climate grief, migration, religion, and the non-human. I also consider the role of worldmaking in relation to these stories utilizing some of the questions introduced earlier in this document, as proposed by Vervoort et al. (2015) in their worldmaking scenario planning framework.

Fiction Story Analysis

Our anthology, *Imagining Climate Futures,* consists of four short stories which can be read in full in the appendix of this document. These four stories represent a range of future visions, with some depicting realistic futures and others utilizing speculative and fantastical devices to explore climate change by way of the supernatural or anthropomorphic animals. The majority of stories here take on a pessimistic view of the future with slivers of hope or resilience shining through the cracks. For each story, I broadly introduce the plot, provide excerpts from the text to showcase the writing style and provide context directly from the stories, and make connections to other areas of climate change studies. In doing so, I make the case that each of these stories are products of our individual and collective knowledges, informed by our lived experiences and the narratives we have internalized about climate change—the palimpsests over which our visions of the future are constructed.

Untitled (1)

I selected this particular story to feature first in our co-created anthology because its setting is positioned so closely to where we as a group are based in Tucson. It presents what I see as a terrifyingly realistic glimpse at a near-future which I believe is a good point of departure for this collection. In this vision of the near future, the main character Marisol has to make the impossible decision to determine whether or not she will be joining the mass exodus out of the Tucson area following nation-wide power grid failures and societal collapse. In this story, I identified themes of personal resilience, activism, and connections to some of the experiences of climate refugees and migrants.

Marisol's story recounts how she leans on her own life experiences as a child of the foster care system, from which she draws her resilience to adapt and survive her new conditions. Over the course of a couple of days, the character shares what she witnesses in and below the streets, grappling with the thought of claiming her seat on a bus headed out of the city or remaining behind. The story ends with the main character giving up her seat on the last bus out of Tucson to the child of a pleading mother.

In the near future, the American Southwest, including both Tucson and its northern neighbor Phoenix (deemed the "least sustainable city" by Andrew Ross, professor of social and cultural analysis at NYU), is expected to experience severe climatic conditions (DeBuys 2011), with calculations from Climate Central (2025) predicting days with temperatures above 100-degrees Fahrenheit 163 days of the year by the year 2100. These extreme conditions may very well lead to a mass exodus out of the region akin to the one in this story. Heat waves, according to Canadian-based social critic Giles Slade (2013), are "the greatest environmental killer," with intense heat lasting through the long summer months being a likely contributing factor to the

mass exodus out of urban centers in mid-century North America. In a conversation with DeBuys in 2015, author and independent journalist Todd Miller was told of a hypothetical scenario in which the Interstate 17 was clogged as people fled north to the White Mountains—a similar scenario to that of this story where people fled Tucson for more habitable zones up north. What happens though if you are unable to get out, or you willingly choose not to?

This story evokes the archetype of the climate refugee—"the human face of climate change" (Tiimon 2011), describing people forced from their homes due to climate-change related events in the twenty-first century (Althaus et al. 2019). The topic of climate refugees came up throughout the project, with conversations about migration and the fear of displacement due to climate change being shared in discussions. When the story of Marisol was introduced in the first of our fiction workshops, which made up the last three gatherings of the project, one participant responded saying:

> …it really reminds me of a lot of immigrant stories, especially in impoverished nations, right? I remembered when, on my way here, I was thinking of where we are now and where we're going to be, and how we can view ourselves in the narrative here. Like in the US, in an occupied nation or in a place where there's more crime or objectively more difficulty… I think stories like that puts it into perspective for people in the US to almost say this is where it could be. This is where it is for some people. (EG)

Another participant (MF) concurred "Yea, this very near possible future is sadly a reality for a lot of people, but we don't get to picture ourselves in their shoes that often."

Apocalyptic narratives tend to rob refugees of agency and subjectivity (Jones 2018). Because of this, migration studies scholars have called for alternatives to victimizing tendencies in these narratives, instead suggesting that we imagine the capacity for forced migrants to make decisions, as much as is possible, about the terms of their displacement, including whether they stay or relocate, as well as what parts of their culture and identity they wish to keep (ibid.). In the case of the character Marisol, agency is exercised when she decides to stay behind, giving up her

seat on the last bus out of her scorching city to another forced migrant (in this case a child). I feel that the author's passion for community action and activism comes through in her creation of Marisol and her decision to ultimately stay behind to help her community while giving someone more vulnerable a chance at life. This reflects what the author had shared throughout the project about her position as a mother of a small child.

The author of this story shared intermittently about her work in the Tucson community over the course of the six weeks we gathered for the project. She shared that, in crafting this story, she was "taking news and information from being involved in environmental justice organizations and workshops, piecing together a story of how it would look if it was some years in the future in Tucson." Because she was feeling the need to connect these dots in a story format, she shared that she had already been forming this story in her head prior to her participation in the project. In a follow-up interview she said that forming this story was a fun experience, but it took her down a rabbit hole that made her anxious for her six-year-old son's generation, anticipating a future that might occur if things go unchanged.

From within this story, we experience the world of a fictional woman who cares deeply about her home and community in Tucson, and who is personally impacted by the suffering she witnesses around her. The world she inhabits is constructed by illustrating societal collapse due to climate change, such as the degradation of vital infrastructure that renders communities vulnerable to extreme heat and lack of resources like water and food.

> *The power grid, strained by relentless heatwaves and decades of neglect, failed across multiple states. Some cities flickered back on; others never did. Arizona was among the ones that never did.*
>
> *By 2055, Tucson was no longer a city that was recognizable. Monsoons had become erratic, the rivers had dried up, and the heat never yielded. Most people fled north, chasing the last habitable zones. But Marisol stayed...*

...

> *Throughout her adolescence she had watched her city slowly decay and crumble. She had seen families forced to choose between food and water. She had seen elders drop dead in their homes because they couldn't afford cooling.*

Spatially, the story takes place in central Tucson, and temporally over the course of a day, expressing a sense of urgency, though as in the above excerpt, it makes clear that the decay of the city was a long and slow process.

> ***09:45 AM** – I heard all the shelters started pushing people toward the station. There are still a few shuttles taking families from downtown, but most people have to make the journey on foot. It's already 120 degrees at 10:30am outside and I saw a woman collapse in the shade of a broken bus stop. No one helps her though. I stop by my last home I lived in before I was tossed to the street. The front door hangs open, and the oven heated wind tumbles dirt inside. All the memories I had here, from my first kiss to the dog my foster parents had haunts me...But all that's left belongs to the fiery heat now.*
>
> *The asphalt started melting underneath my soles as I kept walking...I could feel my boots stick with every step I took. A dog limped past me, ribs pressing against its burned skin. I tried to call it over, but it only stared before disappearing into the ruins of a gas station.* ***02:15 PMish-*** *is about when I got to the station, the crowd was already gathered. The bus won't leave until sundown, but people have been waiting here since last night. Some of them won't make it—heat exhaustion already setting in, bodies slumped against walls, too weak to fight for a spot.*
>
> *I still don't know if I'm getting on.*

The language used in the construction and description of this storyworld are heavy, dark, and filled with images of suffering and desperation, providing the audience with a miserable sensorial experience seen in the description of 120-degree mornings, melting asphalt underfoot, the sounds of chaos and sobbing, and views of starving people and animals in the streets. This world confronts the uncomfortable possibilities of a future in which persons from a largely privileged Western country face the collapse of vital systems that support their livelihoods and are forced to contend with the reality of displacement.

The world constructed in this story draws upon the available worlds of Tucson in the 2020's—an arid city in the Sonoran Desert dealing with heat exacerbated by climate change—and worlds like those of forced migrants from regions of the world most vulnerable to climate change. Drawing from her experiences living in Tucson and working with environmental justice organizations, the author here has created a world built on what she sees as problems of the present world, including failures on behalf of institutional powers meant to keep our communities safe. In effect, the existence of this fictional world would threaten the existence of present and future worlds in which life in arid lands like Tucson is possible. This is because extreme heat is already a significant threat to life and human health in desert cities (but also other large cities as a result of the heat island effect), and a world where extreme heat is prevalent and access to electricity is suddenly cut-off would result in these cities being largely uninhabitable.

Through the creation of this world, the author was able to live through a version of the world in which the city she calls home and cares deeply about has seemingly come to an end. Through her character Marisol, she is able to experience it and exercise agency within it, inviting us as the audience along to experience it with her.

Where Did You Go?

The story titled "Where Did You Go?" depicts a world in which the night sky is cluttered with digital advertisements, and the Earth's wealthiest take to life beyond Earth's atmosphere, escaping the chaos and destruction that they helped to create on Earth. This story deals with themes of grief and hope, and serves as a criticism of techno-futurist visions.

> *The rich insist on inhabiting mars and they get closer to their goal every year that goes by. After wasting most of Earth's resources on their mission and most importantly, running out of money, they thought of a solution. Use the new satellite technology developed to broadcast non-stop advertisements in the sky. Giant light-up billboards, big enough to make sure anyone can hear and see what new plastic product to buy. Of course nobody was happy about this. Instead of listening to us and stopping this, they offered*

> *those who could afford it a new way of life. A one-way ticket to the space station. A giant chunk of metal that orbits the planet. It has everything they could possibly need until the billionaires make mars livable. They couldn't stand the sight of what they did to our world, so they fled to something empty, meaningless.*

The story's narrator is presented as a working-class person reminiscing about a time before the sky was filled with obstructive and imposing advertisements, thinking about the stories of an elder in which the narrator was informed she could find solace and comfort by dialoguing with the moon and the stars—entities that the narrator no longer has access to. The impacts of light and sound pollution created by the projected advertisements also affect natural systems, cycles, and lifeways.

> *I noticed how things in this world slowly changed. Plants wouldn't grow like they used to. Having so much light messed with their growing patterns, so food became unpredictable and scarce. The bats didn't know where to go, nocturnal animals couldn't catch their prey. Most other animals couldn't get used to the constant noise and went underground. Those in the sea that used the stars to guide them were wandering aimlessly like most of us on land.*

The narrator dreams of becoming an astronomer in order to gain access to life on the space station that the world's elite have begun to escape to. She is motivated by a desire to access the peace and solace afforded by a view of the night sky despite not wanting to leave her world entirely behind.

> *I wasn't ready to leave everything I knew behind, but it seemed like that was my only option. I miss those moments of peace and quiet. Silence is now a privilege a select few have. I look up at the night sky and wonder how many people are thinking the same thing at this exact moment, trying to find the moon to seek advice.*

The participant who wrote this story often spoke about issues related to social justice and accessibility throughout our group discussions, and she commonly spoke with a deep reverence for the natural world, expressing a desire to safeguard the beauty of the world for future generations.

> Recently I went to Chile, and I saw the Pacific Ocean, and it was calming. It made me think about how I want so badly that future generations can also experience what I experience going there and feeling that there's this powerful source of life on this planet. I want them to be able to have that as well.

She was also often critical of systems of power within our world, ascribing responsibility for the climate crisis to corporations and the corruption of the wealthy. Her story concludes with the narrator inquiring about whether change is even possible.

