

**Tomorrow's Book: Artifacts in the Anthropocene**

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Abstract

**Tomorrow's Book: Artifacts in the Anthropocene**

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The Anthropocene is our current epoch in which the Earth's environment and residents are heavily impacted by human influence. While many people recognize the possible future effects of Anthropogenic change, such as rising temperatures, biodiversity loss, increased levels of atmospheric carbon dioxide, and extensive waste, it can be difficult to imagine how the world might actually alter. Narratives allow us to weave diverse ideas together to relate to the experiences of others and grasp abstract information. Design can also act as a storyteller—speculative designers bring attention to present societal issues while designing artifacts for the future. What artifact could be better to tell stories than the book? It has been a notable part of many human histories, from stone tablets to the printed page. The book's form often reflects the current technological and cultural points in many societies, so what forms will it take in the future? This thesis explores the creation of three books that address future Anthropogenic projections: extensive waste through a nature poetry anthology, biodiversity loss through a cookbook, and increased levels of atmospheric carbon dioxide through a field guide. These iterations use design as a storytelling tool to make these distant challenges more approachable and personal, communicating to readers how their futures, as well as the book's, will need to adapt to the changing world.

*Tomorrow's Book:  
Artifacts in the  
Anthropocene*

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# Preface

IN AUGUST 2019 while preparing to move from Pennsylvania to Washington state, I had to make a personally tough decision.

*What books could I bring with me?*

My partner and I were filling our 1984 Volkswagen Vanagon with all of our belongings, selling or giving away the rest. Whatever could fit in the van was all we would bring.

I probably owned a hundred books, collected over twenty-four years. I brought sixteen of them—some were practical, like a field guide of the Rocky Mountains. Some were sentimental, like the poetry books I read on the train when traveling home from school in Pittsburgh. I had to contemplate what a book meant to me in that moment, and what was worth keeping as my world changed.

We spent three weeks driving across the country. We passed through ten states, from the Mid-Atlantic and Midwest to the Pacific Northwest.

Being in new places made it apparent how much the Earth's environments have been influenced by people. I didn't realize how much the land in the Northeast where I grew up had been developed and deforested until driving through Wyoming, where there was nothing but black cows speckling the fields for fifty miles. Mount Rushmore, which sits on spiritually significant land for Native people of the Great Plains, has human faces carved into the side of the mountain (Amy McKeever, 2020). Yellowstone National Park is so preserved, except for the massive hotels near the entrance that house visitors from all over the world.

Subtle changes in these environments became clear too. I had never experienced wildfires until driving through dense smoke in eastern Oregon, where a gas station owner explained her worries about their more recent aggressiveness. We spent hours in hot temperatures on the road, which were more noticeable

Smoke in Oregon  
seen during our  
travels west.





since we were not able to conceal the discomfort of the heat with air conditioning.

Throughout this trip, I held onto the books that meant the world to me. But the shared world for humans and nonhumans is altering drastically, due to human influences. This experience forced me to think that if the environment is changing, how will human artifacts change along with it?



A few books I brought on the move to Seattle.



## Introduction

**THE ANTHROPOCENE** is our current geological epoch in which the earth's environments and residents—both human and nonhuman—are impacted heavily by human influence. Some of these impacts include rising water levels; change in land use, such as deforestation and urbanization; rising temperatures and more severe seasons; stronger and more common natural disasters like hurricanes, floods, droughts, earthquakes, and wildfires; biodiversity loss; higher levels of carbon dioxide; and extensive waste, which includes plastic in oceans, large use of land for landfills, and contamination of natural resources.

Even if people understand that our environments are changing, it can be difficult to imagine how our world may actually alter. In a survey that I conducted during this thesis with participants across the United States, China, Korea, and Russia, I found that people felt that while change is clearly happening, it was subtle and not personally noticeable for them. Participants best understood this complex information when sharing personal anecdotes with one another, consuming media stories, and using physical and visual cues.

I believe that storytelling is an effective tool for understanding abstract information, particularly when it comes to future-based Anthropogenic projections. Narratives can be simple ways to communicate complex data by allowing us to weave diverse information together to relate to the experiences and struggles of others (van Dooren, 2015).

I also recognized that design can often be a wonderful storyteller. Through areas like speculative design, designers are able to bring attention to present societal issues while planning and designing for the future.

What better way to tell stories than the book? It has been a notable part of many human histories—from stone tablets to the printed page. In “Material Metaphors, Technotexts, and Media-Specific Analysis,” Katherine Hayles says, “Books are

The Industrial Revolution acted as one of the catalysts for the Anthropocene.





going the way of the human, changing as we change, mutating and evolving in ways that will continue...to teach and delight” (Hayles, 2002). The book’s form often reflects the current technological and cultural points in many societies, so what forms will it take in the future?

Designers are heavily involved in the creation of artifacts, including the book. The Industrial Revolution introduced a surge in design as a recognizable field. But it also acted as one of the many catalysts for the Anthropocene (Tsing et al., 2020). As the Earth continues to change, designers need to consider not only how to produce work that will not cause further damage, but how our artifacts may need to adapt due to the adjusting conditions. How can design approach the challenges of Anthropogenic impacts and collaborate with the Earth’s environments, rather than exploit them?

While I ask a lot of questions throughout this thesis, one in particular became my main inquiry: how might the book effectively communicate the future impacts of environmental change to a present-day audience?

Friends and news articles

life experience, social media, infographics - documentaries especially

books, movies and mockups of those abstract ideas

anecdotes, “imagine if...”

Anecdotes really help me.

News articles, talking with friends and family

Doing my own research or going to friends and family

Part of the difficulty in grasping future affects is that we talk about it in future context. It doesn’t feel real, or present. Even when I see images or sign, it still feels very removed from me.

Visuals like diagrams, movies, renderings

Visuals, public speech’s by experts, news articles / podcasts

anecdotes, pictures, videos

Responses from the survey about what helps with grasping complex information.



The van cooling down in  
eastern Wyoming.





Feral Atlas  
Tsing, Deger, Keleman Saxena, Zhou

The New  
Anthropocene  
Zalasiewicz, et. al

"Other species,  
as well as  
nonliving things  
make it possible  
to have

"...n  
force  
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other

The 'Future Book' Is Here, But  
Not What We Expected  
Craig Mod

"...the universe  
that produces,  
breathes life  
into, and  
supports books  
is changing  
positively

Anthropo  
human "

The Matta-Clark Complex: Materi-  
als, Interpretation + the Designer  
James Goggin

Docu-Desi  
Elizabeth

"The book should  
subjectively  
comm

The  
Form

Vancouver Art Book Fair:  
Transcribing the Body Public  
Clara Balaguer

"When does a  
book die?"  
you've

## Foundational Research

17

TO FURTHER EXPLORE how the book's future physical form could shift due to the challenges of the Anthropocene, I conducted research in a few ways. This included secondary research, expert interviews, rapid sketching, a survey of personal experiences tied to Anthropogenic change, and a group bookmaking activity. After finalizing this research process, I synthesized the overall findings that developed from all of these methods.

### Secondary Research

DURING SECONDARY RESEARCH, some of my main focus points were the meaning of objects, present and future Anthropogenic impacts, how to design for far-in-the-future societies, a history of the destruction of books and censorship, design for humans and nonhumans, and the designers' role as an interpreter.

With such a wide range of topics, I found it helpful to compile the most useful secondary research into a zine series. This four-part collection features 6-7 readings, videos, or discussions per zine. This includes a quote from each source that I found impactful as well as a brief description of its overarching ideas. While it was really enjoyable to make the zines, they also continue to help immensely when quickly reviewing the main points of research, like the importance of storytelling in conservation and design, the argument that the physical book has a stronger case for lasting longer than digital formats, and the need for designers to think about the present even when designing for the future.

### Expert Interviews

I TALKED WITH SIX EXPERTS including a climate researcher at the University of Washington's Climate Impacts Group, a Human Centered designer with a focus in Post-Humanism, a sustainable graphic design studio, a small publisher, and the curators at the University of Washington Special Collections.

A four-part zine series provided a central source to the main ideas in research.

During the interview with Guillaume Mauger of the University of Washington’s Climate Impacts Group, we discussed observable Anthropogenic change in the Pacific Northwest and how the group utilizes storytelling when collaborating with local communities. We also talked about how climate factors are interconnected. For example, if Washington has a particularly dry summer, there will be less snow in higher altitudes. If there is less snow, there is less snow runoff. With less snow runoff, there is a greater risk of lower amounts of available water to power the city of Seattle which highly depends on hydroelectric energy. One event can cause a ripple effect that contributes to other consequences.

Michael Beach, who is a member of the Human Centered Design and Engineering department at the University of Washington, has co-facilitated design research groups in the context of climate change with Dr. Tyler Fox. We discussed human and nonhuman relationships, how storytelling can be a useful tool when designing for the future, and the need to be self-critical when working within the realm of empathetic design. I was fortunate to be able to join one of their research groups, *The UX of Climate Change: Western Red Cedar Dieback*, in Spring 2021 which allowed many of these conversations to continue on a regular basis.

Before beginning production, I had a discussion with Jonny Black from *The Office of Ordinary Things*, a studio that specializes in sustainable graphic design. He provided insight on what processes are actually environmentally-friendly in comparison to ones that fall in line with greenwashing, which is when a product is marketed as sustainable but is still problematic in its materials or production. For example, Black said that using post-consumer paper is a much better option than pre-consumer because the paper is made from materials that have already been used. Pre-consumer paper is often made from scrap pieces in the original production process and so they are just integrated in new production once again.

During a phone call with Vivian Sming of Sming Sming Books, a small publisher in San Francisco, California, we talked about what Anthropogenic change could mean for book production

as well as our connection to the object. One point that Sming made mentioned her background as an artist grappling with the idea of putting more into a world already overrun by too many objects—when Sming began making books, she felt like they were something that could “return back to the Earth” because of their common materials like paper and thread.

The last interview was with the curator and the assistant curator of the University of Washington Special Collections, Sandra Kroupa and Kat Lewis. The Special Collections houses and collects rare books through the institution’s libraries. We discussed looking to the past to inform the future of the book’s form and practices for preservation, considering how a future book is produced will depend on what that reader values. We also talked about the various definitions of a book—when asked how Kroupa defines a book, she grabbed a container designed to look exactly like Morton iodized salt. However, instead of the usual text we would expect on a food package, the words retell the biblical story of Lot’s wife turning to a pillar of salt after disobeying instructions. The story is told from the perspective of the wife speaking to Lot. Although it looks like an everyday object, the story is moving, poetic, and empathetic to a character’s viewpoint that was never accounted for in the original text.

Afterwards, Kroupa clarified her position about defining a book. “Try to define music. That’s what it is like to define a book. I have no right to say [to someone], ‘that’s not music.’” A book’s definition can vary from person to person—in many instances, the qualifier is the significance that is applied to the artifact by the individual.

Each of these conversations prepared me for the design process and production, providing guidance, expertise, methods, and inspiration for ideations.

### *Rapid Sketching*

FILM AND TELEVISION SCIENCE FICTION have portrayed the possible futures influenced by the Anthropocene for decades. These stories build worlds that are unknown to audiences, but



often reflect problems or even future projections that are familiar to them. I planned an activity to design books that could exist in chosen science fiction worlds, using the genre to practice adhering to the challenges of a world much unlike the present one.

In this exercise, I watched two science fiction films: *Mad Max* (1979) and *Prospect* (2018). These two were chosen because they focus on how humans have to adapt to an altered or uninhabitable world. The narratives are not centered around the very peak of this change—the characters already have some sort of awareness of these new environments.

In *Mad Max*, the characters live in a post-apocalyptic world, which is a consequence of a nuclear war over dwindling oil reserves. Although people have survived, their cities have fallen apart, the land is scarcely populated with long, dry drives, and there seems to be quite a lot of surveillance through the radio (Miller, 1979).

