

*Seedlings*

an exhibition of artworks

by

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## Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## Abstract

*Seedlings* is a fictional, constructed ecosystem. It is a garden-like installation consisting of a coming-together of numerous printed, gathered, gifted, and reconstituted components that “cross-pollinate” the gallery space. This biomimetic amalgamation is characterized by themes of collaboration, cyclicity, potentiality, and adaptability in both its process and visual aesthetic. In its form and execution, *Seedlings* is open to various modes of transformation and myriad future iterations. My methodology is defined by what I have called “recuperate, reconstitute, reconstruct.” What can I collect from what was once destined for the landfill? Will it eventually decompose? Can it combine with other elements to form something new? In blurring the boundary between plant life and the built world, *Seedlings* engages in breaking down the outdated Western theoretical binary between what is and isn’t considered “nature.” My research, presented in this support document, represents a fusion of two subjects that deeply fascinate me: ecology and visionary fiction. As a strange and fictitious environment, *Seedlings* reflects my interest in visionary worldbuilding and alternative worlds. This combination of subjects reflects my desire to imagine radically hopeful futures beyond the status quo and the current ecological crisis. A seed is an oft-used metaphor for an idea. “Planting a seed” can be a reference to how new ideas are formed in one’s mind. If a seed is an idea, perhaps a seedling is an idea that is taking physical shape.

## Acknowledgements

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## Land Acknowledgement

I have made this body of work at the University of Waterloo, which was built on the Haldimand Tract, the land promised in treaty in 1784 to the Six Nations that includes 10 kilometres on each side of the Grand River. It is located within the traditional territory of the Attawandaron (Neutral), Anishinaabeg and Haudenosaunee peoples. This land was promised in treaty to support the Six Nations in perpetuity, but this promise was broken. Today only 4.8% of this land belongs to Indigenous people.

In the summer of 2021, I spent time on Gabriola Island, located on unceded Coast Salish territory, specifically that of the Snunéymuxw First Nation. It is one of many islands located in the Salish Sea (Strait of Georgia), between mainland BC and Vancouver Island. While on Gabriola, I was influenced by the ongoing blockade at Fairy Creek, which is working to block the logging of an old growth rainforest on Pacheedaht and Ditidaht land.

As I make artwork and do research about ecology and futurity, it is crucial that I acknowledge the legacies surrounding the land and ecosystems that have influenced me. My perspective is one of a white person of settler descent that has benefitted from the ongoing violence of settler colonialism on Turtle Island.

While I cannot claim to know this land intimately, I can do my best to transform the way I relate to and care for it, as well as its community. I believe that the work being done by Indigenous land and water defenders throughout Turtle Island and other colonized lands, from blocking pipelines to housing developments to the logging of old growth rainforests, is among the most important work occurring on this planet. Land Back—now and into the future.

Dedication

For Archie.

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“The assumption that what currently exists must necessarily exist is the acid that corrodes all visionary thinking.”

- Murray Bookchin<sup>1</sup>

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<sup>1</sup> "The Meaning of Confederalism," *Green Perspectives*, no. 20 (1990).

## SEEDLINGS

*Seedlings* is a small world, a garden-like environment where the boundary between plant life and architecture has been blurred. Mimicking a biodiverse ecosystem, it is an installation characterized by adaptability, complexity, and horizontal growth. The conceptual fabric that runs through this body of work is an amalgamation of ecological, science-fictional, and socio-political themes. This informs my conceptual and methodological approaches to constructing a world of printed, recuperated, and reconstituted adaptable objects which creep and crawl across the gallery's surfaces.



Fig. 1. *Forest Floor (Homage to Old Growth)*, as part of *Seedlings*. University of Waterloo Art Gallery, April 2022.

The installation *Seedlings* spreads out physically and conceptually from a piece I began in the summer of 2021, which was titled *Forest Floor (Homage to Old Growth)*. For a month, I resided with artist Nadine Bariteau on Gabriola Island, BC, and was influenced by the ongoing blockade at Fairy Creek, which was (and still is) organized to obstruct the logging of an old-growth forest on Pacheedaht and Dididaht land on Vancouver Island in BC. In thinking about the intricate ecology of coastal rainforests compared to the clearcutting of ancient trees, I set out to create a printed project that evoked the botanical biodiversity of the Pacific Northwest. A variety of vegetal imagery drawn from native West Coast plants, such as Douglas Fir, Pacific Madrone, and Salal, was first block-printed on several sheets of Japanese paper. This linocut project began in Nadine's basement. Travelling light, I used "ink" that I had brought with me, tubes of water-soluble oil paints which doubled as block-printing inks. This desire to use materials that I already had on hand followed me back to Waterloo, where I continued to use my oil paints to finish printing my linocuts. Despite this limitation in supplies, I was still able to achieve a wide variety of green shades. They were printed without registration, in an overlapping, collage-like manner, so that no two prints were identical. Next, these prints were sewn together in a large, book-like assemblage and laid across the floor, referencing the forest floor, where leaves often become rich compost. These crawling book pages, stitched together, zigzagged across the floor, and crept up the wall in various directions, much the same as a root system or rhizome.<sup>2</sup> Their chevron