> *Maybe it's dumb, maybe it's stupid to hope that things could change but one thing's for sure. The world has been breaking apart for years, decades. What will it take? What has to change? What has to start? What has to end? What more will they take from us if not the moon and our stars to make a difference?*

This story, in its brevity, is interesting because, like many works of climate fiction, it rejects techno-futurist ideas like the colonization of space, but the main character here also plays with the idea of conforming to such a future—though reluctantly. In *From Apocalypse to Way of Life* (2023), Frederick Buell describes the turn towards the "culture of hyperexuberance" in the 1980s that reshaped the way that American culture and society began to envision the future, doing so with a greater emphasis on exploring new frontier worlds and environmental spaces like microworlds and cyberspace through technology and social reorganization. Underlying the optimism of visionary technologies and new economic systems, however, is the sense that these promises made by visions of a post-scarcity world are contradicted by deepening environmental crisis and greater wealth inequality (Buell 2003). This culture of hyperexuberance remains today as American billionaires like Space-X CEO Elon Musk poises to colonize Mars and Amazon CEO Jeff Bezos's company Blue Origin carves out a new industry in space-tourism. This industry promises new and exciting opportunities for humanity to venture while ignoring the realities of environmental degradation and a growing wealth gap between the world's wealthiest and the world's poorest. Why should those of us who may not possess the desirable wealth,

status, or skills to be useful on a settler-colonial voyage to Mars be forced to stay behind to contend with the effects of the climate crisis? If the dystopian techno-future that leaves most of us behind on a scorched world is here, should we feel guilty for dreaming of having access to the promises afforded by these new technologies and social systems?

Again, though, the author ends the story with the narrator continuing to hope for change that rejects their techno-futurist world. Throughout our gatherings, the author of this short story spoke often about change and her desires for humanity to collectively move towards action, while acknowledging the prevalence of "doomerist" mentalities. When responding to the prompt inquiring about what she wishes she could change about the world, she said:

> I wish I could change people's perspectives about certain things. Like sometimes it feels hopeless. When people don't care or show compassion for our planet, it's so easy to slip into that feeling that it doesn't matter, nothing matters, and nothing we do is going to change it as an individual action. But if we could just all collectively do something, it would make a pretty powerful difference.

I think this story speaks to a fatigue that many people, especially young people and those the philosopher and essayist Kathleen Deane Moore calls "Earth's weary lovers," defined as those who are "tired, perplexed, and battered from all directions," who have "been working for environmental sanity, social justice, and ecological thriving…" (Moore 2022). The author of the story, a Generation Z high school senior with interests in environmental and social justice, exhibits some of the trends being observed and documented in others in her generation—deemed as the drivers of climate change awareness (Goldman 2022)—and in particular related to climate grief and anticipatory grief. As Ho (2019, par. 3) explains, Gen Z has been "bracing for the most devastating impacts of our environmental damage," with young people more broadly being forced to bear the burden of addressing the climate crisis. This can lead to anger, frustration,

sadness, and anxiety that sometimes manifests in the form of panic attacks, disillusionment, and depression (Goldman 2022).

In analyzing this story and getting to know the author throughout the project, I see a young person who cares deeply about the world who is both weary but hopeful, and who is longing for change but is not sure if we will get there. In crafting her story, she created a world in which her character loses access to parts of our present world that she finds sacred. She warns us of the magnitude of what we may lose if people with more nefarious techno-futurist visions succeed in shaping the world to benefit themselves, leaving the rest of us behind on a planet that they themselves destroyed. In contrast to the last story, I find it interesting that the character in this world mournfully dreams of escape, while the character in the former digs her heels in deeper, prepared to act. I see this as representing two ways of dealing with the realities of the climate crisis, and is why I have positioned the two next to one another in our project anthology. These two stories also represent works of climate fiction in a more traditional sense, as they are stories that map neatly onto the present actual world without employing the speculative, unlike the remaining two stories that follow in this collection.

Beyond the Grid

Mourning the life she was forced to leave at her home in central Colorado, the main character is a Tucson transplant who works quality control in a fast-fashion factory called *Plas-Thick,* which the author describes as producing the "cheapest, newest, worst, but most popular clothing." This story works with themes of over-consumption and frustration with economic systems, embracing the theme of Christian grace and environmental virtues such as humility and self-restraint. From the outset, the main character, Corrie, criticizes the wasteful trends that her society follows and describes some of the ways that she has been coping with her new reality.

> *It's all in the name; our society, everyone wanting to get BBLs and make sure that they never have to do laundry, fix their old clothes up, thrift, learn to sew, or be seen in the same outfit twice. Every month, they can just order a new wardrobe for $10. It's always disgusted me, but as someone who just lost her home, as well as her perfectly curated vintage, thrifted wardrobe that took years to cultivate, of course I have no other option but to dawn these rags upon my now growing (in the wrong direction) body. The stress of losing our home, starting this job, and the state of the world in general has me ordering DoorDash every week. Not like I can afford it, but their little deals tab, along with the promise of not having to do dishes, or fight about who does them, is too much to resist right now. With what little mental energy I already have, I've been trying not to think too much about what I eat, but I know it will catch up with me.*
>
> *… we lost a lot of sentimental items. Photo albums in storage, old love letters between my grandparents, newspaper clippings of them and their parents, genealogy work the Mormon side of my family had done. I wanted it, not so that I could get them baptized in heaven's waiting room like my dad did, but just because… it was part of me.*
>
> *I miss our little yard, the future we were attached to, the pictures on our walls that we couldn't get down fast enough while the sirens were wailing in our ears.*

The characters work in an environment akin to large-scale warehouses that exist in our own world that operate using questionable business and environmental practices (Escobar 2022, Sainato 2023). Within this setting, the author highlights the interpersonal relationships between the main protagonist and her diverse group of co-workers (one of which is her husband, Paolo). The group includes several other women of different ages, and a queer character named Marquis, whom the main character asks the future-facing question: "Mar, what do you wanna do when you grow up?", to which he responds "anything but this…" providing a criticism of this style of exploitative, industrialized labor.

As the story progresses, strange things begin to happen that disrupt the flow of the manufacturing system, and a small group of the main characters begin to experience supernatural happenings, including the appearance of iridescent wings on the backs of some characters that are only visible to them. Alarmed, the main characters flee the factory and see a strange grid forming in the sky above the factory, and they try to find higher ground to better understand the

nature of their newly supernatural surroundings. While driving towards the mountains the characters witness a small child and her mother rescuing a caterpillar on the side of the road (a reference to the story told by another participant in week 3 of our story circles).

> *We're stopped at a light and I watch this little girl with her mother. She kneels down on the ground, putting a tissue on the pavement and waiting for a few seconds for something to crawl on it. It's a tiny green caterpillar. She carefully cups it in her hands and gently places it on a leaf. Her mom hugs her and they watch the caterpillar. The outline of dark green wings appear on her back.*

Here it is made clear that the wings serve as a visual marker for individuals that perform good deeds on behalf of the environment. The characters then notice more changes in their surroundings.

> *I intently stare out the window, trying to see what the next exit number is. How far have we gone? I see that the exit number is in the 300s. 'Babe,' I nudge him, 'those letters aren't…'*
> *'that's not English!" He yells.*
>
> *Ahead of us, a large checkpoint. I know we haven't been driving long enough to be in California, unless this is some kind of time loop…*
>
> *We're at the back of a line of about 7 cars, 5 different lines or so on either side of us… almost everyone is driving a beat up car like ours, or something that's a hybrid. Not a single truck in sight, I notice, for some reason. I guess because Tucson is normally filled with them.*

A golden-skinned person working the checkpoint greets the characters, and informs them that they are entering the "New Earth," to which access is only granted to individuals who have "consistently made good choices." The entities foretell that their work in the factory will give them both cancer within 10-15 years, to which the leaders of this alternative world show compassion.

> *Plus, it doesn't hurt that you're light green. You recycle, care about animals…*

The new world in which these characters find themselves in is an alternate dimension layered on top of their own world. They are told they can return to their previous world if they would like, but also: "you'll see… you won't want to. At least not very often."

Passing through the gates, the protagonist thinks to herself:

> *I used to imagine how God made the world, and when I would play outside, living in downtown Denver, cars honking as they drove past my driveway. I would imagine they were horses. I would try to see past the present, into what the Garden of Eden may have been. How there were streams of living water that we all had access to. How no one would be hungry when there were fruit trees and vegetables coming out of the ground in abundance. The animals wouldn't be slaughtered; they would be playing and grazing.*

The protagonist finishes out the story by saying to her husband *"Of course, this is how it was always supposed to be"* suggesting that the solution is "*not to do, but to undo*."

This story draws on Christian paradisiacal religious imagery and plays on themes of redemption, mercy, and grace. This biocentric Christian worldview considers the well-being of human and non-human animals, as well as the co-creative, interdependent relationship between them. This contrasts with anthropocentric or theocentric viewpoints that prioritize human beings or God over the non-human (Attfield 2022, Powell 2023). Characters deemed "light green," or those who try their best, however imperfect, are rewarded with access to this paradise. Christian virtue ethics shine through in this story, especially self-restraint and humility —which Moo (2023) suggests to be among the most important virtues for eco-flourishing—a term used to describe a state of flourishing that encompasses both humanity and the Earth (Bouma-Prediger and Carson 2023). I find the form of this story interesting, as it uses fantastical and supernatural elements like the iridescent fairy-like wings that emerge from the backs of virtuous people to explore an alternative future world. This connects to the work of J.R.R. Tolkien (1938), who argued that "fairy-stories" (that is, not stories about "fairies," but stories of people who find

themselves in a realm in which they may encounter wonder) (Wilkinson 2023) offered a necessary form of escape. In Tolkien's words:

> The consolation of fairy-stories, the joy of the happy ending… which is one of the things which fairy-stories can produce extremely well, is not necessarily "escapist" nor "fugitive." In its fairy-tale—or otherworld—setting, it is a sudden and miraculous grace: never to be counted on to recur. It does not deny the existence of *dyscatastrophe*, of sorrow and failure: the possibility of these is necessary to the joy of deliverance; it denies (in the face of much evidence, if you will) universal final defeat and in so far is *evangelium*, giving a fleeting glimpse of Joy, Joy beyond the walls of the world, poignant as grief (Tolkien 1938).

It is coincidental that the author chose to use fairy-like imagery, but I think this story does indeed provide a form of escape. It illustrates a world where virtuous people, in a literal sense, get to escape the destruction of the world—something that perhaps many of us, especially those of us who may consider ourselves "Earth's weary lovers" might at times desire for ourselves. Aside from the literal escape featured in the story however, my thinking also connects Tolkien in the sense that a speculative or fantastical story, especially when lighthearted, may provide an extra opportunity to explore environmental issues and climate crisis from a safe distance. Though one of the boons of climate fiction as a narrative genre is its ability to give writers and audiences a chance to experience climate crisis as it may occur in the present, I believe incorporating the speculative may make exploring these topics a potentially less distressing experience, yielding new perspectives of living through climatic and environmental crisis.

During an interview, I asked the author if she intended to make the connection to her religion. She responded that she had not really considered that connection beyond the direct reference to the biblical Garden of Eden, but she could see how that thinking may have influenced how she crafted her story and made her world.

Coming from a conservative background, though not identifying as conservative now, she told me that she does not spend much time thinking about climate change in her normal life, though she does try to make environmentally conscious decisions a majority of the time. When asked about how she presently felt about the future she responded:

> I feel like the only thing I can control is what I do, and I try to do my best with environmental things. I'm eating plant-based, and taking my stuff to the bi-fusion blocks and stuff like that, and really all I can do is just talk to the people around me and tell them about stuff like that and do stuff for myself and hope that makes some kind of an impact. (TW)

In this quote she was referencing a story that she had told in our Week 2 story circle, in which she explained her frustrations trying to recycle plastic products at a city drop-off point.