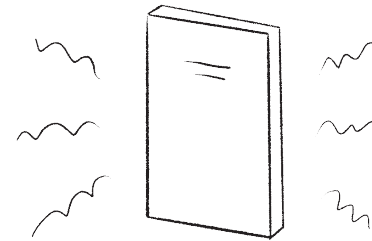
*Prospect* explores interplanetary living, mostly taking place on a planet called “The Green,” which looks like Earth but its residents are mainly ferns and trees. Human visitors must wear suits with filters to avoid being poisoned by the “dust,” or plant spores (Caldwell and Earl, 2018).

While watching, I wrote observations and details to define the worlds, noting pressing issues for characters and use of books or other media.

After watching, I took about twenty minutes to quickly describe forms a book could take in the films’ worlds. Afterwards, I made rapid design sketches of these descriptions to help visually explain these forms.

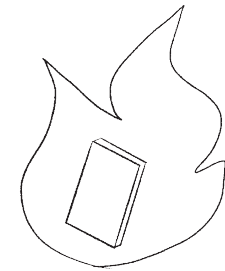
These sketches were great to practice pushing the boundaries of the book’s form today to adhere to the needs of a world outside our present experience. Science fiction also proved to be a good guide for designing within the Anthropocene. In “Less Than One But More Than Many: Anthropocene as Science Fiction and Scholarship-in-the-Making,” the authors write: “Science fiction is not a prediction about the future as much as

Book with aluminum covers to interfere with radio frequencies.



How might we design a book for free communication when the world is so heavily surveilled by radio?

Book that can be burned as an emergency oil reserve.



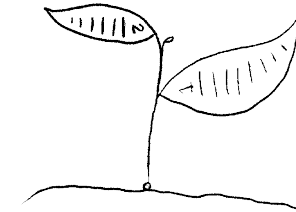
How might we design a book that can be useful in a pinch in a vehicle-based world?

Book as a bottle that can only be read while drinking spore-cleansing juice.



How might we design a book to distract from the pain of being poisoned by spores?

Book as plant, genetically modified to continue the story as it grows each leaf.



How might we design a book for a planet where only plants can thrive?

Sample books from the rapid sketches.

it is a thought-experiment about the present. The emerging field of the Anthropocene studies is a series of such thought experiments” (Swanson et al., 2015).

## Survey

**IN ORDER TO BETTER INFER** how people personally view present and future Anthropogenic change as well as how they learn about it, I conducted an online survey. About 60 people with experiences in areas like the United States, Korea, China, and Russia anonymously responded, submitting sliding scales on how much they are currently affected by today’s impacts and how much they expect future generations to be influenced by the same challenges. Some of these effects included natural disasters, invasive species, war, change in land use, extensive waste, rising temperatures, rising water levels, and air quality. Those surveyed also answered questions about how much they believed humans to have an influence on their environments, how difficult they felt it was to understand projections by researchers, and what helped them to comprehend abstract and complex information.

My hope was to understand what future Anthropogenic impacts they felt would be the most pressing in the future and if they could easily recognize the ones happening today. Previously mentioned in the Introduction, I found that storytelling tools aided in this comprehension of abstract information and that these environmental impacts were often ambiguous for participants. One participant commented<sup>1</sup>:

*“Part of the difficulty in grasping future effects is that we talk about it in future contexts. It doesn’t feel real or present. Even when I see images or signs, it still feels very removed from me...it feels short but far away. If we could grasp the urgency of that, and the immediate effects, I think that might help to make certain things more tangible.”*

## Group Bookmaking Activity

**WHEN EVALUATING THE FUTURE FORMS** the book may take, it is helpful to understand how people define the book today. To investigate this, I prepared a bookmaking exercise in my

<sup>1</sup>The response is edited to account for grammatical errors.

apartment with a group of four people. I wanted to observe this activity in person, so the group was kept small and selected based on who I had safe contact with during the COVID-19 pandemic. The participants were all adults in their mid-twenties, with two identifying as women and two identifying as men. Half of the participants worked in design fields while the other half did not.

To start, I asked the participants to write their own definitions of a book. Responses most commonly included that a book has paper pages with text and images on them to portray an idea or concept.

Next, I had them watch a short video by the *Art Assignment* that talks about making books with atypical materials to provide an introduction to the activity (Denzer, 2020). I then told the participants that they had twenty-five minutes to make at least one book. They could use anything they could find.

By no longer being tied to the idea that a book is just paper pages and words, the participants created objects that they might not have deemed a book thirty minutes prior. One participant bound tea bags together with thread. Another made “The Essence of Turkey Day,” combining aluminum foil used when cooking, tea they drank throughout the day, and paper from a bag that carried bread eaten during Thanksgiving dinner.

Photos were clasped together with a binder clip. Leaves from a plant were sewn together to make an edible book for a pet rabbit. T-shirts were wrapped around a hanger and could be flipped to see a progression of undershirt use.

It became clear that the definition of a book is incredibly fluid. While most participants still held on to their original descriptions, it expanded to much more than just paper and text. This experience provided a foundational point for designing books with future worlds in mind.

**NOTE:** While this activity was overall successful, feedback from participants showed that the video I used as an introduction felt a little unapproachable. The two participants that did not have backgrounds in design fields expressed this concern.

24 This feedback is incredibly useful, since an overall goal throughout this thesis was to ensure that the design outcome feels accessible and clear. If I were to facilitate this activity again, I would take inspiration from the video and curate my own introduction to ensure that it feels approachable to those outside of design and publication fields too.



Two books from the bookmaking activity.



artifact of <sup>analog or digital</sup> information  
contained  
within it  
- pictorial or written

- A BOOK IS A ~~CONCRETE~~ MEDIUM  
FOR TELLING STORIES OR  
CONVEYING INFORMATION, OFTEN  
THROUGH WRITTEN WORD IN  
A PHYSICAL FORM.

A BOOK IS A VISUAL  
REPRESENTATION OF  
INFORMATION TYPICALLY  
COMPRISED OF PAGES  
OR SECTIONS

pages  
text  
+ papers

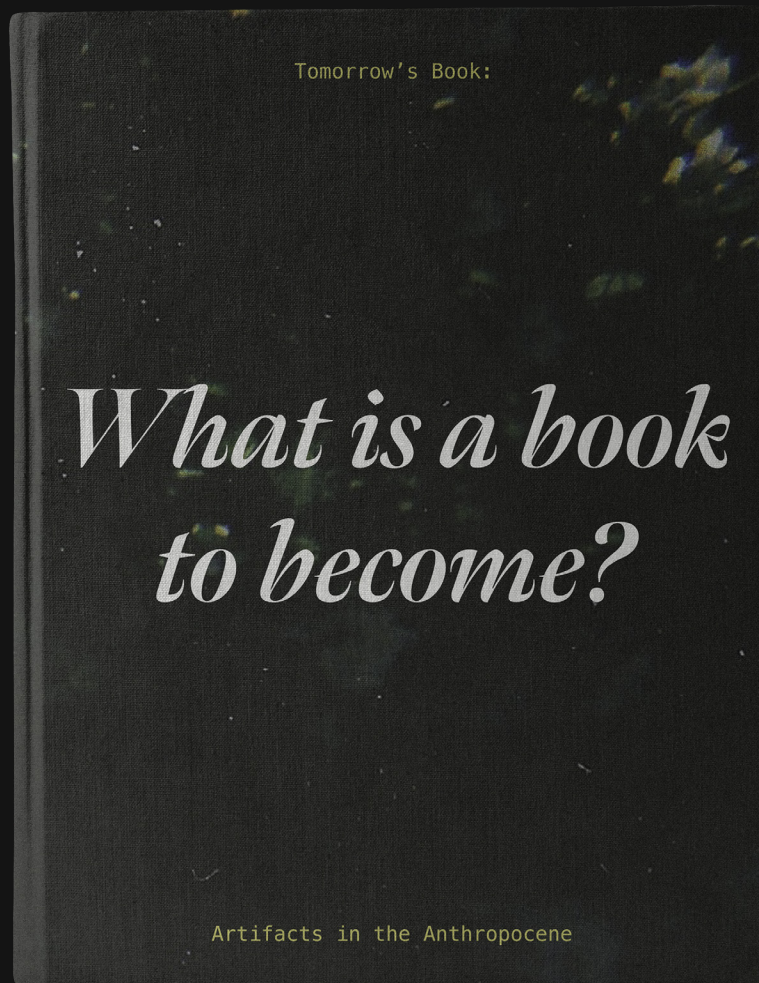
Ample  
thoughts

textures/colors etc  
can be considered  
rather <sup>along with</sup> than images

Series of things  
with a concept

A BOOK'S  
GOT PAGES





THROUGH ALL OF THIS RESEARCH, a few patterns worth noting emerged. These included storytelling as an integral tool for communication, fluid definition of a book, physical books as a better solution than digital ones, and overarching themes within Anthropogenic change.

### *Storytelling is an Integral Communication Tool*

IN THOM VAN DOOREN'S "Vulture Stories: Narrative and Conservation," he describes how stories, particularly straightforward and casual ones, are important for conservation because they provide simple explanations and a call-to-action (van Dooren, 2015). Utilizing factors like descriptive words and poeticism can help emphasize these stories as well. In "Speaking the Anthropocene," Robert Macfarlane says, "the moving shadows cast by clouds on moorland on a sunny, windy day. I mean, that's a story. And if you said, 'cloud moving,' it's not a story—it's an explanation of an action without any of that subtlety in poetry and lyricism that is the human relationship with the landscape" (Vaughan-Lee, 2019). Detailed narratives can be considered a human mode of perceiving the surrounding non-human environments.

Looking towards the future, I found in the survey that people often believe Anthropogenic change will be severe, persistent, and unable to be ignored in daily life. However, what that would actually look like is a little unclear and hard to imagine. Recognizing what these impacts actually look and feel like today is also ambiguous.

In "High Water Pants: Designing Embodied Environmental Speculation," Heidi Biggs says, "local, personal narratives about experiences of climate change are more ambiguous and complex than 'global' or large-scale narratives passed through media" (Biggs, 2019). Like stated in the Survey subsection, while many participants were aware of Anthropogenic impacts in

Visualizing research in book forms.



general terms, they seemed theoretical especially when they were not noticeable in daily experiences. This finding is not exclusive to the participants in the survey I conducted. In the Yale Climate Opinion Maps 2020 cited by the *New York Times*, their findings show that while “61% of Americans say climate change poses a risk for people in the United States, only 43% think it will affect them personally (Marlon et al., 2020; Thompson & Serkez, 2020).

I see the reason for this disconnection between global and personal climate effects as a lack of recognition of the more subtle changes in familiar surroundings. During the survey I administered, some participants seemed aware of this factor and were drawn to visual and personal storytelling tools in order to really grasp these future environmental projections. These devices made complex data and research more easily comprehensible for many of them.

The science fiction films I viewed during the rapid design sketching reiterated this point. I was able to view a fairly comprehensive story within two hours that built entire, unknown worlds and allowed me to empathize with the characters within them. These stories were so effective in explaining the worlds’ complex systems that I was able to understand them enough to design books that could feasibly exist within them.

In Ellen Lupton’s *Design is Storytelling*, she says, “designers invite people to enter a scene and explore what’s there—to touch, wander, move, and perform” (Lupton, 2017). By building future worlds through speculative books, design is able to act as an effective and poetic storyteller in communicating the effects of Anthropogenic change.

### *Meaning and Definition of the Book*

**READINGS ABOUT THE HISTORY** of the book’s form, such as Michael Clanchy’s “Looking Back from the Invention of Printing,” made it apparent that the book has taken many useful and widespread forms, from stone tablets to papyrus, manuscripts to the printed copy, digital tablets to PDFs (Clanchy, 1983).

The conversation with the members of the Special Collections reminded me that books reflect what we value and can provide a view into important cultural and technological milestones in many societies. Gutenberg’s printed copy pointed to the rise of literacy, since it allowed for greater accessibility to information. Digital tablets, like the Kindle, are connected to a society spending more time with digital screens, adapting the book to the convenience as well. Through world-building processes in this thesis, cultural and technological points in these speculative futures are effectively communicated through the books’ physical forms and other design decisions.