> I was at the Ward 6 the other day where you drop off plastic, and they have this program where they put everything into blocks—the bi-fusion program. So, there was a lady down there putting up little signs, and she was really upset because they're changing everything to meet the needs of their new program. It's been bought out by Hefty and they're these plastic bags that are orange, and so now you have to go to the store, or you have to order them online. Like, I had to order them online and they're saying that everything's just going to be sent to a landfill if you don't use those specific bags. So, I think it's just—it was really frustrating, and I understood why she was frustrated too, because there are these new signs and now you can't just drop off your plastics. It's for single-use plastics and stuff that's really hard to recycle. So, it was a really great program for like a year, but this happened within the last couple of months and it's making it really inaccessible… my theory and what I think is probably true is that they're doing it to weed people out, making it harder… I think they're trying to make the barrier of access a little bit higher by making people purchase specific bags just to recycle, and they're like $10. (TW)

I believe that we can see this frustration with such systems emerge through the author's story as she constructed a world in which systems actively work against the efforts of everyday people, including the story's main character. In the narrative, climate change has forced Corrie and her husband to relocate, and in order to adapt they must take on work at an environmentally destructive job that negatively impacts their health and wellbeing. Because of this, they struggle to make conscious decisions that are in line with their moral values, and they have to choose

convenience in order to survive. Despite this, their intentions are recognized, and they are rewarded with access to a utopian world as their previous world deteriorates.

In her interview, when asked what she learned about herself through the process, the author responded:

> I learned that I'm a pretty hopeful person, and that I see solutions for things even though they might not be realistic. I'm just a dreamer I would say in comparison to other people, I kind of noticed that about myself. I'm hopeful, but also other people are hopeful too, I think just in a different way… they just imagine it so differently than I do maybe. I think what I saw in my own storytelling and the way that I imagine the future is that I really don't have a lot of fact-based knowledge about climate change. It's more just something I hear about, and I don't spend as much time as other people in the group thinking about it. It's not something I really immersed myself in before, so it was something I approached from a more broad place, and maybe that's why I had like a different perspective on it too… I envision sort of utopia, but not really.

In comparison to the other stories and worlds crafted by participants in the project, this story, while still critical, does illustrate a vision of the future that is more optimistic. Whereas other participants who regularly thought about climate change tended to portray darker visions of the future, this story offers a glimmer of hope that our well-intentioned individual actions on environmental issues and climate change are in fact meaningful and may be rewarded—in this world or in another. This story is also one of two in this anthology that embraces more fantastical and speculative elements, and exemplifies in many ways why I believe that a participatory climate fiction practice *should* embrace these lesser considered elements of climate fiction, as it provides many rich (and truthfully, *fun*) possibilities to explore and develop understandings of how some people might think about and relate to climate change. I wonder how differently both the story and subsequent interview responses may have emerged if stricter parameters had been set to minimize the use of speculative themes, and if the participants were asked to truly embrace climate crisis in a more realistic sense. How might the author's optimism have manifested through a story in which the supernatural could not whisk well-meaning people away to safety?

That said, I do believe that the ability to play with these ideas, images, and devices allows participants to share their perspectives, values, experiences, and worldviews in ways that are less restricted to forms of realism that are characteristic in a limited definition of climate fiction.

Untitled (2)

This speculative and fantastical story depicts a future New York City, inundated by rising sea-levels, largely depopulated of human beings, and re-colonized by various non-human actors and communities. Told from the perspectives of three characters including a man deemed *the Taximan of New York City*, a woman named Carla, and a rat named Greyfur, we are given a glimpse of a post-humanist future world in which established relationships between human beings and non-human animals are subverted and new interspecies relationships become key to surviving in this world. The story is told in five parts: *the canoe* introduces the taximan character who builds a floating raft using scraps that have floated into his apartment, on which the rat Greyfur hitches a ride; *The Audience* introduces the woman Carla, who upon conversing with the rat Greyfur in sign-language, agrees to an audience with a floating mega-colony built by the rats of New York, where she inquires about finding food; *Kelp Us Kelp Them* shows how humans have turned to seaweed farming in what was once Central Park, where the humans are attacked by cooperating octopi and orcas; *The Problem with Making Deals with Rats* introduces how the politics of these interspecies relationships came to be; and in the *Crash of Plans* we witness the fallout of an encounter between the different species.

Throughout the project, the author of this short story made it clear that her thinking about climate change extended beyond humans into the non-human world: “When the theme [the sacred] first came up, I first thought of animals, because that’s what I’m interested in and what I value the most.” The stories she shared during story circles often portrayed a sense of curiosity

and adventure in interacting with the natural world, and she recounted her experience of saving a caterpillar from a crowded airport. Being the only story not set in or near Tucson, when discussing her plan for her story she said "I was planning to set it in New York City because I was just there. I got inspired by seeing it in person, so it's the future when the ocean levels have risen a lot, and the bottom few floors of all the buildings are underwater… there are a few people who stayed, and my main character is going to be one of those people who stayed and is trying to adapt."

New York City has long been a site for exploring environmental catastrophe and climate change through fiction as seen in the 2004 disaster film *The Day After Tomorrow* (2004) and in Kim Stanley Robinson's attempts at a utopian future in *New York 2140* (2017). In both of these depictions of a climate-changed future, catastrophic flooding takes center stage. New York City, the most populous city in the entirety of the United States and a key national and global economic center, is particularly at risk to the effects of climate change. Prominent risks include sea-level rise and coastal flooding as a result of tropical cyclone systems that are dependent on atmospheric and oceanic temperature fluctuations known as the Carnot cycle (Garner et al. 2025). Much like the effects of extreme heat and aridity we observe in real time in the American Southwest, New York City too has been a focal point in observing the impacts of climatic change on our western society. For example, on October 29th, 2012, Hurricane Sandy's storm surge (measured at 2.8 m above mean tidal level) produced $50 billion in damages, ended the lives of 43 people, cut off power to nearly 2 million people in the region, and flooded roads, airports, and subway systems (NYC 2013). Given this history and the city's position as a global cultural and economic hub, New York City thus presents abundant possibilities to imaginatively explore climate change and adaptation, and provides a host of iconic imagery, settings, and

characters—both human and non-human—with which to craft narratives about the future and the climate crisis.

Throughout the story the author plays with the idea that the rats, who have emerged from the depths of the underworld of New York City, have had greater success in adapting to their new, wetter surroundings when the majority of humans have vacated. The animals are presented as being superior to humans, having greater success in adapting to their new environments—subverting commonly held beliefs in our own world that human beings are different from and above non-human beings. These attitudes towards animals stem from and are shaped by perceived differences in biobehavioral factors such as intelligence or sentience, as well as through evaluations of aesthetic value and perceived threat level (Batt 2009); in this case, the rat, a creature that is among the most hated in human history and most commonly associated with filth and disease, is elevated to a position of power above the human characters in the story. This is seen when the rat Greyfur thinks: *"Yes, humans may be inferior, but I never intended for any to die"* after humans are used for defense against the rats' octopus enemies.

The rats in this world have organized and developed a form of society built on top of the ruins of human civilization.

> *Rats had constructed scaffolding that crawled up the ancient architecture, tunnels that reached into the stomachs of decaying skyscrapers, and as Carla watched, rat faces revealed themselves from holes in the walls and gazed at the humans passing by. Further into the lake, the tips of long-dead trees stuck up pensively from the water, and tethered to one by a thick rope was what must be The Colony.*

The experience of the rats from a reader's perspective is largely anthropomorphic and centers human-centric communication, which can be seen in the rats' adaptation to use sign-language. This skill allows them to survive and develop a new partnership with human beings, serving as a form of interspecies communication.

> *I walked out from behind the mug and signed my real name to her. I hadn't expected an answer, but she surprised me by signing back. I decided right then that she should come to the Colony. A human who also signed would be of great use to us. One big obstacle in interspecies communication is the difference in vocal capabilities, but signs allowed a more cohesive method for communication. She had bigger hands - easier to understand, therefore more deals negotiated for the rats.*

However, there are other examples of multispecies and interspecies relationships that exclude human beings, such as between the rats and the octopi, who communicate through non-verbal gesture and pictorially through drawings, as well as the interspecies partnership between the octopi and the orcas, who allow the octopi to ride on their backs.

In this story, the humans are not saviors, and their flaws and weaknesses as a species are highlighted, portraying them as just another animal trying to survive in a changed and unforgiving world.

> *What could the humans have done about it, really? The octopus seems to have carved out a new way of life. Us rats are doing well enough, living off the scraps of an old, dead civilization. But the humans, their memories are too long. The past lives in them as if it is the present, but what is done cannot be undone. Adaptation is survival. And all we can do is survive.*

One participant commented on this when providing feedback on the development of the story: "It's interesting how we have these non-human beings being represented, and like talking to us, and giving us info about the future." I responded to this with my own insights, saying:

> I think it's really funny that humans in this situation don't know something and the non-humans do, it's like commentary on the fact that we don't really know what we're doing in the world currently, and we don't really understand the implications of our actions in a concrete way. And there's this idea that there's wisdom in the non-human world. It's like when, in apocalyptic movies, the birds flee and it's like—what do they know that we don't? Also—the fact that these rats are resilient in their own way and they're making do with a situation that humans might not have been able to.

Human beings have long used non-human animals in their storytelling, from fables dating back to Ancient Greece and the myths of pre-literary cultures, to speculative and modern works that take animals as narrators and characters like those seen in children's media and, of course,

science fiction (Karkulehto et al. 2020). Arts and literature have long been concerned with a wide variety of possible and impossible non-humans (Wolfe 2010), with science fiction being a particular point of interest for scholars of the nonhuman and posthuman in literature (Fetherson 2024). This is because of the genre's tendency toward creating possible worlds and alternative futures that organize human-nonhuman relationships in novel ways (Karkulehto et al. 2020). The genre provides a place in which to speculate and experience non-human agency, with the understanding that the non-human plays a role in materially and semiotically influencing their portrayal in stories, including the ways we perceive, represent, and write about them (Herman 2018). However, it is also important to note that the agencies of fictional characters, including the nonhuman ones, are mediated and dependent on the processes of creativity and interpretation of *human* producers and audiences (Karkulehto et al. 2020). Rats in particular are entangled with the history and image of New York City, creatures ("vermin") that are normally confined to underground spaces like sewers and subways (and seen as invaders when they find themselves in businesses and apartment buildings), thriving in "other" spaces that provide a "cracked mirror image of the surface world" (Hovanec 2025, 70). In this alternative future, however, the rats have ascended from the dark and damp underworld to inhabit spaces newly absent of human presence and activity. The rats are seen making clothing out of trash and scraps left behind by humans, cooperating amongst themselves and with other species. They also demonstrate environmental knowledge in the form of navigation, as seen in the rats leading the human characters to where food was being cultivated.

Humans in this world have adapted by developing a seaweed-farming practice, which the author added after being asked how other stories shared during the story circles might be informing the creation of their own short stories. She said:

> …from our first meeting, I remember there were a lot of stories about food and gardening. I wanted to make one of my little sections in my story about food, like where they're getting their food now that the big farming and all the companies are not providing that… I had the idea to have them farm seaweed because the oceans come in so they can use that to their advantage, and one of [MF's] stories was about seaweed harvesting. (PN)

This was in reference to an earlier story told about a participant's family's practices harvesting seaweed in Chile. This is an example of what I intended by linking story circles to fiction writing. In this case, a participant shared a story about an experience and practice they found meaningful that another participant was able learn about and incorporate into their own constructed future world. I largely see this as a successful example of what I was hoping for in constructing this project in the way that I did, starting with story circles as a place for people to learn about other lived experiences with environment and climate change, fostering intercultural competencies. In creating the world in this story, the author learned about a cultural practice and lifeway that could serve as a mode of adaptation in her own story. It became a solution in a world facing a new set of challenges that could benefit from knowledge afforded by people with different lived experiences and ways of interacting with their environments.