Books are also not just physical objects. They are ideas and personalities as well. Books were not burned throughout history for their physicality, but because they are a symbol of knowledge and power. In “A Brief History of Book Burning, From the Printing Press to Internet Archives,” Lorraine Boissoneault explains that destroying them is a way to control people, erase cultures, and censor thoughts (Boissoneault, 2017).

Books are much more than paper and text. In a study recorded in *The Meaning of Things: Domestic Symbols and the Self* assessing the symbolism of collected objects in the home, books were found to be cherished across generations. Chosen objects become reflections of people by providing a cultural model on actions and goals (Csikszentmihalyi and Rochberg-Halton, 1981).

Throughout the process of research, I had casual conversations with others about the books that were meaningful to them. Many of the comments revolved around the books that were passed down or given by friends and family, the handwritten annotations within the pages, and the discovery of old objects bookmarking pages. These conversations made me recall borrowing a novel from a friend in high school who wrote notes throughout the pages, even writing “haha, so funny!” next to jokes in the narrative. This changed my entire reading experience from a solitary activity to a more social one, making that particular book a more significant object to me. It became clear from these shared stories that books gain meaning from their use.

Because the definition of the book is already very fluid, there is more room to accept the ways that the book's form may adapt in the future.

### Arguments for Physical Books

THROUGHOUT THIS THESIS PROCESS, I was often asked why I should make physical books. Why would the future of books be anything but digital?

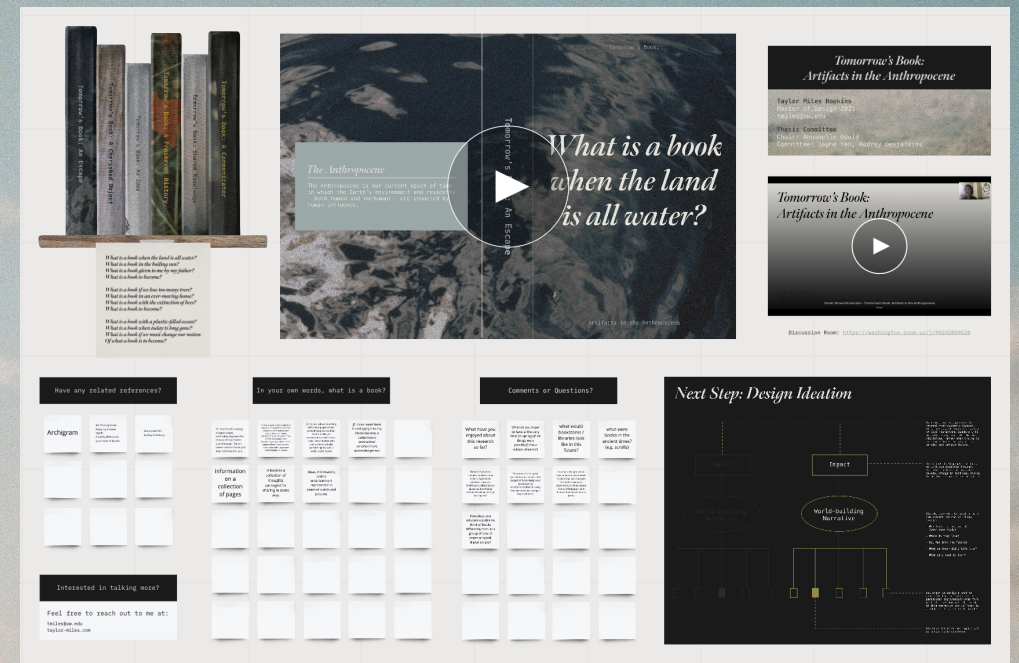
One point is that technology rapidly changes and quickly becomes obsolete. Will someone fifty years from now know how to use a USB flash drive, or even have the equipment to access the data on it? What if they come across one of the original iPhones? Even if it looks similar to technology of the future, without the correct charger it would more closely resemble a paperweight. Physical book affordances are analog and typically intuitive—all a reader has to do is open the cover and turn the pages. This entry of use is definitely an old technology, but one that has lasted.

Bookmaker Irma Boom explains this experience during her talk at *TEDxDelft: Manifesto for the book*. While designing the *SHV Think Book 1996-1896*, Boom was given the task to design a jubilee book that would last for 500 years. At first, she was leaning towards newer technology at the time, like CD-ROMS and DVDs. Later, she recognized why a physical book was the better choice, saying, “If we would have made a DVD of this book...it’s now fifteen years old—nobody could read a DVD anymore” (Boom, 2011).

I also find that many speculative design projects tend to be technocentric. When looking at typical speculations of the future of the book, Craig Mod says:

*“The Future Book was meant to be interactive, moving, alive. Its pages were supposed to be lush with whirling doodads, responsive, hands-on...The Future Book would change depending on where you were, how you were feeling. It would incorporate your very environment into its story—the name of the coffee shop you were sitting at, your best friend’s birthday. It would be sly, maybe a little creepy. Definitely programmable”* (Mod, 2018).

The MDes Poster show in 2020.





Yet, Mod goes on to explain that digital books have not changed much in the last ten years. What is becoming noticeable is that there are advantages to both digital and physical book options. Neither needs to erase the other—they can supplement one another.

I do not see technocentrism as a sole focus being a robust and comprehensive look at the possible outcomes of our futures. There are plenty of physical artifacts that we use on a daily basis and are bound to continue in many societies, so why are they often vacant from many speculative thought experiments? For the sake of considering future societies and how those people may interact with objects, I consider physical books as reliable and valid options to explore.

### *Overarching Themes in Anthropogenic Change*

**AS I BECAME MORE FAMILIAR** with research in the field of the Anthropocene, two specific themes stood out to me.

**1. EVERYTHING IS CONNECTED:** What do bees have to do with anything? Looking from afar, they seem fairly independent from other elements in our environment. We often see them outside around flowers, stay away from them in hopes of avoiding their sting, and move about our day.

Through the explanation from the Climate Impacts Group of how a dry summer could possibly affect the city of Seattle, I was reminded that everything is connected when we look a little closer. In 2013, Whole Foods partnered with The Xerces Society to show what their store would look like if bees were to become extinct. More than half of their products would be unavailable (Whole Foods Market and The Xerces Society, 2013).

Considering the impacts of the Anthropocene, one direct action does not have one direct outcome. In the digital publication *Feral Atlas*, the idea that each element in our environment is connected is very clear; through timeline illustrations, the publication shows that when one factor changes, it causes a ripple effect (Tsing et al., 2020). The Anthropocene is a wicked problem, which is an issue with no determinable solution because of many interdependent factors (Rittel and Melvin, 1973).

**2. THE ANTHROPOCENE IS PATCHY:** What this means is that the impacts of the Anthropocene will not affect everywhere and everyone in the same way (Tsing et al., 2020). While one community could experience drought, another could lose livable land due to rising water levels.

This also points to the fact that the Anthropocene enforces social inequities. In our present day, there are many instances of wealthier communities “fixing” their pollution problems by pushing it onto communities of lower socioeconomic status (Tsing et al., 2020).

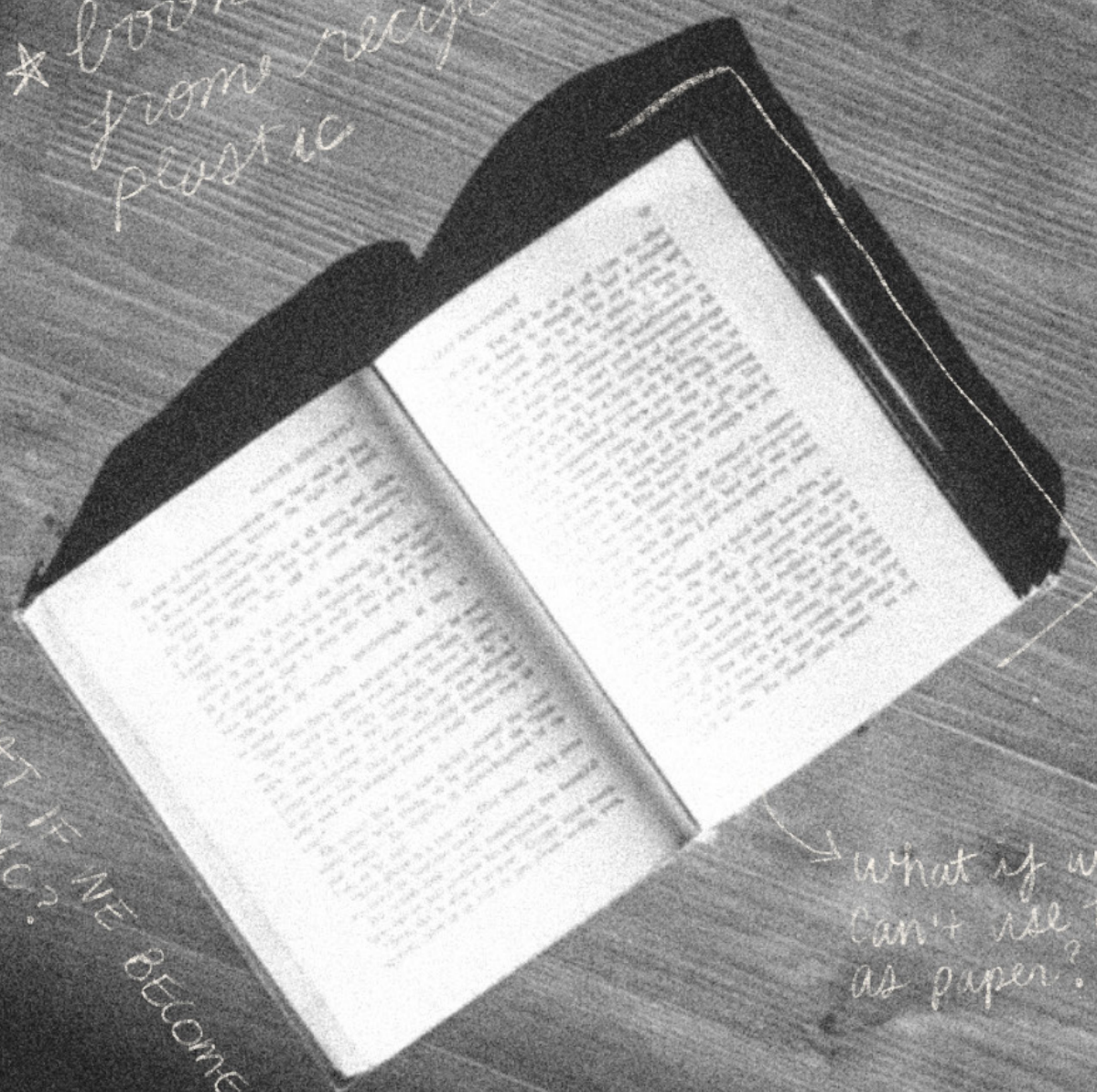
In a conversation through Cooper Hewitt, Theodore Watson of Design I/O said, “designers have a responsibility to strive for equity” (Dadich et al., 2020). If the future form of the book is only available to the hands of a few, it would not be an effective Anthropogenic communication tool for a wider public.

Through this research, I discovered that the book would be a beneficial communicative tool for recognizing environmental change. By diving into areas like storytelling methods, material culture, and Anthropogenic theories, I was able to solidify a structure for design production. I began this design phase with the goal to design a series of books that explore what future Anthropogenic projections could possibly look like.



cially  
we don't  
store on shelves

\* book made  
from recycled  
plastic



+ communication tool  
(how do we know  
how to communicate  
with future societies?)

WHAT DOES  
A BOOK MEAN  
TO FUTURE  
PEOPLE?

WHAT IF WE BECOME  
NOMADIC?

→ what if we  
can't use trees  
as paper?