This story is interesting to me in the way that it decenters the human, and positions the human within a novel (if not a bit wobbly) interspecies assemblage that emerges out of catastrophic environmental change. Throughout the project, the author made it clear that her compassion and concern extends beyond the human, and this story strongly speaks to a desire for greater consideration of the animate *others* with whom we share the planet, in discussions about climate change. In the other stories in our anthology, animals appear but play fairly minor roles, often seen as background characters that show that human actions do have unfortunate impacts on other living beings. In *Untitled (1)* by FB we are confronted with the image of a starving and injured dog (a companion animal) and in *Where Did You Go?* by MF we are told that animal

lifeways (but with no specific species mentioned) have been disrupted by human light and sound pollution. In *Beyond the Grid*, supernatural beings make up the majority of non-human or more-than-human representation (though angelic, or humanoid in nature), except for the caterpillar that is saved from the side of the road by a child and her mother. *Untitled (2)*, however, goes beyond and explores non-human agency, and positions non-human animals as self-motivated actors also working to adapt to a climate-changed world, albeit through an anthropomorphic lens.

Because this is a type of fantasy like the stories, myths, and fables from across the globe and throughout human history, this is a very human story told through the perspective of human-like others. It is interesting that the species selected for the story include rats (villainized but social creatures that exhibit cooperative behavior, and who have been exceptionally good at colonizing and adapting to nearly every corner of the Earth), octopi (strange, sentient and otherworldly creatures with acute intelligence and adaptability), and orcas (charismatic, highly social creatures that have captured the hearts and imaginations of people from outrage over their uses in zoos and aquariums, to their involvement in incidents of sinking boats in global waters in recent years). The animals featured in this story possess intrinsic qualities and exhibit behaviors that are resonant with the human experience; qualities from which we might learn for our own adaptation and survival in the climate crisis, namely cooperation, resilience, and resourcefulness. This story does not present a realistic or accurate depiction of animals adapting to climate change, but I argue that it does not matter in this case. By embracing fantasy, the author was given the freedom and space to explore climate change from a human perspective while using—as so many have before her—animals as characters and symbols that expand on our experiences as humans living in a more-than-human world. Through this story, we can glean that the author a) cares deeply about non-human animals, b) is critical of the hierarchy of species that places

human beings above all other life on Earth, and c) the belief that interspecies relationships are key to surviving the climate crisis. She communicates this through a story that is whimsical and adventurous—a fun and engaging read that provides plenty of distance from our own world with which to explore climate change.

Evaluating Impact of Participation

Each of the stories told throughout the *Imagining Climate Futures* project—whether elicited, prepared, or crafted—provide a rich variety of experiential information that speak to one another and shed light on how participants make sense of the worlds they inhabit and their visions of a climate-changed future. Over the course of six meetings over a seven week period, we gathered to discuss climate change, sharing our lived experiences, identifying points of resonance and unpacking our ideas about climate change and the future. Of the eight of us who came together in this project, four stories were finished to be included in our anthology. Each story illustrates an alternative future that reflects the ideas, anxieties, and hopes of its author—and by extension the group—providing insight into the values and worldviews held by the participants and how those inform their visions of the future.

The *Imagining Climate Futures* anthology features the constructed future worlds of four individuals experiencing and grappling with the realities of climate change. In her story (*Untitled (1))* a locally-engaged activist illustrated a grim future in which the main character makes the challenging decision to stay behind as people are forced to flee the city, selflessly offering her seat to a child; a climate-concerned and community-minded high school senior tells the story (*Where Did You Go?*) of a character who mourns the death of their home planet as the rich take to the now not-visible stars; a Christian woman and aspiring playwright dreams up and dramatizes a supernatural future in which those who try to do the most good they can in a

wasteful world are rewarded with paradise (*Beyond the Grid*); and a high school senior with aspirations of studying biology and ecology imagines a future in which new multispecies assemblages form to adapt to climate change, and the perceived hierarchy of humans and animals is subverted.

Gathering to discuss real lived experiences through discussion prompts and story circles prior to the creation of the climate fiction stories allowed participants to unpack their own understandings of climate change, and created a space for them to share and learn from others in a non-intimidating way. Through sharing personal narratives in story circles and discussing within our small group, we built relationships across generations focusing on climate change, allowing participants to reflect and have conversations they otherwise might not be having in their ordinary lives.

In her interview, one participant said about working with some of her friends who also participated in the project:

> My friends and I never really talk about [climate change]. I don't know why. I don't know if we're all too busy with school or something, but it never really comes up. I think it was really insightful to have to hear what they think in a space where it was welcomed and there was no pressure, like it wasn't being graded. I really value that. (MF)

Another participant said about the story circle portion:

> it was pretty good to hear from different perspectives and generations, just to kind of tap into what they have experienced in their lifetime and what they most connect to. I think it can be a little eye-opening, especially like the more youth you get involved. Overall, it was good. I've never really shared any of those types of stories to that extent, so it was nice to have the circle to be able to do that, and just kind of exchange thoughts and feelings that were similar and hear different perspectives. (FB)

And another shared:

> It was interesting just seeing everyone's perspectives and also like seeing how much climate change impacts everyone. I think I'm just not a worrier in general, so hearing how worried everybody really is… hearing how impacted especially our younger participants were—that's like something they think about pretty regularly it seems. I was

> like ‘wow, these are very insightful young people that are, you know, about to graduate high school and come into college and it kind of gives me hope for the future that kids care that much, because I really wasn’t like that. (TW)

Going into this project, I felt that I was asking quite a bit from my participants, having them meet for seven weeks to tell personal narratives and write short stories, especially as some of the participants did not consider themselves writers and at least one participant did not feel well-informed about climate change. I knew that some people may be nervous about their differing knowledge levels and writing abilities, but I took steps throughout to reassure participants that their voices and perspectives were welcome and important, and that the project was designed to allow them to explore using writing as a creative tool without having high expectations for the quality of their writing.

One participant shared that she was initially intimidated because she wasn’t sure what the expectations were as she had a vague idea that she would be writing stories.

> It ended up being a lot more relaxed that I anticipated. Like I thought it was going to be much more intense and I wasn’t sure about the people that were going to be there either. I think because of the age difference of most of the people we had there, at first it relaxed me and also made me feel more like a leader in the group because I was the oldest participant for a while, and then when we had the two other people come through Zoom, that was fun too because they added something more with heir storytelling abilities. (TW)

And regarding writing, one participant said:

> First, I was kind of scared going into it because I felt like, ‘ok, this is like about writing and sharing stories’, and I’m not particularly good at that… I learned that it’s not so bad. Like, coming up with ideas, I feel like I was scared of it because I was very self-critical about the stuff I came up with. But it’s like getting to hear from other people and realizing it doesn’t need to be perfect. It doesn’t need to be this revolutionary idea, but it’s just like things we noticed day to day. That helped a lot. I mean the writing component too, I know my story was kind of short, but it was like more things that I saw in my day-to-day life that applied to like, what would a future look like with that? (MF)

And another shared:

> I’ve never done anything like [writing climate fiction] before. I tend to really be someone who always writes like non-fiction stuff. I journal in my notes app, so my phone is

> completely full of quotes and poems that I come up with. So this was the first time where I took like a lot of the background that I have when it comes to being involved in environmental justice organizations and workshops, and was taking a lot of that information and kind of piecing together a story of how it would look if it was some years down the road here in Tucson, because it's not that far away… this project gave me the opportunity to actually write it and dig a little bit deeper. (FB)

In general, I feel that this project was a success despite the short timeline, and based on the feedback that I received from interviews, it would appear that this experience was positive for the rest of the group as well. Based on this, I do believe this project provided a meaningful experience for those involved to come together and explore climate change and futures through storytelling and fiction-writing, sharing food and engaging in conversations that they may not normally have in their day-to-day lives.

In analyzing climate fiction stories featured in our anthology, I was surprised to find that the majority of them tended toward what we as a group often referred to as "doom and gloom" (doomerist, pessimistic thinking) within the group, especially as from the outset I had asked people to consider practices, traditions, and beliefs that felt hopeful and resilient to themselves personally. In hindsight, looking at the types of conversations that we had throughout the project, it makes sense to me that anxiety and grief would be potent places of inspiration for the fictional worlds that would be made through this process. Thinking about my own creative practice exploring climate grief and anxiety, I think it is important to create space to sit with and explore these emotions, and I think that climate fiction-writing is a creative practice that can provide the space to do so in an accessible way, especially when it is coupled with and grounded in dialogic and community-based gatherings. Again, one of the strengths of climate fiction is its ability to allow writers and readers to experience life in a risk society (Bracke 2020), and perhaps it is this possibility of venturing into life at the extremes of the climate crisis that informed the creation of the stories in this project.

CONCLUSION

Over the course of six meetings over a seven-week period, seven participants with connections to the Tucson area and myself engaged in multiple processes of sharing, discussing, and crafting stories that draw from and expand upon our lived experiences and perceptions of climate change. Through discussion prompts, story circles, and fiction-writing, we learned from one another about how we as individuals see and make sense of the world living in a time of climate crisis. This is made visible through our discussions of the histories and beliefs that shape our views and understandings of climate change, and in our explorations of grief, anxiety, hope, and resilience. In turn, we assembled an anthology of climate fiction short stories that allow participants and readers to visit worlds made in response to what emerged through our time unpacking climate change together.

As a narrative form, climate fiction allows writers and readers, or rather *worldmakers*, to imagine life in risk societies from a relatively safe distance, similar to scenario planning. I assert that using the form of climate fiction—and specifically one that is inclusive of speculative and fantastical elements—as a mode of worldmaking alternative futures provides rich possibilities to experientially process and communicate information about climate change and the future, both in the making of those worlds and through sharing them. Through what I have learned in facilitating and participating in this project, I argue that engaging climate change through storytelling in a group setting and grounding fictional stories first in testimonial accounts of life under a changing climate invites plurality, intercultural competency, empathy, and has implications to positively position non-academic experiential knowledge held by community-based stakeholders in research about climate change futures.

Through working together on this project, we tapped into the concept of palimpsestic memorialization attributed to the work of Octavia E. Butler, by collectively shoring up and reconstituting parts of our own personal histories, abstracting them into narratives in which to safely explore and share them, "weaving real life into fiction and memory into archetype" (Bailey and Jamieson 2017, 6). The worlds we inhabit provide context that we may think of as the old writings (the palimpsest) on top of which these new narratives are written. This research, emphasizes the role of each of us as worldmakers, with our personal histories, worldviews, and beliefs working in tandem to shape the future; but also acknowledging the wisdom and knowledge that our experiences provide in helping us to understand the climate change related challenges of our present world. It also informs how we might imagine, conceive of, understand, and navigate future worlds. In the stories shared throughout the *Imagining Climate Futures* project, both fictional and non-fictional, we learned that participants intuit aspects of environmental and climate change issues from their own lived experiences, personal networks, the media, and larger political entities—their personal palimpsests.

By providing spaces for individuals to air grievances, discuss challenges, as well as share observations and solutions, the impacts of climate change may become more salient and a place from which to learn about the beliefs and experiences of others. The creative possibilities afforded by fiction-writing as a practice may allow for that saliency to be explored and transformed in ways that offer deeper insights into how people relate to climate change presently and the uncertainties of future worlds. This may also prove to be valuable on a personal level as individuals may have the opportunity to engage in conversations and practices related to climate change that they otherwise may not be able to in their ordinary lives. This is important, because, according to a Gallup poll from 2025 (Saad 2025), 48% of adults in the United States anticipate

that at some point, climate change will pose a significant threat to themselves and their lifeways. Social gatherings to discuss climate change, coupled with creative practices like climate fiction-writing may serve as important tools for researching people's experiences of and attitudes toward climate change. *Imagining Climate Futures* provides a place for people to find much needed community to explore climate change together, and to develop intercultural understandings about others living through the climate crisis, deepening personal understandings of climate change in individuals living in a risk society. Many of these experiences overlap with what we see in many established works of climate fiction. We are all collectively moving into futures altered and estranged by the effects of anthropogenic climate change. Creative practices that reinforce our role as worldmakers and reflect our personal histories and contexts will be crucial for navigating the uncertain—but perhaps at times predictable—futures we will find ourselves in.

Reflecting on my experience facilitating and participating in this research project, I have been able to recognize several areas where I could have performed better in both roles, though there are many aspects of this experience that I feel were successful. In designing and planning *Imagining Climate Futures*, I wanted to emphasize learning about and engaging imaginatively with the experiences of others. This is why story circles were a useful tool given their use in developing intercultural competencies. I intended for this form of engagement to manifest in the fiction-writing component of the process by having participants explore and embed specific references or themes that they personally identified with while listening to the stories of other participants. This did happen in small ways (the rescuing of the caterpillar in *Beyond the Grid* and the adaptation and use of seaweed farming in *Untitled (2)* for example), although I could have been more explicit about this expectation while providing instruction. Furthermore, the personal pocket notebooks that I distributed could have been more effectively utilized. I had not

intended to collect them or analyze them but rather offered them as a place where participants could write down their thoughts as they listened, as well as their responses to the discussion prompts. More emphasis could have been placed on using them for journaling about their experience throughout the project, leaving the door open for them to be another tool for analysis as well. In the future, if this project were to happen again, perhaps in a classroom setting, emphasizing incorporating overt and direct references to either moments or themes selected from listening to the experiences of others would strengthen the process. It would offer clearer insights into where people's perspectives and experiences meet (for example, highlighting a mutual care and concern for non-human animals) or where they are curious or inspired (integrating a practice they learned about from another participant, in the case of seaweed harvesting, that could be useful in adapting to climate change).This would contribute to making the process feel less personal and solitary, rather making it a group effort to create worlds that reflect diverse experiences and ideas, not just those of the author. We are all worldmakers who shape our realities together by making decisions and living our lives every minute of every day, the stories we imagine and share bout climate change, and the future should reflect that also.

Coming full circle, when writing *The Parable of the Sower* (1993) and its sequel *the Parable of the Talents* (1998), Butler did not live to see that, in fact, the historically Black community of Altadena—hauntingly similar to the community of Robledo she made—would indeed burn, displacing hundreds of people like the characters in her books. However, through her observations, scholarly and experiential knowledge of her own world, she was able to see something like it coming. In reading the Parable Series, I felt like I too walked with the character Lauren Oye Olamina as she navigated change as a result of societal collapse and climate catastrophe, gathering people around her and those she met along the way, working together to

adapt and survive their new world. If poems are houses for spirits, as Joy Harjo (2008) says, I think creative stories about the future of climate change written by us and for us, can be houses we can furnish with our fears, our grief, our hopes, and our dreams; that we may see in them what we value in the world, lose them, find them, and inspire us to create worlds where we might never lose them again.

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APPENDIX: IMAGINING CLIMATE FUTURES CLIMATE FICTION ANTHOLOGY

This section is devoted to the short stories composed and shared by participants in this research study in their entirety, with minimal editing for errors while maintaining the original content.

Untitled

FB

By the time the heat became unbearable, America had already gone dark in more ways than one.

Education was the first to go...funding was cut, schools were shut down, and only the elite had access to college, which had become a tool for the regime to maintain its power. So, millions were left without the skills to adapt to the changing world. The workforce crumbled as jobs vanished, wages stagnated, and automation took over. Healthcare became a privilege, not a right, with hospitals shutting their doors, leaving entire cities without doctors. Retail chains disappeared, leaving ghost malls and centers and empty shelves. And then, the power went out for good.

The power grid, strained by relentless heatwaves and decades of neglect, failed across multiple states. Some cities flickered back on; others never did. Arizona was among the ones that never did.

By 2055, Tucson was no longer a city that was recognizable. Monsoons had become erratic, the rivers had dried up, and the heat never yielded. Most people fled north, chasing the last habitable zones. But Marisol stayed...

Marisol was born in Tucson, AZ and raised in the foster system where resiliency was key and nothing was ever certain. Throughout her adolescence she had watched her city slowly decay and crumble. She had seen families forced to choose between food and water. She had seen elders drop dead in their homes because they couldn't afford cooling. The government's tight control over essential resources only worsened the situation. The production of food became monopolized by select few, and access to basic necessities were tightly rationed. She witnessed firsthand how the elite had their share, while others barely scraped by. In the midst of all this, she watched the foster system abandon her at age 16, like so many others, leaving her to fend for herself. Her survival skills led her to a live-in nanny position for an élite family, and it was due to this connection that she was able to attend the now highly corrupt University of

Arizona. But she was driven by the desire to understand the systems keeping this city in disarray so she focused on controlled agriculture-learning methods in managing food production-knowing these skills would allow her access to plan for the future in secret. It was now 2060, the year when thousands fled north, escaping the harsh conditions. As a working student at the University, she stayed behind—until the announcement came that July 29th would mark the final bus departures. Marisols feelings were conflicting up until that day because she had a seat on the last bus....

July 29, 2060

03:42 AM – I woke up drenched in sweat yet again...so I know the cooling unit must have shut off again. The staff grid access is barely holding on, and most of the city's power is rationed for transit stations and the last standing emergency shelters. The last bus leaves today at 7pm. I couldn't get up right away the doom held my body down, or was it the sweat and sheets sticking to it...Either way I stare at the ceiling, counting the cracks and seeing them form figures from starring too long...I don't really have a choice not to leave, there's a seat with my name on it. I'm just here pretending I have a choice.

05:15 AM – When I stepped outside, the heat was thick, like an open oven. I remember when I looked at the thermometer it was 97 degrees before sunrise...I remember when this was prime time to go hiking in the summer...

I decided to go on a walk, as a final goodbye. Just a slow walk trying not to overheat myself. I could still remember what downtown looked like...my footsteps echo in the empty streets as I'm reminded of the stories I was told growing up of when COVID hit and the streets stood still. But this is a different kind of eerie. Most buildings are boarded up or were gutted, materials and parts were needed so now they were skeletons. Even the streetlights are gone because they were scrapped for their copper wiring. I'm just saying goodbye I remind myself....

07:00 AM – I made my way to the university's tunnels which we renamed the agrivaults, aka controlled food facilities. They were once a desperate experiment to grow food beneath the burning city and now there's rows of empty hydroponic trays and the last of leafy greens. The mycelium chambers are still glowing faintly, the bioluminescent fungus pulsing like a heartbeat. I press my palm to the wall as I always do.... It's cool underground, safe, but only for so long.

As I'm walking again, I see one last market is still open, but there's really nothing left to sell. I could hear a man bartering for water in the distance. As I kept walking, I saw a dead javelina. Its feet were curled up almost as if it was trying to run and escape this heat hell....

09:45 AM – I heard all the shelters started pushing people toward the station. There are still a few shuttles taking families from downtown, but most people have to make the journey on foot. It's already 120 degrees at 10:30am outside and I saw a woman collapse in the shade of a broken bus stop. No one helps her though. I stop by my last home I lived in before I was tossed to the street. The front door hangs open, and the oven heated wind tumbles dirt inside. All the

memories I had here, from my first kiss to the dog my foster parents had haunts me...But all that's left now belongs to the fiery heat now.

The asphalt started melting underneath my soles as I kept walking...I could feel my boots stick with every step I took. A dog limped past me, ribs pressing against its burned skin. I tried to call it over, but it only stared before disappearing into the ruins of a gas station.

02:15 PMish- is about when I got to the station, the crowd was already gathered. The bus won't leave until sundown, but people have been waiting here since last night. Some of them won't make it—heat exhaustion already setting in, bodies slumped against walls, too weak to fight for a spot.

I still don't know if I'm getting on.

03:50 PM – A fight broke out over water. The last vending machine was cracked open hours ago, but someone claimed there were bottles hidden in the debris. Someone pulled a knife-then the man stumbled back, clutching his side. The sun keeps rising.... The radio crackled at about 5:10pm saying "Final boarding in two hours. Last transport out of Tucson. No further departures." The guards then closed the gates. No one else was getting in.

06:30 PM – People press against the barriers, desperate to be counted, to be let through. A woman sobs, pounding on the metal as the guards ignore her. I shifted my pack on my shoulders and thought to myself I should feel lucky—I have a spot.

At 7pm the final call is made. The guards shouted for order, but it was complete chaos. There were hands grabbing at the doors, pleading, pushing, shoving. And then right about as I'm second in line to get on I hear someone crying out. A little girl, clutching a torn backpack, her mother crying and yelling out next to her. Then, without much thought I step back and tell the guard she'll take my space. The mom thanks me sobbing, kissing the girl's forehead who couldn't be more than 12 and gives her a paper as I overhear her telling her the ways to contact family up north. And so the girl takes my place. The doors squeak shut. The engine roars to life and the girl waves at me thanking me loudly out the window in the back.

This was the LAST bus heading north.

Where Did You Go?

MF

March 5th, 2072:

The rich insist on inhabiting mars and they get closer to their goal every year that goes by. After wasting most of Earth's resources on their mission and most importantly, running out of money, they thought of a solution. Use the new satellite technology developed to broadcast non-stop advertisements in the sky. Giant light up billboards, big enough to make sure anyone can hear and see what new plastic product to buy. Of course nobody was happy about this. Instead of listening to us and stopping this, they offered those who could afford it a new way of life. A one-way ticket to the space station. A giant chunk of metal that orbits the planet. It has everything they could possibly need until the billionaires make mars livable. They couldn't stand the sight of what they did to our world, so they fled to something empty, meaningless. The worst part is that I want nothing more than to be there if it means I can get my peace back. I noticed how things in this world slowly changed. Plants wouldn't grow like they used to. Having so much light messed with their growing patterns, so food became unpredictable and scarce. The bats didn't know where to go, nocturnal animals couldn't catch their prey. Most other animals couldn't get used to the constant noise and went underground. Those in the sea that used the stars to guide them were wandering aimlessly like most of us on land.

It's nighttime now and I'm mentally preparing for my next shift at the factory. Guegui used to tell me stories about how when she was overwhelmed, she would find the moon in the sky and talk to her. She would make conversation with the stars and planets from a distance and ask them questions about life, friendships, relationships, and just why everything happened the way it did. If she were here, she'd tell me to go talk to her. If she were here, she'd know the moon was now impossible to find. My dream is to become an astronomer, one of the only scientists allowed a free ride to the space station to get to study the stars without being interrupted by the billboards. I wasn't ready to leave everything I knew behind, but it seemed like that was my only option. I miss those moments of peace and quiet. Silence is now a privilege a select few have. I look up at the night sky and wonder how many people are thinking the same thing at this exact moment, trying to find the moon to seek advice. Maybe it's dumb, maybe it's stupid to hope that things could change but one thing's for sure. The world has been breaking apart for years, decades. What will it take? What has to change? What has to start? What has to end? What more will they take from us if not the moon and our stars to make a difference?