## *Ideation*

I DECIDED TO DESIGN THREE BOOKS that focused on separate Anthropogenic projections. I felt that concentrating on one impact per book would avoid overwhelming the reader with multiple and complex challenges at once. Planning for three books would allow me to experiment with different speculative futures and visual styles, whereas designing only one book might make it seem like I was attempting to predict a single, definitive future. This was not my goal in the slightest—I needed to be certain that it was clear that these books were thought experiments acting as communicative devices. Initially, I was interested in making five books. After more planning, however, three books felt like a reasonable undertaking in a limited amount of time.

With a combination of a digital workspace and paper sheets, I started by laying out five possible impacts that I thought had the most potential to explore: change in land use, natural disasters, dangerous air quality, biodiversity loss, and extensive waste. I took time to explore what these possible futures would look like—what problems would arise? Where would people live? What would their daily lives look like? What kind of books would they use?

At first, I looked at these futures broadly and began to design books that adhered to the general challenges. However, this lack of specificity made it difficult to consider how a particular user would interact with a book. After some time, I chose a new pathway to the ideation process and began to delve into more distinct research and write from the perspectives of the potential users.

Doing this allowed me to become much more detailed in the ideation process. For example, when diving deeper into the possibilities of biodiversity loss, I learned that insects (including pollinators) could become extinct in the next 100 years

Early sketch of a book with small compartments for seed storage.





(Woodward, 2019). This information pointed to a cookbook as being a good genre for the biodiversity loss projection, since pollinators affect the production of many foods. This idea gave more context about who the user could be and how they could interact with the book. For the cookbook, I thought that the user should be young enough that they had experienced most of their life without pollinators. This helps with introducing new ideas about this future, such as listening to an older member of their family reminisce about produce like apples. This moment allows present-day readers to receive information about how this future is different from today alongside the user in the narrative. As I found pieces of detailed research, I was able to take these projections and apply them to future scenarios in which these books would exist and the situations of the people that owned them.

I decided to move forward with three books: a nature poetry anthology to juxtapose the lifestyles of those living on artificial islands due to mass amounts of waste; a cookbook to emphasize biodiversity loss and the great effect pollinators have on the foods we eat; and a field guide to show a community depending on dense, forested areas to survive in a world with dangerous levels of atmospheric carbon dioxide.

### Design Direction

I SPENT HOURS WORLD-BUILDING, with about 15,000 words written and collected between all three books. When portraying this future from the perspective of the user, I made many details about the narrator as vague as possible, whether obscuring their exact age, gender and sexual identity, or ethnicity. This intentionally presents the opportunity for readers to insert themselves as much as possible into the space of the narratives, giving a more personal experience of the built futures.

When building speculative worlds, I referred to several fictional writing methods that I learned while pursuing an English writing and literature degree during my undergraduate studies. One of these techniques was to intersperse small details to provide context to the narrator's world. For example, one user entry discusses adapting to environmental surroundings

Ideation utilized both digital and physical spaces.



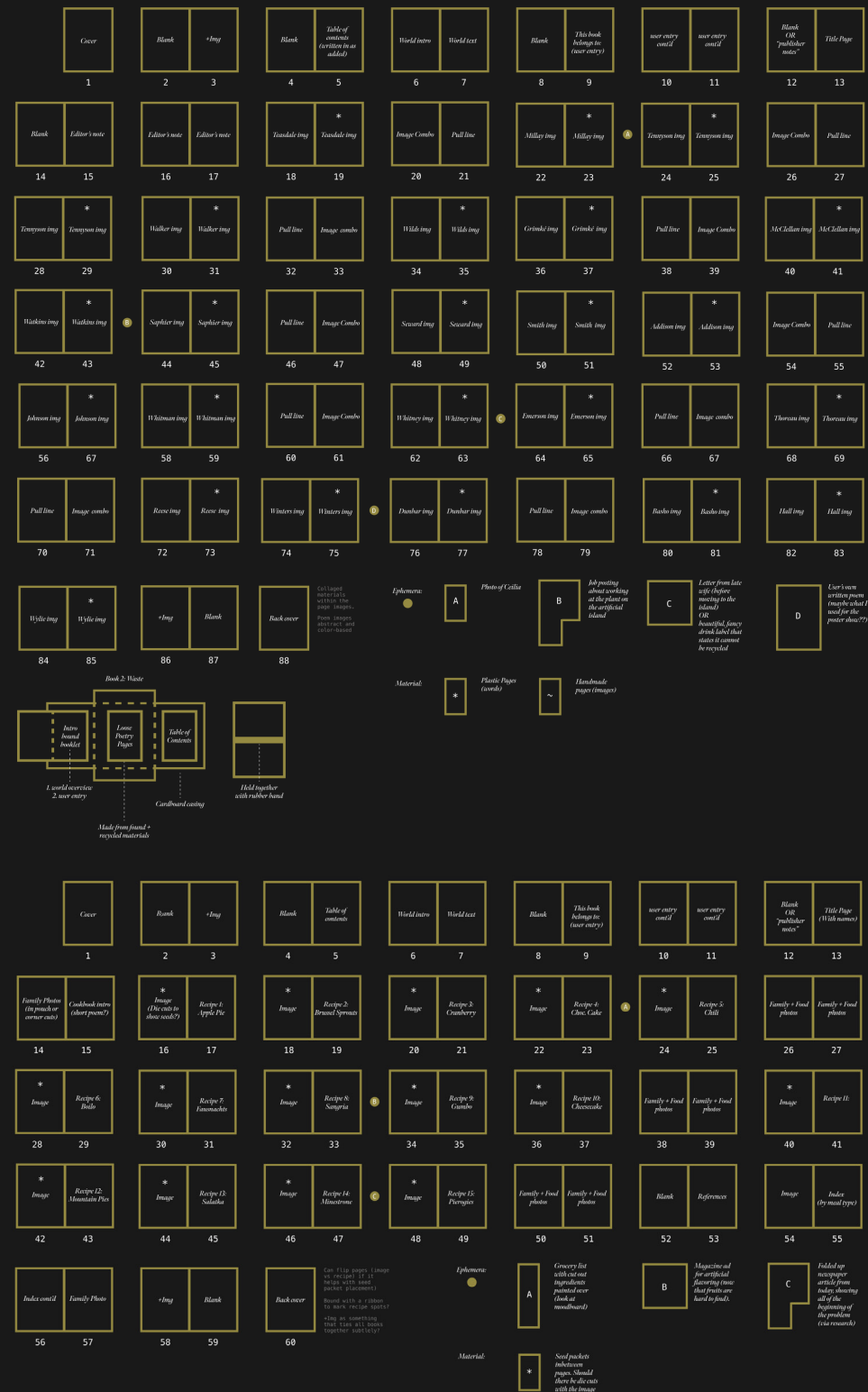
rather than forcing nature to adjust to human desires. This user mentions that their community grocery store has berry bushes right within the building, rather than removing them during construction. While this detail does not necessarily push the main narrative forward, it reinforces that this society has reshaped its view of how people live alongside natural environments. The addition of underlying themes within a narrative is useful in creating more depth in a story.

I also ensured that dialogue sounded as natural to speak as it does written down. Many of the conversations in the narrative are from the main users' perspectives, so any dialogue is purposefully casual and based in their memories. Something as simple as reading any conversations aloud helps to recognize whether it would be statement someone would naturally make.

Another world-building technique was to revolve protagonist actions around a specific motive. This focus not only provides an overarching theme to the narrative, but also forces a continual progression of the storyline. For the user that lives on an artificial island composed of garbage, one main motive is to prove that they are worthy of respect to the people around them. This is apparent in several parts of the narrative—whether dismissing their sister's disapproval of living on an island of trash or feeling angry when being gifted a book with missing pages as if they were not worthy of a full edition, the user is constantly reckoning with this struggle of pride. The user always wants to show that there is more to them than the fact that they work in waste management on this island, and this motive works as a structural point for the flow of the whole narrative.

While finalizing the narratives, I began planning the spreads with page maps. These maps started generally at first—they included world overviews, user journal entries, specific content for each book, and ephemeral pieces like photographs, notes, and postcards slipped between the pages. As I made decisions about the contents and forms for the three books, I planned more intricate maps. These were always adjusting, but they provided solid foundations for content organization. I spent a lot of time ideating, collecting content, and finalizing design

Sample page maps for two books.

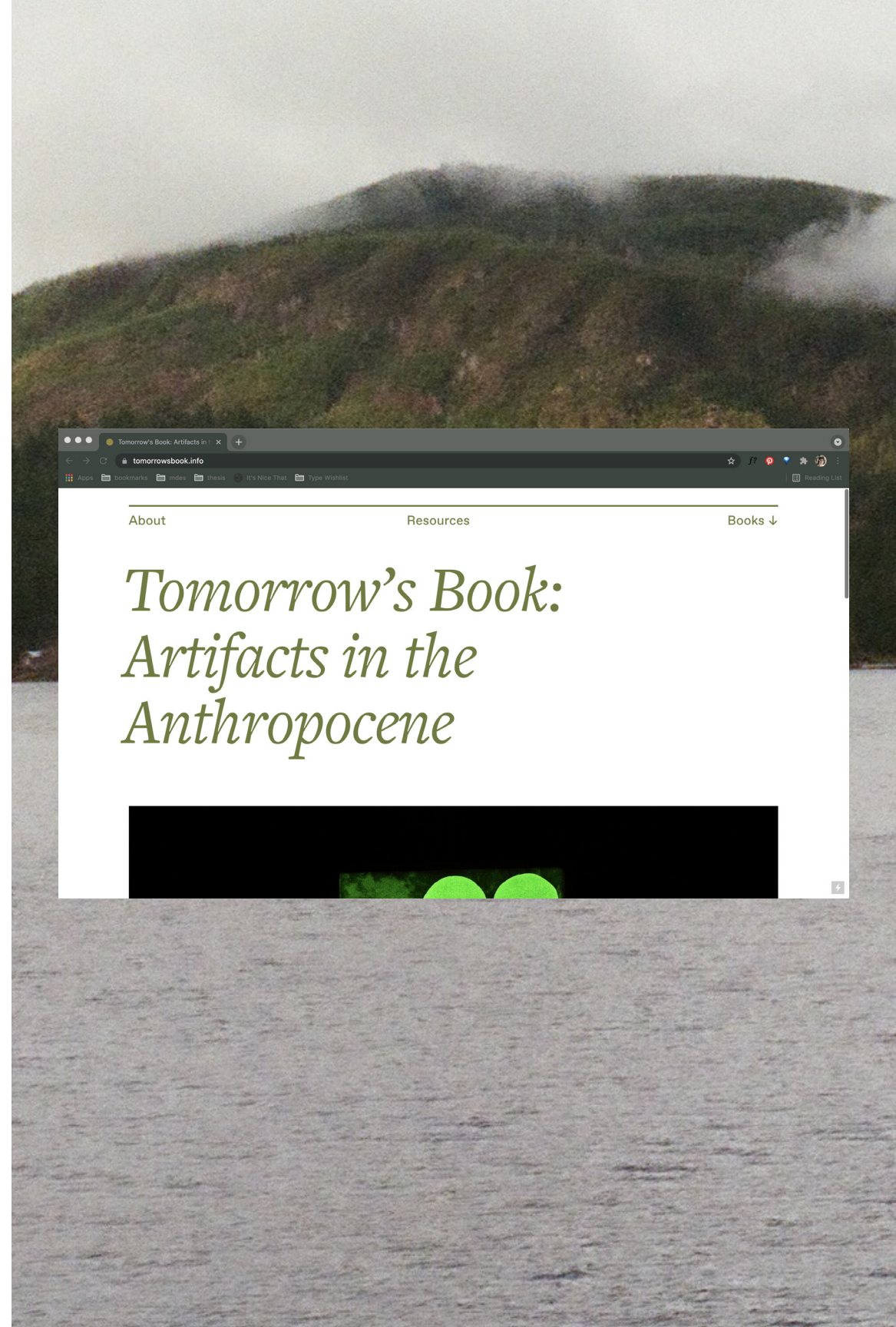




44 decisions prior to application and production. Simultaneously, I began sketching possible forms and compiling reference images to account for the visual language, structural forms, and materials for each book.

These books needed a significant amount of planning prior to production. Deciding on the future worlds in which they exist, the experiences of the owners of the books, the contents within them, as well as the visuals and physical structure of each book were all necessary and crucial steps to ensuring they would address the communicative challenge in a desired fashion. This process gave me the space to build robust worlds in which I could explore, allowing more radical design options to become apparent.

All of the written worlds are available online.





big sound;  
s in the pools  
ght, THERE WILL COME SOFT RAINS  
ees

will wear  
fire

know

SARA TEASDALE







Book exploration of future extensive  
waste projections.

Found —  
Poetry Anthology  
of the Natural World





Around 1992, Congress voted to ban the dumping of waste into the ocean. New York City was the last to integrate this policy—the day of the deadline (Specter, 1992).

**DESIGN DECISIONS:** To contrast living on an artificial island, I decided that having a book full of nature poems would be an effective way to reflect on how much natural environments would be affected by extensive waste in this future world. The book itself is made from collected and recycled materials or made with sustainable alternative solutions, when necessary. With excessive waste, utilizing what is already available rather than producing more is crucial to the book's form.

This book is given to the user,<sup>2</sup> who is one of the first residents of the island and works at the local facility that handles the trash, by a publisher who is using collected materials to make books.

Since materials would be collected constantly on this island, it means that it would logically take longer to produce books. With this in mind, I designed a cardboard structure to encase the pages. This allows them to remain loose and unbound and to be easily added to as materials become available. The reader can then start the book before it is fully completed, receiving pages as they are printed.

The poetry anthology includes loose sheets filled with nature poems found in the public domain collected from *poets.org*. It also contains a small introductory book that holds the future overview and user entry that is printed on newsprint and perfect bound with french folds. The inner pages of these french folds feature images from junk mail catalogues that I received in my mailbox. These were scanned and distorted to call attention to our often unwanted participation of capitalistic waste and excess. There is a single, long piece of cardstock that acts as the table of contents, showing that some numbers are written by hand or completely missing since the book's pages would still be in the process of being collected, produced, and distributed on the artificial island.

The book is made from found pieces, from the brown paper that I handmade using newspapers, cardboard packaging, wrappers,

<sup>2</sup>Read this user's story on p. 101 in the appendix.





UNDER MY EYE?

There will come soft rains  
and the smell of the ground,  
And swallows circling  
with their shimmering sound;  
And frogs in the  
singing at night,  
And wild plum trees  
in tremulous white.

Robins will wear  
their feathery fire  
Whistling their whims  
on a low fence-wire;  
And not one will know  
of the war, not one  
Will care at last  
when it is done.

Not one would mind,  
neither bird nor tree  
If mankind perished utterly:  
*And Spring herself,  
when she awoke at  
Would scarcely know  
that we were gone.*

THERE WILL COME SOFT RAINS — SARA TEASDALE

THERE WILL COME SOFT RAINS — SARA TEASDALE  
THERE WILL COME SOFT RAINS — SARA TEASDALE  
THERE WILL COME SOFT RAINS — SARA TEASDALE

UNDER MY EYE; 5





The process of making paper.



small plastics, receipts, and shirts to cardboard purchased second hand at Seattle Recreative. The pages are layered together with transparency sheets to create a feeling of abundance, along with six typefaces to continue this idea of excess.

Having to search for all materials, bookmakers would try to fit more on a page to utilize any available space. Pages can have up to four poems on a single sheet at once. This would help in avoiding the use of more materials than absolutely necessary.

### *Recipes for Scarcity*

**RECIPES FOR SCARCITY** is a cookbook from Jonesboro, Arkansas in the year 2133, passed down through a family for generations. It focuses on projections of biodiversity loss.

**FUTURE OVERVIEW:** Insects have been completely eradicated from the environment. Produce like apples, blackberries, tomatoes, broccoli, and sunflowers have disappeared due to the extinction of pollinators like honey and native bees, butterflies, and moths. Even other pollinators like birds and bats are declining now that their main food source has vanished.

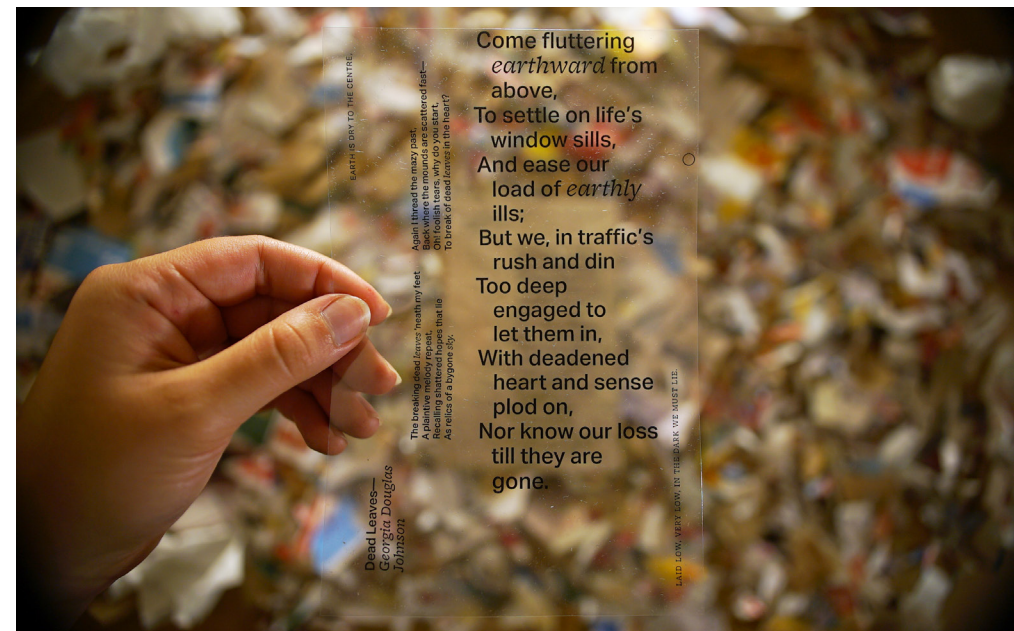
As produce becomes less accessible, humans must depend more heavily on starches like wheat, corn, rice, and potatoes that do not rely on pollinators to bear fruit or produce seeds.

#### **RESEARCH THAT INFORMS THIS FUTURE WORLD:**

Projections from researchers at the University of Sydney show all insects—including pollinators like bees, butterflies, moths, and flies—could possibly vanish within 100 years (Sánchez-Bayo and Wyckhuys, 2019).

Many foods would struggle to survive without the help of pollinators, like apples, strawberries, lemons, onions, and kidney beans, as well as dairy products due to a loss of fodder like alfalfa for cows (“Pollinator Week”).

Habitat loss from intensive agriculture is the main driver of the pollinator decline, along with climate change, pesticides, and invasive species (Sánchez-Bayo and Wyckhuys, 2019).





Book exploration of future biodiversity loss projections.

# RECIPES FOR SCARCITY

Urban Intensity

Health



Central United States is seeing some of the most drastic declines in wild bees along with Germany, the United Kingdom, and Australia. However, more areas could be affected—these countries are taking initiatives to study the endangerment of bees (“Wild Bee Abundance Across the U.S.”; Woodward, 2019).

**DESIGN DECISIONS:** I felt that a cookbook would best communicate how much the foods we eat could be affected by the loss of pollinators. I wanted to explore what happens to the books that are handed down through generations—not just establishing how brand new books could be created during these impacted futures, but how we adapt the ones we cherish throughout the years.

This user<sup>3</sup> is given the cookbook by her aunt on Thanksgiving. Her great-great grandmother had collected their family photos and recipe cards and placed them in a book, along with pockets of seeds as she witnessed foods becoming more scarce. This was in hopes that the meals could one day be made the way they were originally intended to once again. The book acts not only as a way of protecting disappearing biodiversity, but as a preservation of family traditions as well.

The book is meant to feel handmade and constantly in flux—family photos and recipe cards can be used and put back, pages can be removed and replaced with ring binding, and seeds are stored to be planted in the future and added again once more are found. The cover and title pages are debossed so that they appear blank until the reader looks at them from a different angle or light. This continues the idea of disappearance and the difficulty of noticing these slow changes in our environments. Spreads with layered pages show that once the reader has moved the front page, the image or paper behind it is affected to further the point that humans influence the environments around us.

The included recipes are inspired by ones that have been passed down through my own family. While they often changed drastically, there was always another option to ensure that these loved meals could continue in some way. This intention was influenced by advice from The Office of Ordinary Things—

<sup>3</sup>Read this user’s story on p. 104 in the appendix.



## SUNNY SIDE MOUNTAIN PIES

### Preparation:

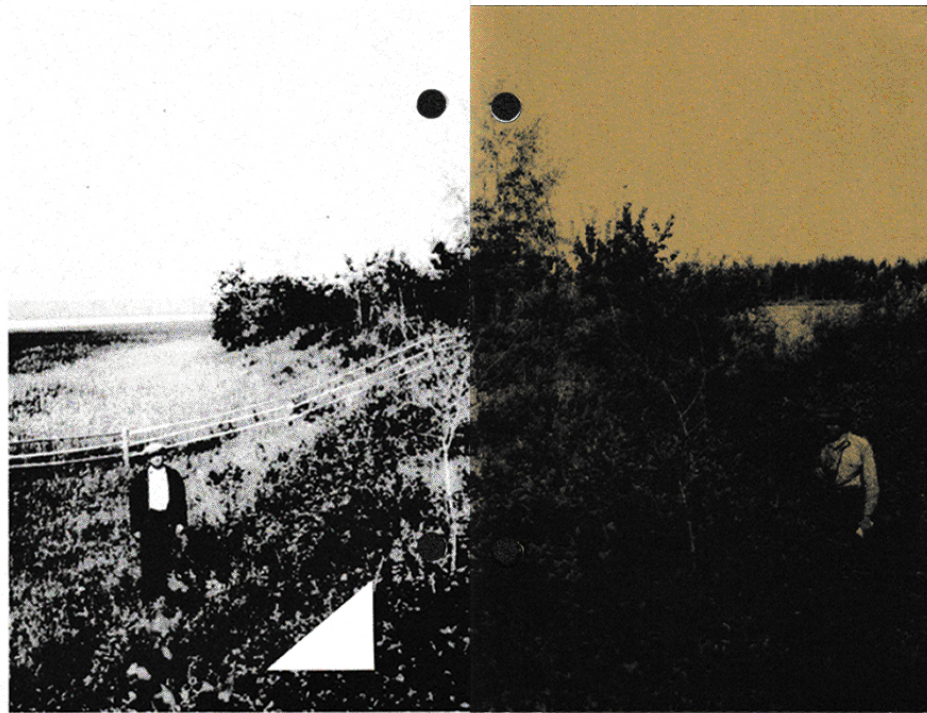
Prepare a small campfire. Make sure there are hot coals before preparing ingredients.

Open up cast-iron pie maker. Grease with <sup>olive oil</sup> ~~canola~~ oil. Pinch two slices of white bread, one into both sides. Add 1 slice of ~~not done, have a cheddar on~~ cheddar-cheese and 2 slices of pre-cooked bacon. Crack a fresh egg over one side and enclose the pie maker. Place on the hot coals for 6-10 minutes, flipping halfway.