Beyond the Grid

TW

5:00 a.m. and my alarm clock is whining at me that I have to get up now. It's time to sit and drink coffee for 20 minutes while I dread going to work on this assembly line. I used to work for a social services nonprofit, and now? I've become part of this machine, quality checking the absolute trash that PlasThick, the cheapest, newest, worst, but most popular clothing company gets drop-shipped daily from China. It's all in that name; our society, everyone wanting to bet BBLs and make sure that they never have to do laundry, fix their old clothes up, thrift, learn to sew, or be seen in the same outfit twice. Every month, they can just order a new wardrobe for $10. It's always disgusted me, but as someone who just lost her home, as well as her perfectly curated vintage, thrifted wardrobe that took years to cultivate, of course I have no other option but to dawn these rags upon my now growing (in the wrong direction) body. The stress of losing our home, starting this job, and the state of the world in general has me ordering DoorDash every week. Not like I can afford it, but their little deals tab, along with the promise of not having to do dishes, or fight about who does them, is too much to resist right now. With what little mental energy I already have, I've been trying not to think too much about what I eat, but I know it will catch up with me.

Open Uhaul boxes line the path to the front door. Inside them, everything we could grab to get out before the hurricane hit. Hurricanes in Denver were never something anyone would have prepared for, but no one could have predicted a hurricane coming in from Baja California would have been so large and so powerful that it reached us all the way in our land-locked state. We thankfully evacuated before it got to level 5, but watching the devastation on TV was like watching a movie. We hadn't taken it seriously enough, and for that, we lost a lot of sentimental items. Photo albums in storage, old love letters between my grandparents, newspaper clippings of them and their parents, genealogy work the Mormon side of my family had done. I wanted it, not so that I could get them baptized in heaven's waiting room like they did, but just because...it was part of me.

Two weeks ago, my husband, Paolo, and I settled in this little town outside of Tucson, Arizona. Marana. I still am not quite sure how they pronounce it here, with the hard or soft A, but it seems a little suburban in some parts, a little redneck in others. The part we mostly see is desolate and gives me end-of-civilization vibes. The only thing that's keeping this town going is PlasThick. I never thought I would work on an assembly line, but I never thought a lot of things that happened would happen. I'm hoping this will be temporary, but there's no telling what the future holds.

I clock in at 7:27, three minutes until my shift starts. Paolo trails behind me, unenthused. His back still hurts from lugging all of the boxes from our tiny sedan into the new apartment. The only place we could find quickly enough was on the third floor. Each time we go up, I miss our old home, but I try to think positively about the calf muscles I'm building. It's pretty hot already for April, so I know I'll be burning a lot of extra calories this summer. I guess that's where the extra food I've been inhaling can be used, so it's not a total waste. I miss our little

yard, the future we were attached to, the pictures on our walls that we couldn't get down fast enough while the sirens were wailing in our ears.

He coughs, "What's the point of doing quality control when we know that none of this stuff is quality?"

I laugh, hiding my smile in front of the security guard, "Simmer down. We're lucky to be here."

We walk to our separate areas, our badges beeping, letting me into zone 8 and him, zone 11. I watch him walk down the corridor as the right side of the door with a handle shaped like a 'T' closes next to the other side with a 'P' handle.

I walk through my door, ready to scan some boxes for quality control. Recently, the company has had some complaints about random bugs and even animals getting into the clothing packages, so we have new thermal scanners. Paolo thinks that PT might be trafficking live animals, but there's no other proof for that right now than TikTok videos. It's hard to tell what's real and what's dramatized to get the algorithm to go crazy.

Waving the scanner over the first box of the day, my price-gun shaped device beeps and a little 1 is typed in the right corner. On the left hand side, a timer starts at 10 seconds. I have less than 10 seconds until I need to scan another box. My work bestie, Marquis, walks in, sashaying and twisting his cap from back to front. I scan another box's barcode and look at the middle number, showing 119:00. That's how many minutes until I can take my first break of the day. I've never worked in an environment like this, and frankly, I'm not a big fan. Marquis grabs the scanner he's recently bedazzled and exclaims, "Good morning! How are you bitch?"

I sigh, "Another day, another dollar honey."

"And that dollar sure does make us holler, huh?" Marquis laughs and scans his first box.

"Mar," I scan my fifth box, on a roll, "what do you wanna do when you grow up?"

Marquis fumbles with his scanner, "Anything but this babe...Wait, Corrie, why does my scanner already say I've scanned 12 boxes?"

I shrug, "Hand it over. Let's see...it keeps going up, but there's nothing there." I glance around the room, to see who the supervisor on duty is, shouting over the sound of boxes falling down the chute and onto the conveyor belt, "Beth! Can you get Marquis a new scanner?"

"Here hun," she yells back, "but don't bedazzle this shit! They're gonna think we're unionizing!"

"Oh my gosh, Beth, don't say that too loud. The cameras will start zooming in on all of us!" I yell back, laughing because it's probably true, but there's nothing we can do about it.

I go back to scanning and chatting, but within a minute, my scans are at 34. I know I've only done about 15 max at this point, especially with all the commotion.

"What do you think is going on, beth?" I take the batteries out of my scanner and she rummages through some boxes, seeing if she can find some new ones.

"Wait, Corrie, have you ever seen anything like this?" She curiously inspects the back and front of this shirt with an iridescent quality that I've never seen before...because we don't make anything like that. It could be some kind of prototype but why wouldn't it be in a design room? As she hands it over to me, it falls through my hand. I can feel it fall, so I know it's real, but I do a double take. Am I seeing things? beth and I look at each other, her pupils enlarging. Then she looks at the ground, where the shirt is now.

"I...handed that right to you. You didn't drop it, but it's on the ground."

"Yeah," is all I can sputter out.

"But I was holding it."

"I don't know," I shrug.

She reaches down to pick it up and as she does, three little glowing fingers come up from out of the tile and grab the corner of the shoulder section of the shirt. They drag it to nowhere, slowly disappearing into the tile, along with the fingers. Beth and I instinctively jump, away from where the fingers were.

"Should I...?" I gesture to the ground, to Beth, indicating that I want to investigate. I squat down and put my hand where the other hand was. It's solid ground, but we're both afraid. Will I get sucked in? Could we fall in? What is this?

Beth touches my back, "Let's go. We should get out of this area, maybe warn people?"

"Warn them about fingers coming up from out of the floor? People will panic."

"I don't know, but we've gotta tell them something. We can't just pretend that didn't happen."

"What if we were drugged or something?"

"I haven't even drank water since I got here. Did you eat anything?" She's very animated now, her eyebrows wild with concern.

"Not since I've been here. What if someone like...poked us with a needle when we

walked in?" I slightly laugh at how ridiculous I sound, but what just happened was also so ridiculous.

"Let's go see if anyone else feels drugged," she grabs my arm and leads me out of the utility closet. We stand there, watching the conveyor belts, boxes coming down onto them like hail during a thunderstorm. Something new, created every second, for someone to never have to worry about wearing the same thing twice. What an embarrassing thing to experience. I look over at Beth and tell her, "I say, we go back to our stations and act like nothing happened, but slowly start asking everyone if they've noticed anything weird happening with their devices today or any new clothing coming in."

"Deal," she pats me on the back and I walk back over to my station with Marquis. He keeps scanning, but his device says 1247 now and I've only been gone for about 5 minutes.

"I'm just not gonna say anything about it," he laughs, "my numbers are gonna be so damn good, I'll get promoted in no time! And you know Garrett likes a man with CEO vibes."

"Garrett? The one in receiving? Ew."

"What?" He gasps. "Ew? He's a zaddy!"

"Oh no baby," I laugh, "I think you can do so much better than that old man." Marquis smirks and looks down, "I like 'em old." He shakes his head, like he's in on this inside joke between him and himself, but I can tell that he really does like Garrett and I feel a bit guilty.

"Well...he's got a nice smile I guess," I went back to scanning. After about ten normal looking boxes, still with double or triple scans, I look up to see that behind Marquis' back are two glowing objects.

Candace, an older lady at the conveyor belt behind us gasps and points. She runs up behind Marquis, "Honey, honey! Are you...okay?"

He's startled, "Yes, why, Ms. Candy?"

"Well honey, you've got some wings on you or something." Her eyes dart over in my direction and she sternly, quietly asks, "Am I getting dementia?"

"No, Candace, I see them too..."

Marquis can't see them because they're behind them and seem attached to him, the outline of wings, made with golden light.

"Does anything feel different?" I ask.

Beth runs over when she sees us all stopped and looking.

"No!" He shouts, panicking.

Candace's quality control partner, Pat, is just staring, with his jaw on the floor. Boxes begin piling up at the end of the conveyor belts.

Beth yells to her security team on the radio, "Close the input to QC, we've got an emergency here. We're gonna need about 15 minutes to get back on track."

"Roger," Tomás replies.

A few boxes fall off the edge of the belts. Now, our quality control team of 44 people are all zeroed in on Marquis' back. He keeps trying to look behind him. Beth tries to touch them and her hands go through them, like with the shirt.

She yells, "HAS ANYONE ELSE NOTICED ANYTHING OUT OF THE ORDINARY TODAY?"

Another lady, 5 or so belts down from us, Gwen, shrieks, "Hands! Hands!"

We all look down and on the conveyor belts, remnants of glitching hands are fading in and out, but they're on the conveyor belts. They're picking up boxes, they're scanning, they're holding devices. On every single one of our belts.

Slowly, I feel that I'm drowning in a rhythm of chanting and drums. It's engulfing me, swallowing my reality, my sense of self. I gulp, trying to get the discomfort to go down my throat. The lights flicker golden and in each flicker, I see outlines of wings on every single one of us. I don't know what color mine are, but some are gold, some are black, some are white, some are luminescent rainbow, some are pink, blue, green, purple. I stare in awe, wondering what on earth this could mean. Are these the angelic versions of us? Are we all dead?

Beneath my hands, another pair of hands is scanning. Is this why our numbers were goingup so much higher?

This pair of hands, daintier and moving with more fluidity than I can, is not part of me. They scan slowly, almost like I'm watching a slow motion video. I move my hands to see if the other pair of hands will mirror mine. They don't. Beth watches me closely and does the same thing. The hands close to her move differently than hers do. These hands are not ours. These wings are not our wings. So what are they?

Beth's counterpart, Tomás, a grouchy 60 year old man with wide hips for a man, and a muffin top, opens the security door with his badge. He huffs, the lights flicker slightly and everything is back to Costco white.

"It's been 15 minutes," he grumbles. "Beth, can we get back to business or what?" I look around to see everyone staring at Beth, Marquis and I like they haven't been a part of all this, and I start to really wonder if just the three of us are going crazy.

She stutters, “Uh, sure,” as we both look at each other and then down at the pile of boxes on only our conveyor belt.

My scanner shows 15 seconds left until my break. More time has gone by than I thought. Nothing is making sense, but at least I can rush back to Paolo and see if he’s experienced anything similar.

Paolo walks out of door 8 as I’m clocking out. He comes up behind me, whispering, “Babe, let’s take our break in the car.”

I get chills as he touches me. We head down the marble hallway, speed walking until we get to the top of the cement steps outside. He takes my hand and interlocks his fingers with mine. He smiles at me, “We’re leaving,” and through clenched teeth, quietly adds, “right now.” We get in the car and calmly buckle, and I whisper, “you saw something too!”

“Babe, I can see them right now,” he says, panicked.

“What are you seeing? I saw stuff but I don’t see anything right now.”

“You have wings,” he whispers fiercely.

“Oh...shit. I can’t see them.” I try to look behind me, and then I pull down the visor, opening up the mirror, as Paolo drives out of the parking lot. I see them. Mine are light green. I wonder if they have been there this entire time and who can see them.

As he turns onto Linden Street, I see a grid of what looks like sound waves, pulsing above the PlasThick factory. The smoke coming from it is turning into sparkly particles that start to connect to the grid, forming circles that keep turning and turning up toward the sky. Obviously not everyone could see this or they would all be stopping in their cars and taking videos. *A video! That’s exactly what I need to be taking.* I turn my camera on and tap the screen a few times to try to get it to focus, but it’s not catching any of this. It doesn’t see what my eyes can.