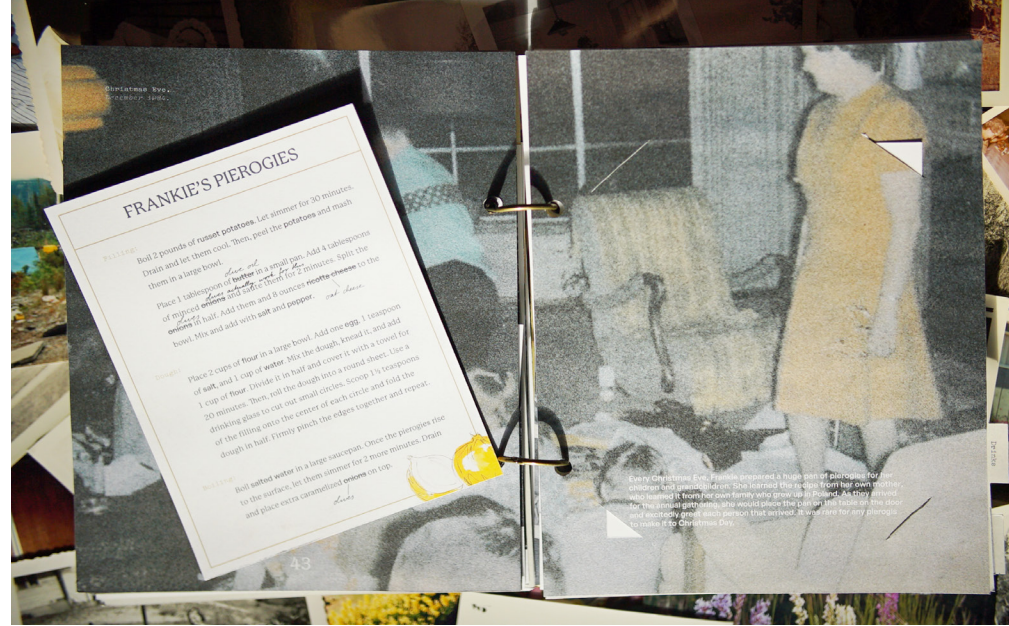
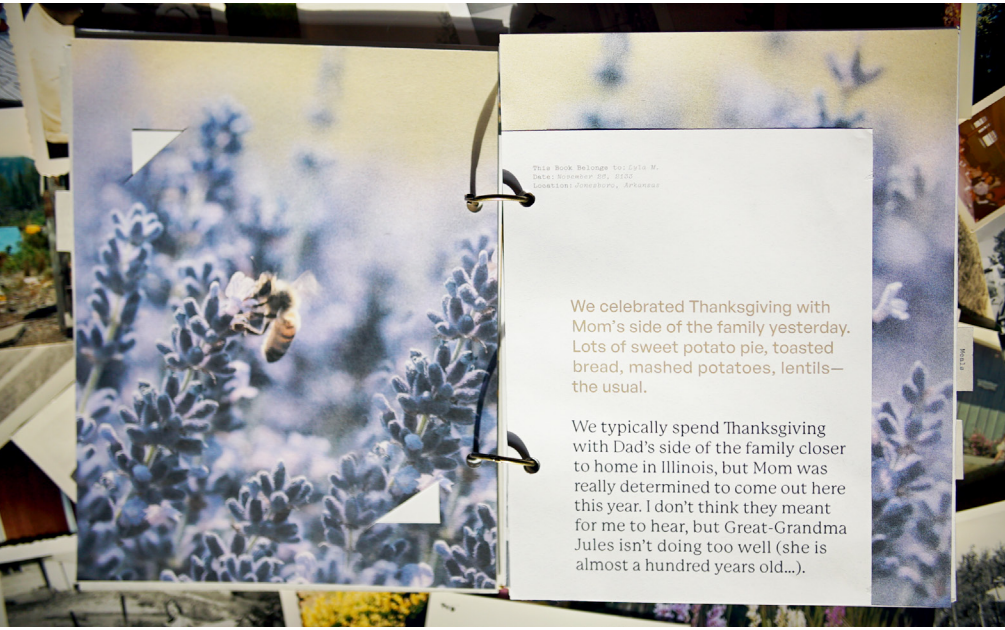
Add bell-peppers, potatoes, tomatoes, etc. to experiment with other flavors. not all of these are double anymore but sweet potatoes and olives make good additions

### Serving:

Open up the pie maker carefully and place mountain pie on a plate. Enjoy while it's hot.







Spreads in the cookbook.



68 instead of focusing on the “doom and gloom” of Anthropogenic change, designers should look to communicate the “doom and bloom.”

The recipes are annotated and adapted over time to replace inaccessible foods with ones that are easier to find. They feature different sets of handwriting to show the progression of disappearing foods over various periods of ownership. The sets of handwriting also correlate to an introductory page, where the many users have written their names and the date they were given the book which provides a subtle timeline of vanishing produce.

Several pages have translucent bags that hold seeds and their descriptors, presenting information like what species are contained as well as the year and way they were obtained. While I had considered many possibilities for seed storage, I felt that adhering these packages to the pages was the simplest solution. The seeds needed to be easy to replenish for the users, and I wanted it to be clear that the members of this family were not necessarily experts on the preservation of seeds and produce. They were doing whatever they could. I felt that this was important, as many people will need to address the challenges of Anthropogenic change to the best of their capabilities, whether they are fully prepared to or not.

### *Adaptive Guide to the Deep Trees*

**ADAPTIVE GUIDE TO THE DEEP TREES** is a field guide from the Deep Trees, previously known as the Olympic Peninsula in Washington State, in the year 2251.

**FUTURE OVERVIEW:** Carbon dioxide levels have increased substantially—not just affecting humans, but plants as well. As levels rose, plants began to grow faster and thicker due to increased photosynthesis. While some areas of the United States developed hot and dry conditions, others experienced heavy rainfall that supplemented this green growth.

Communities began to move into these rainy forests, which provide a shelter from hotter temperatures and act as bubbles of breathable oxygen for people. While these forests protect

Aunt Risa & Aunt Nadia's house.  
November 2183.





Book exploration of future atmospheric carbon dioxide projections.





these communities, they also shroud them in darkness—with such dense growth, little sun is able to shine through anymore.

#### RESEARCH THAT INFORMS THIS FUTURE WORLD:

Plant leaves thicken when atmospheric carbon rises, causing changes in activities like photosynthesis and sugar storage (Kovenock and Swann, 2018).

Climate change will vary by area. While some locations in the United States will experience extreme heat, places like the Olympic Peninsula will see an increase in heavy rainfall between 2020–2040 (Thompson and Serkez, 2020).

In the last 60 years, atmospheric carbon dioxide has increased about 100 times faster than in previously known fluctuations (Lindsey, 2020).

Higher rates of photosynthesis cause plants to contribute less to evaporative cooling and cloud formation through the process of transpiration, resulting in higher temperatures connected to carbon dioxide (“NASA Study: Rising Carbon Dioxide Levels Will Help and Hurt Crops”, 2016).

**DESIGN DECISIONS:** This book explores working alongside nature, rather than reshaping it to people’s desired intentions. Reading would mostly be an indoor activity where light is easily accessible. Because of this, the book in this scenario would be necessary outside the user’s<sup>4</sup> home. I decided that this consideration, along with the need to have a resource in a dark forest, made a field guide the right book to explore for this speculative future.

The guidebook is given to the user by a mentor, who has not been present in their life for many years. The design decisions often examine how a reader would interact with a book in darker areas. Between larger spreads are smaller ones that provide technical terms and diagrams, so that readers do not have to flip between the front and back pages in the dark to find the information they need. It also features a use of bioluminescent technology, visualized with glow-in-the-dark ink, to be able to glow even in the darkest corners of the Deep Trees.

<sup>4</sup>Read this user’s story on p. 107 in the appendix.





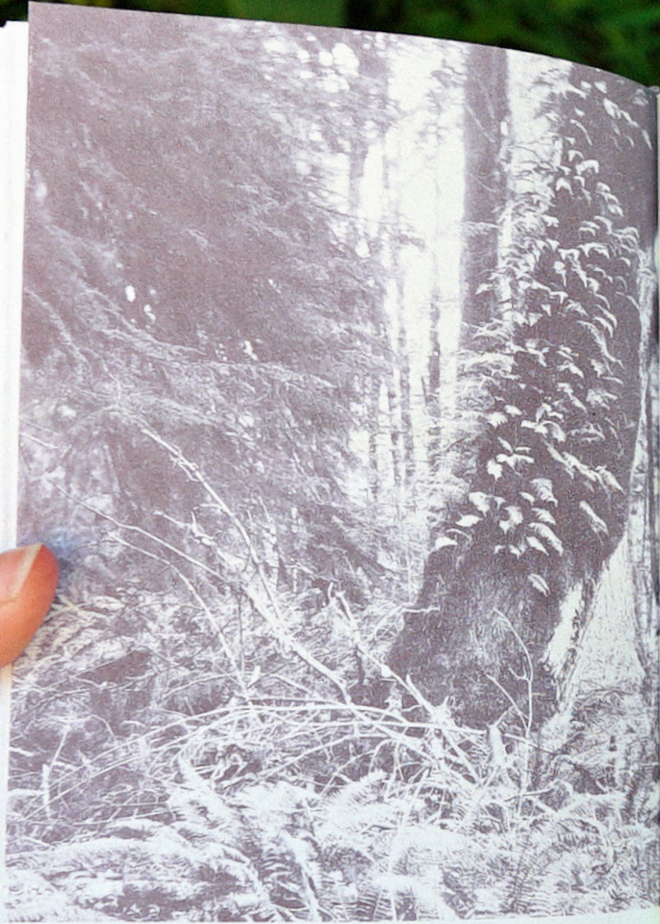


FIG 16. A large group of Licorice fern growing on tree bark.

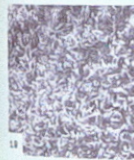
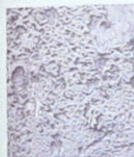
FIG 17.  
Ferns of an abandoned cabin.

FIG 18.  
Mass textures.

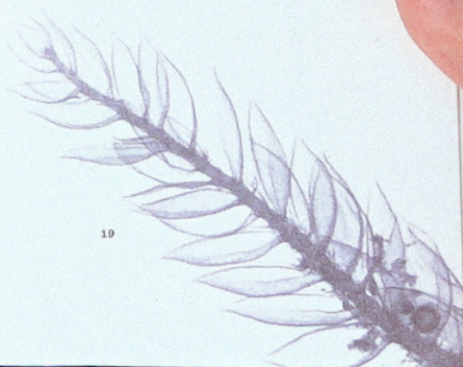
FIG 19.  
A leaf under a microscope.



17

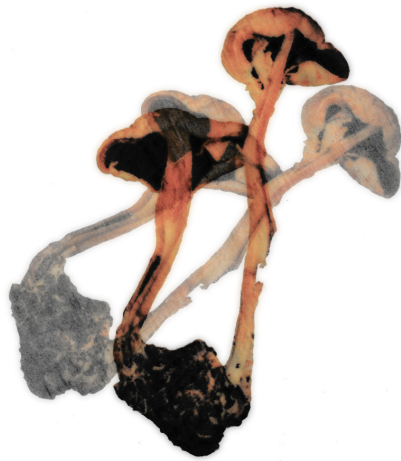


18



19





Specimens after imaging process.



This ensures that the main user, who maps safe oxygenated areas for their community, is able to use the guide wherever they are. Each page was fully screenprinted with the ink before adding the content, which allows light to shine behind the words and images in the dark. While the bioluminescent technology is based on the Olympic Peninsula's Western Jack-o-Lantern mushrooms that generate light through a biochemical reaction, this present prototype does need to be charged with sunlight since this future technology does not exist yet (Arora, 1991; Blakemore, 2017).

Many of the interior images show manipulated photos of pressed specimens, which were collected from the Consortium of Pacific Northwest Herbaria managed by the Burke Museum of Natural History and Culture at the University of Washington. I was able to combine digital and physical imaging processes to create layered visuals. This was done by printing on both printer and tracing paper, layering the specimens and scanning them, and finalizing the images in Adobe Photoshop to give it a dense and eerie tone.

I also wanted the book to provide a warning when the user happened upon an area with high levels of carbon dioxide. In 2020, a paper-based sensor was developed by the University of Alberta to act as a litmus test for carbon dioxide in the air. The sensor changes the paper from blue to orange as more carbon dioxide is introduced. I visualized this effect by using orange pages within the book, since the sensor is not available to the public yet (University of Alberta, 2020). These pages are introduced in the mushroom section of the book, which is where the user experiences this interactive element within the narrative user entry.

### *Exhibitions*

**THIS PROJECT** has been exhibited at several events throughout the process of this thesis.

*Found—Poetry Anthology of the Natural World* was exhibited at Parsons Anthropology and Design Exhibition (ADX), which brought anthropologists and designers together to discuss the featured speculative, critical, and imaginative projects. This





80 exhibition included a short presentation of the book as well as documentation on their website and virtual reality gallery space.

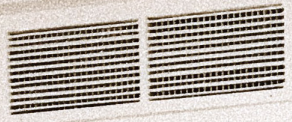
All three books were featured at *Makeready*, a three-week program hosted by the Seattle Art Book Fair, during a University of Washington Division of Design studio tour. This showcase included a presentation of my thesis, along with questions and discussion afterwards.

During this time of writing, the books are on display at the Henry Art Gallery as a part of the University of Washington School of Art + Art History + Design 2021 MFA + MDes Thesis Exhibition. The installation features four 10-foot banners printed by a large plotter with images that provide context for each of the three future projections explored within the books. The fourth banner gives an introduction to the project. I decided to use large visuals in an attempt to immerse the viewer in these future worlds as they look at the books directly in front of them. The exhibit also has a monitor on the side with a video that shows each of the books' pages along with parts of their user entries. Since visitors are unable to flip through the pages themselves, this video allows them to still experience the design details through the eyes of the intended future users.

Outside these exhibitions, I have all of the stories, images, and resources on all three books available on a website, [TOMORROWSBOOK.INFO](http://TOMORROWSBOOK.INFO). This is to ensure that, particularly in a very remote and socially-distanced time, people are able to interact with the project even if they are not able to see the books personally.







## Tomorrow's Book: Artifacts in the Anthropocene

The Anthropocene is our current epoch in which the Earth's environment is heavily impacted by human influence. While many people recognize the possible effects of Anthropogenic change, such as rising temperatures, biodiversity loss, increased levels of atmospheric carbon dioxide, and extensive waste, it can be difficult to imagine how the world might actually alter. Narratives allow us to weave diverse ideas together to relate to the experiences of others and grasp abstract information. Design can act as a storyteller—speculative designers bring attention to present societal issues while designing for the future.

What artifact could be better for telling stories than the book? It has been a notable part of many human histories, from stone tablets to the printed page. The book's form often reflects the current technological and cultural prints in many societies, so what forms will it take in the future?

Through a series of three book iterations addressing the challenges of the Anthropocene, this thesis uses design as a storytelling tool to communicate to readers how their futures, as well as the book's, will need to adapt to our changing world.

© 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 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## Conclusions

### *The Three Books as Communicative Tools*

**THROUGHOUT THIS THESIS**, I had a multitude of conversations with people about the books, their projections, and the narratives within them. Whether at the exhibitions, with friends and family, or in the research group that I joined, I found that these books allowed for more productive and pointed conversations about our changing environment.

Instead of vague overviews of Anthropogenic change on a global scale, discussions about the books and their distinct research points pushed the discourse in more specific directions. I saw that this specificity made it easier for people to relate projections to their lives and realize how their own surroundings had already altered.

For example, while talking with someone from the Seattle area about one of the books, they acknowledged more extreme wildfire effects in the area. I was able to add my own insights of noticing harsher seasons in Pennsylvania. This then led us to discuss how environmental changes do not affect everyone and every place in the same way.

Having both an approachable narrative and visual reference made it much easier for someone to insert themselves into the research and apply it to their own surroundings. The books present a small piece of potential futures that impact parts of everyday life. By showing that these could change or even fully disappear in the future, it becomes simpler to connect ubiquitous factors we often take for granted to Anthropogenic change. When we are faced with a global problem, it feels big and unstoppable. But when we are faced with a local and familiar issue, we often feel a little more equipped to address it.

10-foot banners  
immerse viewers  
into each world.





## *Thoughts on Sustainable Design Methods*

THE CREATION OF THESE BOOKS also gave me insight on what it means to aim for sustainable design methods. When talking with The Office of Ordinary Things, they mentioned that much of sustainable graphic design just takes a lot of research. This was very true throughout this thesis. I found that many times there was a more environmentally-friendly approach to a project if I was willing to take the time to find it. Sometimes that meant changing a material and other times it meant considering if an artifact really needed to be produced in the first place.

Some of the sustainable approaches I took were finding water-based ink, which does not use the same harmful chemicals that many other inks have. I found post-consumer paper whenever possible, purchasing from French Paper that utilizes hydro-power for production. I discovered plant-based acetate as a replacement for traditional transparency sheets. The majority of my materials were gifted, found, or bought second hand at places like Seattle Recreative.

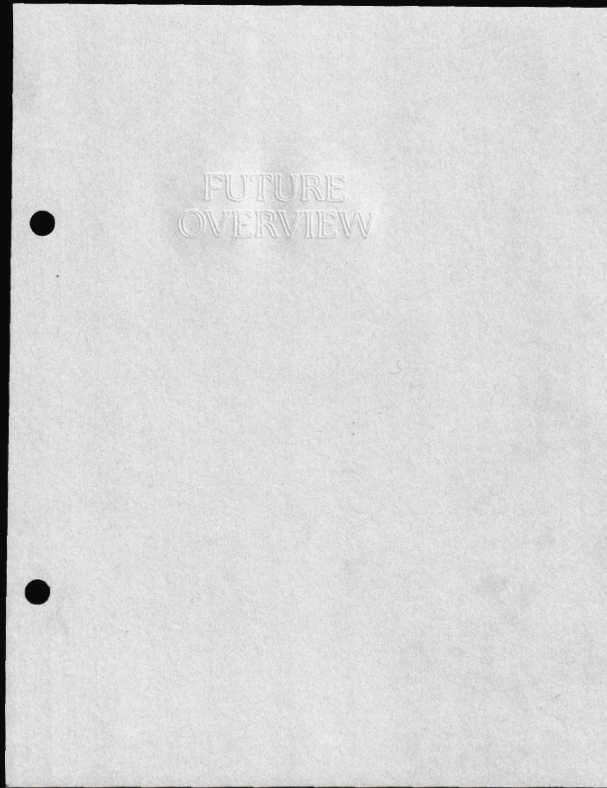
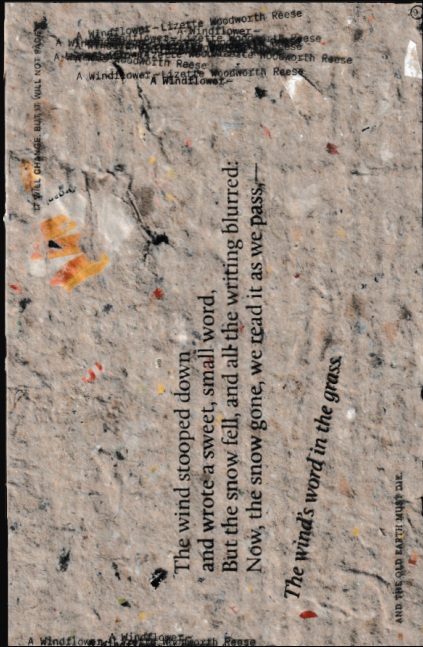
However, my plans for sustainability were not always successful. The biodegradable acetate sheets melted and warped in the laser printer, so I had to rely on regular ones that were given to me. I could not find a local place to purchase French Paper products, which meant I needed to order my own shipment from Michigan, and shipping by automobiles leaves a carbon footprint. I had to settle on a single shipment early on in production planning as a compromise. I wanted to have some of the books printed with Risograph vegetable ink, but many printers will only do larger runs.

While the short time allotment sometimes pushed me forward without a better solution when problems came up, I still can carry this research into future projects. All of this knowledge about sustainable graphic design does not disappear after this thesis is completed. With a little time and dedication, it is possible to adjust our thinking of how we produce design work. A lot is possible even for small productions—each book was made right in my one-bedroom apartment.


## *Future Plans*

My goal for these books is to reconfigure them in a way for wider distribution in order to expand their use as a communicative tool for recognizing the alterations in our environments. By making these books available to the public, these conversations about Anthropogenic change can continue to be more approachable, empathetic, and understandable. The more we can acknowledge the ways the environments around us may change, the greater chance we have as humans to respect and influence it for the better.





WESTERN JACK-O-LANTERN

NAME	DESCRIPTION
 <b>WESTERN JACK-O-LANTERN</b> <i>Omphalotus olivascens</i>	Medium to large mushroom that is entirely yellow-orange to olive. The cap is dry and never slimy. It often grows on or near hardwood stumps and trees. Its gills glow a green light in the dark. Its flesh is never white, unlike edible and similar chanterelles.





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Screenprinting  
with glow-in-  
the-dark ink.



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Visiting the final exhibit with my thesis committee. Photo taken by Annabelle Gould.





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at Seattle  
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## Appendix

### *Found—Poetry Anthology of the Natural World User Entry*

THIS BOOK BELONGS TO:

Gabriel H.

June 12, 2105

Artificial Island, New York

I swear, I'm sometimes not sure this damn job has been worth living on garbage. Sure, it doesn't always feel like trash—the part of the island where all the houses are has some soil, grass, even a few trees. But the exhaust pipes sticking out of the ground where methane escapes from the waste below are constant reminders that I'm on the Earth, but not really on *the earth*.

Still, free housing on land that's technically a part of New York City isn't easy to come by. When a few guys in suits came to our recycling plant in Jersey to see if any of us would relocate to the city for free...it just felt like I couldn't pass it by. It's been hard for Celia and I to be able to pay the bills after her mother passed away. It felt like this was truly our way out.

My sister is still so embarrassed about her brother living on a “trash island,” although she's had plenty of time to get over it. “You're forty-two years old, I thought you'd be better off than this.” The worst part is that she's constantly buying and throwing shit away when she doesn't need to. She slides under the radar with actions that could get her arrested by the city. Well, right back at her! I'm embarrassed of her. I wouldn't have to live on a pile of garbage if it wasn't for people like her.

Celia doesn't seem to mind it. She plants little strawberries next to our house. For a twelve-year-old, she's quite good at gardening. Sometimes she shares the berries with the neighbors next door. It's honestly quite amazing that she's even able to grow anything. I guess the roots can't make it down far enough to the waste—not yet anyway.

Image used for the exhibition to visualize biodiversity loss.



Work today was...solemn to say the least. It was my two-year anniversary of working at the plant. I'm glad that I can at least be a solution to this waste problem, even if it's not the most glamorous job. Because of the work we've done—that I've done—they're beginning to build another island. I overheard the boss saying they're hoping to convince others (as in, those who don't work in waste) to move to this next area. 'Fancy apartment buildings, right on the water!,' they say. But it's been unfruitful. There's still quite a stigma in the city about moving to a pile of garbage.

I don't blame them. If I lived in Manhattan and had dollars to spare, I wouldn't leave the place for something like this.

There is that (apparently) famous editor moving down the street from us. Trying to boost morale I guess...I wonder how much she was paid to move here. Showing that people who don't work around trash all day can still have a good (and "luxurious," I'm sure they're touting) life on trash.

She came by two days ago, knocking in a precise pattern. When I answered the door, she had prepared a structured speech. (Her name was...Meera Yader? Siera Wader? I can't recall). She handed me a book—one she had edited—and explained that it was a poetry anthology. When I say explained, I mean a painfully slow explanation. It was clear she thought I didn't know what a poetry anthology was, which was quite fun to humor her. Little did she know, I have two years of literature studies under my belt.

In any case, I'm glad for a free book. It's a collection of classic nature poems that she compiled. I said "thank you very much" and shut the door. I don't need to be a part of her agenda. But I'll take the reading material, happily.