“Am I crazy, Paolo? Are we crazy?”

“No, but I don’t know what’s going on. I know what I’m seeing. Don’t worry.”

“Shit,” I mumble, hopeless. This can’t be good. It’s not obvious if it’s bad either, but there’s no way this will lead to something good. “Paolo,” I ask, hesitantly, “I feel like we’re already abandoning this place, but we just left Colorado a few weeks ago. I’m not ready to go somewhere new. And we have so much stuff...”

“We’re not leaving yet,” he cuts me off, “We’re just seeing what’s going on around here. I want a better vantage point. If we can get up to Mount Lemmon, maybe, we can see if that weird grid is only above PlasThick, or if it’s above anything else. Maybe dimensions are changing or something.” His speech is so much faster than normal.

We're stopped at a light and I watch this little girl with her mother. She kneels down on the ground, putting a tissue onto the pavement and waiting for a few seconds for something to crawl on it. It's a tiny green caterpillar. She carefully cups it in her hands and gently places it on a leaf. Her mom hugs her and they watch the caterpillar. The outline of dark green wings appear on her back.

"Do you see that?" I say as the light turns green and we start to go.

"I did. I've seen others too," he says. I can see this look on his face, the same look as when we were watching the weatherman in Denver warn us of the hurricane coming through, off the coast of California. It was unlike anything in history, so we didn't immediately take action. But that left us in a state of panic when the rain started pouring, and the winds were rushing harder at our home than we'd ever heard in our lives.

I snap back into the present, realizing, "They appeared right as she placed a caterpillar on a leaf. Have you noticed what colors people have?"

"I've noticed everyone has different colors, but I don't know what they mean," he adds. Of course, we've both only seen this change in the world within the last few hours.

We keep driving and driving. We're not heading towards our home. I ask Paolo, "Where are we going?"

His lips turn downward a bit, focused, and that little line between his eyebrows gets deeper. "Wait...I missed the exit."

I intently stare out the window, trying to see what the next exit number is. How far have we gone? I see that the exit number is in the 300s. "Babe," I nudge him, "those letters aren't..."

"That's not English!" He yells.

Ahead of us, a large checkpoint. I know we haven't been driving long enough to be in California, unless this is some kind of time loop, like we got abducted and it's 3 days later or something. It's only felt like about 30 minutes at this point. I've never seen this check point. "Emissions?" I ask him.

We're at the back of a line of about 7 cars, 5 different lines or so on either side of us. Above the bridge, another grid of sound waves that's blocking our vision. We can't see beyond it. This was never here before. Almost everyone is driving a beat up car, like ours, or something that's a hybrid. Not a single truck in sight, I notice, for some reason. I guess because Tucson is normally filled with them.

A man with a peculiar green and white uniform approaches a car that's three up from us. When he turns around, he has bright golden wings, so bright that they're almost blinding. Paolo and I just look at each other, our jaws open.

“Are we dying?” He asks me.

I can’t answer him because I feel nauseous. My whole world, my life, my belief of what is reality, is spinning inside of me like a tornado, about to come up and be wretched out. While I’m having the most intense panic attack of my life, we’re inching our way up, almost at the front of the line. A woman with gold skin is working the booth. Her skin gleams as the sunset hits her crisp jawline.

“I need to see both of your IDs,” she asks.

Paolo gives her his and then gets mine out of my wallet for me, as I’m still too stunned to move. I really think we’re about to go to heaven.

“You’re entering on the poison clause,” she says as she writes down “EP” on two golden ticket stubs.

“What? We’ve been poisoned? Are we dying?” Paolo asks, panicking.

“Where you’re about to enter... is the New Earth. It’s more beautiful than you could ever imagine. Most people who get to be here, get to enter because they’ve consistently made good choices. You two... you worked at a factory that was about to give you both cancer in about 10, 15 years. Plus, you’d lost your homes in a fire not long before that. Our leaders here believe in giving people like you a break. That’s a lot to endure.”

The man with golden wings chimes in, “Plus, it doesn’t hurt that you’re light green. You recycle, care about animals, you’re not too shabby I’m guessing.”

The gate is lifted and I ask, “But where do we go? Like we can’t go back ever?”

“You’ll see, it’s still your world. It’s just a different dimension,” she says quickly, handing us the stubs. “You can get out with these, but you’ll see...you won’t want to. At least not very often.”

Paolo and I look at each other, confused, unsure, but we drive through. As our car pulls through the gate, the grid shakes, and the colors change. The blur hiding everything from us before wobbles and makes itself clear, and the car simply unravels. We’re left standing on a grassy hill. Everything is green and I’m immediately reminded of my childhood. I used to imagine how God made the world, and when I would play outside, living in downtown Denver, cars honking as they drove past my driveway, I would imagine they were horses. I would try to see past the present, into what the Garden of Eden may have been. How there were streams of living water that we all had access to. How no one would be hungry when there were fruit trees and vegetables coming out of the ground in abundance. The animals wouldn’t be slaughtered; they would be playing and grazing.

“Of course,” I say, grabbing Paolo’s hand, “this is how it was always supposed to be.”

“What do you mean? You saw this coming?” He laughs, looking all around us in awe.

There are chickens and goats and sheep running around, butterflies taking turns visiting the different, brightly colored flowers. I shrug, “It just makes sense. The solution is not to do, but to undo.”

Untitled

PN

The Canoe

I built my canoe from scraps that floated into my apartment over the years. Water seeped slowly through my broken third-floor windows, and with it came books, bed frames, a trash can lid. I hit the jackpot when a chunk of a billboard floated in and hit the side of my waterlogged couch. A forgotten Broadway show scratched me in the ribs, actors with painted faces and furred ears hissed my name until I sat up. The remains of New York City gathered around me, calling out, dragging me up from my soggy grave and beckoning me with renewed purpose. Cat people became the floor of my canoe.

The water rose stealthily, and a month later, when I tied on the last scrap of wood, it had consumed my couch and was lapping hungrily at my dusty countertops. With my curtain rod as a paddle, I tested out my hand-made boat. Floating in my living room, I couldn't stand straight up, but the canoe held me. I rescued my empire state mug from the counter and paddled to the windows. Shards of glass twinkled up through the water as I ducked under the empty frame. I reached down and saved one as I paddled through. It dropped into my mug with a soft wet clink.

Outside my apartment, I looked into the grey sky for the first time in months. Its acrid light burned my eyes, and I looked back down. Stretching out on either side of my small boat were deep canals, dark rivers that filled what were once streets. Skyscrapers flanked these rivers and formed the walls of canyons extending into the distance. I looked back at my flooded home once, then pushed off the wall and rowed on.

A hitchhiker peeked its pink nose out from behind my mug, whiskers tipped with dewdrops. And thus, I became the taximan of New York City.

The Audience

Carla stepped tentatively onto the wooden platform she had built the previous month. It was meant as a place where she could get some fresh air, look at the sky, watch the pigeons high up in the roofs of the ancient buildings surrounding her. Today, she stood barefooted on the wood and leaned forward, turning her head to peer first left, then right, down the still waterways that filled the city streets. Not a soul in sight, and no movement from pigeons above. Carla stepped up to the water's edge and sat down, letting her feet hang over the side of the platform and dip into the cool water. She looked down into the depths and let her mind wander.

After a few minutes, Carla noticed small ripples in the water's surface, moving in from the left. She snapped her head up and saw a figure floating on the water, growing slowly larger. It was a man standing up on some sort of homemade boat, paddling with his one oar on alternating sides: left, right, left, right. Carla stood and backed away from the water as the man

and boat arrived and docked at her platform. She watched his face closely. She saw him wave in her peripheral vision and saw his lips part to begin a sentence.

Hello, she read off his lips. *I am the taximan. Do you need a ride?*

Carla was about to shake her head when she caught a small movement from the floor of the canoe. A rat, partially hidden behind a mug, poked its head over the rim to peer at her. In its tiny hand it held a bottle cap, which it dropped into the mug before falling onto all-fours and creeping around to sit in full view of Carla. The rat stared straight at Carla for a moment, then turned its head to the taximan, pointing at him with its nose. Carla turned too and caught the last of what he had been saying: ... I call him Solomon. She looked back down at the rat, who was now looking back at her again. It raised its tiny hand and waved. Surprised, Carla took a step back but kept watching the creature, who was now signing fluently. My given name is really Greyfur. But I don't mind this guy. He lets me keep all my treasures, the rat – Greyfur – was saying. Carla breathed a laugh and sat down, glancing at the taximan. He had his oar/curtain rod set on the edge of her wooden platform, keeping the canoe firmly in place, and he was watching the rat and the human converse with mild interest. Carla returned to the conversation and said, I've never spoken to a rat before. Greyfur tilted his head and twitched his whiskers, the common rat mannerism equivalent to a smile – though Carla did not know this yet.

Greyfur responded: *Come with us and see the colony. Unless you have anything else to do*. He repeated the head-tilt- whisker-twitch.

Carla's curiosity won her over. A talking rat and nothing better to do was the perfect recipe for adventure. She stood and stepped tentatively onto the canoe, sitting on an upturned plastic bucket at the front, and as she settled, the rat scampered past her towards the taximan. Greyfur climbed quickly, spiraled up the curtain rod, balanced across an arm, and stopped at the taximan's shoulder. He produced a paper clip from the folds of his skin, bent it out with an effort, and pointed it forward with a dramatic flourish. the taximan twitched the corners of his mouth, the mild amusement of remembering the familiar quirks of an old friend. He lifted his oar from the platform and dipped it into the water, and the canoe and its inhabitants floated away, directed by the rat's outstretched limb, unfaltering like a compass drawn to the north.

The taximan knew they were there before Carla did. The sound of thousands of busy scampers and excited chitters were audible well before they rounded the bend and emerged into a lake which must have once been a park. Carla's eyes had blurred watching the movement of the water against the passing buildings, but she immediately noticed signs of non-human interference: Rats had constructed scaffolding that crawled up the ancient architecture, tunnels that reached into the stomachs of decaying skyscrapers, and as Carla watched, rat faces revealed themselves from holes in the walls and gazed at the humans passing by. Further into the lake, the tips of long-dead trees stuck up pensively from the water, and tethered to one by a thick rope was what must be The Colony.

It was a giant barge teeming with rats who looked like they had somewhere to be, and quick. they had built roads and bridges and tunnels and homes out of trash, long abandoned by

the humans who had lived there before. As Carla stared in amazement, rats ran along roads, climbed up ropes and stopped briefly to consult others before moving a book or a wooden plank. The intricate mess of pathways and structures was an amazing feat of engineering.

As the taximan pulled his oar from the water, Greyfur made a loud chirp and dozens of rats on the edge of the barge looked up. Carla saw this change and turned around to look at the rat she knew, who was still sitting on the taximan's shoulder. Greyfur began squeaking and chittering quickly while signing at the same time. what he signed was similar to - but not exactly - what he said to the rats. I have brought humans to see The Colony, is what he signed. Bring forth the Emperor. At once, the group of rats who had gathered to listen to grey-fur broke apart and organized themselves into lines, then proceeded into the tunnels and disappeared. Moments later, a hatch in the side of the Colony opened up and a procession of rats dressed in colorful trash adornments marched out, followed by rats carrying a tiny palanquin in which sat a large, dark brown rat wearing a headpiece of bottle caps. Onlooking rats fell silent and Greyfur directed the taximan forward. Rows of rats tugged ropes that pulled a platform out from under the colony, onto which the taximan stepped and crouched at Greyfur's command. The procession stopped in front of them and the Emperor hopped down from his palanquin.

What do the humans desire? Signed the Emperor.

The taximan made no move to answer, so Carla started: I *don't know. I am here because I have*
nowhere else to be.

what do you desire? The Emperor repeated

Carla looked at Greyfur, who gestured: *Go ahead.*

Food. I want food. Carla said.

Very good. The emperor replied. He lashed his naked tail behind him. *We have information for you. And what can you give us in return?*

Kelp Us Kelp Them

The instructions from the Emperor led us to Central Park. So, this was where the farmers had established the fabled kelp farming initiative.

There didn't used to be kelp in New York City. But once it arrived, it became an important food source for those of us still left. Rumor has it that a traveler from the west brought it over years ago along with knowledge of how to grow it. They say she sailed into the city on a riverboat stocked with seaweed clippings and buckets of specimens from the kelp forests across the continent – or what was left of it. In a different time, there would have been outcries about invasive species and the balance of ecosystems, but hunger outweighed these concerns. We needed the food; Local cod populations were almost gone from hundreds of years of overfishing, and warming sea temperatures only added to the issue. The kelp, however, grew rapidly in the

warmth that resembled the conditions of their native Pacific coast.

The traveler picked up followers and soon, New York had a group of kelp farmers proficient in the practice. Central Park was the perfect location – water filled the area like it filled the rest of the city, and parts of it were more than 30 feet deep. It took me long enough to find it. Well, I suppose I have the rats to thank for that.

I was lost in thought when Carla, Solomon, and I reached the northern edge of the park. I started rowing straight toward the floating barges where a few farmers were crouching and dragging kelp strands out of the water. A sudden splash and shouts from the barges had Solomon chattering worriedly in my ear, shaking me from my daze. I pushed my oar through the water vigorously and as we approached the nearest barge, it was clear that someone had fallen in.

We docked and I threw a rope around the nearest wooden post while leaping off my canoe onto the wood. I felt Solomon's sharp claws pierce my skin through my shirt as he tried to maintain his grip on my shoulder. Carla climbed up behind us and we ran over to the other end of the long floating platform, dodging baskets of seaweed freshly abandoned to the commotion.

One of the farmers was thrashing wildly in the water, their head scraping the surface then going under again. Another farmer was leaning over the edge and caught onto the other's arm. More people rushed in to try to drag the drowning farmer out of the water, but they seemed to be met with resistance, a backward tug of something from the deep. I surged forward to help and glanced back to see Solomon signing furiously to Carla, who had a fearful expression on her face. She saw me looking and moved to follow me, and we both joined the line of people pulling the farmer out of the water. We tugged and with great effort, they came flying out of the lake and scrambled frantically for purchase on the barge. They lay still for a moment, breathing hard, then sat up and looked at their ankle.

Wrapped around their ankle was a thick strand of kelp, tied in what was clearly a slip knot and pulled tight. For whatever inexplicable reason, I turned my head, and it was then that I witnessed a long orange arm covered in suckers reach out of the water onto the barge. Following after it came the large orange body of a Giant Pacific octopus. It stared at me intently, puffed up its skin into defined peaks and rolled lines of red and white across its skin. I realized too late that it was a distraction. Behind me, two more kelp lassos shot out of the water and caught two more farmers in their slippery trap. They were dragged underwater before I could finish turning.

That was a mistake. The moment I turned to respond, the gigantic octopus, now behind me, made an incredible leap at my back and stuck there. I fell to my knees as its tentacles began weaving around my throat, and I clawed at the arms to no avail. Panic was setting in when Solomon scampered into view and began chattering madly once again and thumping his tail against the wood. I couldn't process what was happening – all I knew was that Solomon caught my attacker's attention and the sticky arms let up slightly, allowing me to gasp for air.
Then the strangest thing happened. An actual orca, huge and black, surfaced next to the barge and blew a jet of water into the sky. The octopus immediately released me and leapt off my back straight onto that of the orca's. It wrapped its long arms around the orca's dorsal fin and the two disappeared into the water as quickly as they had arrived.

The Problem with Making Deals with Rats

It wasn't supposed to go this way. This was a major slip up. Rats are purveyors of information. Such people shouldn't make deals that end this way without the intent of doing so. Yes, humans may be inferior, but I never intended for any to die. We didn't consider that two deals wouldclash so spectacularly.

Here's how it happened:

Deal #1: The octopus

The octopuses, upon their arrival, were our immediate enemies. An outside observer might say that we were in fact very similar, but apart from our wicked cleverness and propensity for deal making ... the similarity ends there. Rats work as one. One colony, working for the good of all. All rats, that is. We are unified, but octopuses? I could never figure out their motivations. And their mystery made them dangerous.

Our first encounter with an octopus happened while I was working on the Edge. We were expanding the outer rim of the colony to support our growing population. I was in the middle of tacking a plastic bottle on with bubble gum when a giant sticky arm rose out of the water and flopped onto the landing. As is protocol, I and the other rim workers dropped our jobs at once and reported to the scene to defend the colony. We were stabbing the arms – there were now three – with paper clips when the head of the beast emerged and stared at us with intelligent eyes. I stopped my stabbing and so did the others. A messenger rat arrived bearing orders from the Emperor: *we were to raise the platform and allow the beast an audience.*

Sitting on the sidelines, one in a crowd of thousands, I watched the Emperor's procession stop at the edge of the platform, on which sat the octopus. The Emperor stepped down from his palanquin, glossy fur rippling. The octopus sat still.

Communication was less of a problem than you might expect. Humans drastically overcomplicate things in the communication department. Adverbs? Who needs them?

The Emperor held out a hand and an attendant promptly brought his stick – a black colored pencil. Five short taps followed by a scrape of the pencil along the floor away from his body. Simple language for Question: *you want?*

The octopus replied with the same scraping motion, also towards its own body, then reached forward and snatched the colored pencil out of the Emperor's hand. I could hear his offense from the middle of the crowd. The octopus pressed the pencil tip to the wood of our greeting platform and started drawing. A long oval, top half colored black, triangles sticking up and down. The Emperor called his council. An orca, they decided.

The Emperor stuck out a tiny hand and when the octopus made no move to return the pencil, he sent a delegate to retrieve it. The rat ran dutifully up to the octopus's tentacle and pried the pencil out, returning quickly to the safety of the group.

The Emperor tapped one hand on top of his head, then did four taps, two in front of him then two in front of the octopus: *Understand. Exchange*.

The rats did have knowledge of a pod of orcas on the southeast edge of the city, near where the skyscrapers ended and the water became an uninterrupted plane of ocean. A recent expedition in search of materials had seen them jumping out of the water playfully and notably not being ridden by octopuses. I guess that particular development had been our fault after all.

What did the octopus promise us in return for this knowledge, you ask? It promised us buckets and buckets of the finest glue with which to build even more spectacular colonies to expand the rat empire. Did the octopus ever return with this glue once it left in the direction of the orcas? No, no it did not. We have since revised our deal policy to prohibit promises as payment for our knowledge.

Deal #2: The humans

I had known this taximan, as he called himself, since he built his canoe. I happened to be on a solo mission to gather bottle caps when I stumbled across a man standing on a boat in the middle of a flooded apartment. Rats are curious beings, so naturally I crawled over to get a closer look and somehow found myself in his canoe, using his mug as a container for my bottle caps. He noticed me when he rowed out the window but didn't seem to mind. Since then, I've grown fond of this human and have stuck around him often.

You see, on the Colony, we aren't allowed many personal items. It makes sense – rats love to collect trinkets, but on a floating island with thousands of residents, we can't all have huge hoards or else we would sink into the depths. Each individual is allowed five personal items as long as they're each smaller than a head. But this becomes terribly difficult when I'm out scouting and I just must keep every little screw and bolt I find. Luckily, I've found myself a taximan who lets me deposit anything I want in the mug, and in exchange, I sit on his shoulder and chatter in his ear because I know he must be desperately lonely.

One day, we were cruising along down a narrow canal, and I was sitting on the bottom of the canoe sorting my bottle caps when the taximan stopped the canoe. I jerked my head up and saw, over the rim of his mug, another human. As the taximan greeted her and told her the name he called me – endearing, really – I walked out from behind the mug and signed my real name to her. I hadn't expected an answer, but she surprised me by signing back. I decided right then that she should come to the Colony. A human who also signed would be of great use to us. One big obstacle in interspecies communication is the difference in vocal capabilities, but signs allowed a more cohesive method for communication. She had bigger hands - easier to understand, therefore more deals negotiated for the rats. That was my thought process, anyway.

When we arrived, the Colony was bustling with activity, as always. As we approached, some of my brethren looked up and one addressed me with an update on the octopus situation: “octopus seen heading west, riding orca. Kelp remnants trailed behind in strange knots.” I see in hindsight the connection between this kelp and the kelp farms we sent the humans to, but at the time I didn’t think anything of it. As the boat docked, I raised my voice to announce the arrival of the humans. This I signed as well, but in rat chatter I added that the humans could serve as allies against the octopuses if we played it right. How wrong I was – it turns out that against octopuses, humans are just as defenseless as rats.

The deal making process was aided by the fact that we had a human who could sign, so the Emperor did not have to waste time interpreting rudimentary drawings and having his pencil stolen. It was a quick deal. I would lead them to the human kelp farm and the humans would lend their fingers to the cause - building up the Colony’s infrastructure. Our true intent, however, was to keep the humans around as defense against possible octopus attack.

The Crash of Plans

Then, our plans came crumbling down at the kelp farm. A human fell into the water and I thought they were tangled in the kelp, but when I ran to the edge of the water, I saw that a knot of kelp was deliberately tied around their ankle. It was at that moment I knew that the octopus was here and we had to get out of there. I tugged on Carla’s pant leg and signed to her in a panic, the octopus is attacking. We need to leave. Her eyes widened but she turned and ran to help pull the human out. Sure enough, there was a slip knot of seaweed tied onto their leg, and fear coursed through me. I stood helpless as two more humans were dragged to their dooms.

I never would have predicted that an octopus would be riding around on an orca and lassoing humans, dragging them under the waves. Was it to feed the octopus’s ride, to keep it happy? I didn’t have a clue. All I knew at that point was that yet another deal had failed; the humans wouldn’t be able to defend us from an octopus, not in their state. But still, when I turned and saw the octopus stuck on the taximan’s back like a giant parasite, I had to act, if only to save my friend. I stood right in its line of sight and chattered and thumped my tail hard on the wood three times: warning. Then I swished my tail back and forth once, hoping it would be enough. Too much. To my surprise and immense relief, the octopus loosened its grip, and when its orca returned from its meal, the octopus leaped away easily and left on the giant mammal’s back.

I dropped to all fours and turned slowly around. The humans were clumped together, sitting still, stunned. The taximan stared off into the distance. Carla sat with her bare feet pressed against the wood of the barge, as far from the water as she could be on the thin floating island. After a few minutes, the taximan returned to his canoe and bent over, pulling out what he had brought to trade for some food. It was a bundle of blankets kept miraculously dry, and he handed them out one by one to the remaining farmers. They accepted dully.

More minutes passed and eventually, the taximan and Carla returned to the canoe and rowed away, taking with them one basket of seaweed and a rat soaked to the bone. As I shifted a metal bolt between my cold hands, I wondered whether rats are really as smart as we think we are. Is anyone?

What could the humans have done about it, really? The octopus seems to have carved out a new way of life. Us rats are doing well enough, living off the scraps of an old, dead civilization. But the humans, their memories are too long. The past lives in them as if it is the present, but what is done cannot be undone. Adaptation is survival. And all we can do is survive.