I started reading Celia a poem at bedtime each night. One night, we spread all the pages out on her floor, looking at them all at once. Every once in a while, there's a word or phrase she doesn't quite understand. She's never seen a forest or heard a cicada. I try my best to explain, but it leaves me longing for childhood. So I have to continue.

Sometimes when Celia falls asleep, I'll read on ahead of her (Celia, I'm so sorry if you read this). It seems that the pages were cut short—there's a handful of poems in the table of contents that are nowhere to be found! I immediately stomped right down to Kiera Saider (whatever her name is) and angrily knocked on her door. Did she think I, the man that works with garbage all day, wasn't worthy of a full book?

She answered, a bit alarmed, to be fair. The editor explained that these books were all being made here—she was beginning as the first publisher to be stationed on an artificial island. It instantly made sense. The book is made of cardboard, plastic, combined materials. She's a forager. Where we live looks like a suburb—new, clean, small trees patterned on the walkways. But on the other half of the island, near the plant, there's plenty of waste strewn about. It's like a whole different world.

Because the city is only willing to send materials and produce every so often, we get creative. We collect and make what we have work. And that's what this book is doing—making this situation work without taking away what we love most.

The editor explained that I would continue to receive more pages from her as she collected more materials. She promised, to be precise. Books would be in flux on this island, she explained. But just because it takes longer to build a book doesn't mean the readers should have to wait longer to connect with it, right?

Celia loves the Teasdale poem in the book, "There Will Come Soft Rains." It feels rather dark to me, but her freckled face brightens each time she reads it. She's working on memorizing it. As I write, she's reciting. We're sitting in the grass at sunset, staring at the bright lights of Brooklyn as the oranges and maroons hit the old walls of the buildings.

"And Sprig—SPRING—herself," Celia stumbled, still proudly, "would scarcely know that we were gone."



*Recipes for Scarcity User Entry*

## THIS BOOK BELONGS TO:

Lyla M.

November 26, 2133

Jonesboro, Arkansas

We celebrated Thanksgiving with Mom's side of the family yesterday. Lots of sweet potato pie, toasted bread, mashed potatoes, lentils—the usual.

We typically spend Thanksgiving with Dad's side of the family closer to home in Illinois, but Mom was really determined to come out here this year. I don't think they meant for me to hear, but Great-Grandma Jules isn't doing too well (she is almost a hundred years old...).

I sat across from her during dinner. There weren't many of us—just Mom, Dad, Aunt Risa, Aunt Nadia, and a few cousins. Great-Grandma Jules took a bite of sweet potato pie and mumbled, “this isn't very sweet.” Aunt Risa, who baked it, burst into laughter and said something about how we all didn't have the chance to be spoiled by real apples.

We chuckled around the table. I don't think Great-Grandma Jules appreciated it, as she quickly looked at me with solemn eyes. “Have you ever tried an apple?”

I've heard of them, but I have no idea what they look like. Mom told me about how special applesauce was when she was little, because it was so difficult to find. But it got to a point where apples, along with a lot of other fruits and produce, slowly vanished.

Great-Grandma Jules explained that she used to make pies for the holidays filled with apples. Her own grandmother taught her the recipe and she was very proud of this.

“Apples were sweet and crispy, often very juicy,” Great-Grandma Jules dreamed with a smile. “Sometimes red or green or yellow. Red ones were always my favorite.” She giggled like a little girl about old cartoons that would show worms in them sometimes, but she had never found a worm in one. “That would be

awful!” Great-Grandma Jules exclaimed, her eyes big and wide. “And apples are anything but awful.”

At this point, my family had continued their own conversations around the table. But Great-Grandma Jules was reminiscing, and I was along for the ride. I honestly didn't mind at all—I had never seen her so enthusiastic. Her eyes lit up whenever she recalled another memory from her childhood.

She described buying chocolate bars from the gas station down the block, plucking tomatoes right off the hairy, green vines behind a family shed, rolling down hills covered in tall grass on a hot summer day and being stung by a hidden bee.

Great-Grandma Jules paused and looked down at her last bite of pie. She stared for a moment, until shakily stabbing the crust with her fork. “I would take fifty stings to have an apple once again,” she mumbled, clearing her plate. Could one fruit be worth going through something that sounds so painful?

Just a little before bed, we were gathered in the living room. The younger cousins were putting on a play they had made up just fifteen minutes ago, barely able to contain their laughter. Great-Grandma Jules had dozed off in a green armchair, right next to Mom.

Aunt Risa pulled me aside, bringing me into the kitchen. It was a little dark, but with the small light above the sink I could see her handing me an old book.

She told me it was a cookbook that had been passed down in our family. Old recipes filled the pages, some we had just eaten that day. Aunt Risa said that Alice, my own Great-Great-Grandmother, bound the recipes and photos collected by our family. She said that the recipes had been adjusted over time to account for many ingredients disappearing and becoming difficult to find when the bees and other insects died.

“But, we have a little secret weapon of our own,” she said with a wink.

Aunt Risa showed me the seeds that had been saved over time. “We might not be able to have these recipes like they were



made years ago. But maybe one day, one of us can make them as intended again.”

I was a little confused as to why Aunt Risa decided to give me the cookbook. I have no idea how to cook anything. I mashed some potatoes once for Dad and they were probably the worst ones we had ever had. (And likely why he never asked me to help with them again).

She must have noticed these thoughts from the look on my face. “I saw how you listened to Great-Grandma Jules. It just takes practice and a little curiosity to make something delicious. You clearly have the curiosity, based on the way you paid such close attention to her stories.”

Aunt Risa flipped to the front page and tapped her finger on a list of previous owners of the book. “It’s yours now,” she smiled, handing me a marker. “Go on and add your name.”

Great-Grandma Jules’s flowery handwriting was above a few other names, becoming worn with age. I scrawled my name on the front: L-Y-L-A.

Looking further inside, I saw the apple pie recipe Great-Grandma Jules spoke of longingly. Another page held a bag with little, dark brown seeds. I rustled them in my fingers—they felt like little pebbles. A few tiny stones worth fifty stings.

I don’t know if practice and curiosity will be enough. But growing these seeds and making a real apple pie—it all seems worth it to see Great-Grandma Jules’s eyes light up like stars again.

## *Adaptive Guide to the Deep Trees User Entry*

THIS BOOK BELONGS TO:

Ana H.

October 22, 2251

Olympic Peninsula, Washington

“Don’t let your eyes move off that page for too long.”

I don’t know why one of Uncle Oliver’s lessons popped into my head during a dream this morning. He was just as I remembered—shaggy, peppered hair poking out from under his favorite blue baseball hat. Big brown eyes that pulled the attention of your own and didn’t let them stray until his point was made. Oliver was a serious man when it came to traversing into the trees, but he was rather clumsy. He often had dirt stains all over his clothes, either from foraging on the floors of the forest or from tripping over his own two feet.

Oliver wasn’t my real uncle. I never really knew my family—I have vague childhood memories of living further away from the forest where it was unbearably hot and difficult to breathe. The one thing I do remember is that whenever I licked my lips outside under my mask, they tasted salty and I liked to pretend that I was a pretzel.

Uncle Oliver said that I was from a small town in Missouri. He told me that a group of kids without families and flaring respiratory issues were brought here from across the states where carbon dioxide conditions had worsened. As a teacher at the school, we looked to Oliver to understand this new place.

“They said we were off our rockers, moving deep into the dark forests where the sun hardly shines,” he would rattle on during class. “Some of them still do. But your lot is proof of how bad the air has gotten. The forests protect us from the dense levels of carbon dioxide. In return, we adapt to this environment around us, rather than forcing it to change for us like we had for centuries. Maybe it seems unbearable to live without much sunlight, but it beats not breathing,” he chuckled a bit somberly.



That was 23 years ago. Uncle Oliver disappeared about 10 years after that lesson. Folks around here assumed he toppled into a river or stumbled into a bear. But knowing him, I think he got a bit tired of people and went off to find his own space.

This morning was an early one; it was 6:18am and I was already gathering my bag, preparing to go into the Deep Trees. I've been quite busy recently—I came across an area that hasn't been mapped in at least fifty years and I need to start recording it. I am the best cartographer in our town (which, to be fair, is because I'm the only one here).

I locked my front door and it was drizzling outside. The old cedar that my home was built around looked greener than ever. I think I've decided to name him Rufus. Uncle Oliver always said to name the trees you like—it makes them feel more alive, which makes it easier to be kind to them.

Our town is built around nature, rather than adjusting it to our own plans. Roy's grocery store has berry bushes right inside; Elena's home is built into the side of a large, mossy boulder on the hill. While this makes us far less invasive to the forest, it is more difficult to find good living spaces. Hence, why I needed to map this new area.

It's exhilarating to walk towards the paths of the Deep Trees—it's the excitement of stepping into the vast unknown, unable to see what's ahead. Sometimes there are little peeks of dappled sunlight that somehow find their way through the crowded leaves and branches. But these are rare and cause quite a commotion from everyone trying to get a touch sun on their skin.

The town is surrounded by trees that we've engineered to be bioluminescent, so our homes are constantly aglow. Roy planted smaller, glowing growth along the path to light up our footing.

About four and a half miles in, the glowing plants lining the trails became scarce (it does take some time to grow enough!). After so much distance, the darkness becomes heavier on the eyes. I pulled out Uncle Oliver's old field guide. He taught me everything I needed to know, and I'm pretty sure he learned it all from this book. So it has to be fairly trustworthy, right?

The pages gave a soft green glow—we found many uses for bioluminescent technology. For the most part, reading has been an indoor activity where there's no need to strain our eyes in our dim surroundings. But books that need to be readable even in the heaviest of shadows are made to light not only our environment but the words and images within their pages.

It took about eight miles to get to the unmapped section. At the very edge of it, I almost walked right into Sylvia.

"You've always got your nose buried in that book, you almost walked right into my ax," she bluntly laughed. It's not like I can see much else!

Sylvia and I weren't close friends, but I enjoyed running into her when we were both working. She builds new homes and repairs existing ones in town. Sylvia likes to point out interesting details about the areas she finds while gathering materials.

"I've got something that might intrigue you," she said, waving me over. Sylvia flicked her headlamp on, leading me into a path of hardy, damp ferns carpeting the ground. They were huge—even larger than they were closer to town. My chest felt heavy... was I feeling suddenly anxious?

A minute later, she stopped and spun around. Sylvia quickly turned the headlamp off, allowing a bright glow to emit on her very left. She had found a collection of *Omphalotus Olivascens*, known as the Western Jack-o-Lantern. I found the correct pages in the field guide, explaining to her that mushrooms like these were the whole reason the book's pages were able to glow.

"I travel so far into the Deep Trees to look for fallen wood to use for building," Sylvia explained. "I always know when I've found some because they often glow. I never knew their name though. Jack-o-Lanterns on dead trees, huh? How spooky."

As I began to show Sylvia the image of the mushrooms in the book, I noticed that the pages had turned bright orange.

I told her to grab her things quickly and rushed us both back towards town.



As we walked quickly, I kept a close look at the pages. Within five minutes of haste pacing, they had returned to white.

Sylvia asked what happened as she tied her disheveled dark hair back, confused and slightly annoyed.

I explained that the pages became orange, which indicated that there was way too much carbon dioxide in the air in that particular area. I wasn't anxious—my asthma was just flaring up. Sylvia could have really gotten hurt if she was there longer.

As we walked, I swiftly noted an edge of safety for future reference on the guide's map. Disappointed, but not destroyed. We as a community haven't been in the Deep Trees for that long in the grand scheme of things—we'll find more places to safely live.

"All of this isn't for us," Uncle Oliver used to say as we walked on the path together. "There are bears and bugs, trees and weeds, stones and soil. This place is for them too." He reached down to the path and covered his pointer finger in mud. "So it's okay for some of it to be left untouched."

Uncle Oliver smiled warmly as he dotted my nose with the dark earth.



Map made to illustrate the Deep Trees.



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