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<sup>2</sup> In botany: "a rootlike subterranean stem, commonly horizontal in position, that usually produces roots below and sends up shoots progressively from the upper surface." "Rhizome Definition & Meaning." *Dictionary.com*, Dictionary.com, <https://www.dictionary.com/browse/rhizome>. Accessed 27 March 2022.

pattern is also reminiscent of electricity, of sound waves or of a heartbeat, reflecting the energy and mutual communication that plants experience and enact with each other. Bookbinding references storytelling, and I wonder if I am recounting a story indirectly learned from the plants. It may also call to mind an unfolding map, where plants provide directions. As seen in Figure 1, this “book” is then laid on top of an array of pieces of plywood, MDF, and Masonite recuperated from the wood shop’s scrap bin, as well as wooden floor tiles, which were gifted to me from a former classmate. These wooden pieces, big and small, are remnants of industrial manufacturing processes, and sit in contrast to the organic, green, overlapping shapes which represent a biodiverse forest. The manufactured pieces maintain a material relation to the forest; however, through an elaborate industrial process, they have been for all intents and purposes removed from any notion of a “forest” or a “tree” in order to be used in established systems of building and construction. The laser-cut images printed on some of the pieces of plywood and Masonite are a ghostly reminder of their possible past selves, and my attempt to reconnect these recuperated pieces of so-called trash back to their homes.

While on Gabriola Island, I was inspired by the reciprocal relationship that existed between Nadine Bariteau, her garden, and her chickens. The chickens ate vegetable scraps and other leftovers, as well as garden weeds, and lay eggs every morning, which nourished their human neighbours. As such, I aim to incorporate, as much as possible, a sense of cyclicity in my materials and methodology. Can I use items that were once destined for the landfill? Can I recycle, compost, transform, or give away these items when I’m done with them?



Fig. 2. Snack time for the chickens. Photo: Nadine Bariteau, June 2021.

My approaches and ideas relating to cyclicity were not only influenced by Nadine's chickens, but also by Robin Wall Kimmerer's *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*, a book that taught me about the significance of reciprocity, democracy, and mutualism present in plant life, as well as the possibilities for beneficial relationships between plants and people. For example, she discusses the mycorrhizal

networks that connect trees beneath the ground among their roots, which appear to redistribute the wealth of carbohydrates from one tree to the next in a “web of reciprocity” (20). In another example, Kimmerer explains the symbiosis between algae and fungi that create lichens, a mutualistic relationship involving the giving and taking of minerals and sugar, which only occur in harsh conditions, stating that in “a world of scarcity, interconnection and mutual aid become critical for survival” (270-2).

As a university professor, Kimmerer describes her disappointment in learning that most of her students were unable to imagine beneficial relations between humans and other species (6). She provides several examples that counter the deeply rooted belief “that humans and nature are a bad mix” (6). For example, she recalls a situation where a symbiotic relationship existed between black ash trees and Indigenous communities who carefully harvested those same trees for the purpose of basket-making: black ash saplings were only flourishing when there were gaps in the forest canopy, which let sunlight through (149).

Kimmerer’s lessons center the idea of reciprocity, not only between different plants, but also between plants and people. For me, these lessons represent a pivoting away from the idea of a personal environmental impact, or a “carbon footprint”<sup>3</sup> and towards one of mutual relationship to community and ecosystem. Within the installation, this is demonstrated by the assembly of disparate elements, some of which are interdependently supported through leaning, stacking (Fig. 6) and joining (Fig. 7). This approach is also present in my methodology, in the gathering of my materials, many of which were gifted, such as floor tiles, wood scraps, cardboard,

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<sup>3</sup> The concept of a personal “carbon footprint” was invented by oil giant British Petroleum (BP) to offload the responsibility of the climate crisis onto individuals. See <https://mashable.com/feature/carbon-footprint-pr-campaign-sham>.

clay, extra seed bombs, egg cartons, take-out containers, and more.<sup>4</sup> For example, my classmate Julie Hall, who has worked frequently in the restaurant industry, gave me dozens of egg cartons (piles of which were a constant fixture at Nadine’s residence in BC). When my former classmate Jordan Blackburn gave me a stack of wooden floor tiles, it encouraged me to think further about how a forest’s floor might relate to a human-made floor, as many of these floor tiles were labeled with the types of trees they were made from (such as Douglas Fir or mahogany). And in the winter of 2021, interested in the structural capacities of cardboard as a sculptural material, I started recuperating cardboard boxes from Central Stores (with whom Fine Arts shares a building). This cycle of gifting will continue after the exhibition of *Seedlings*, as I give away prints and clusters of seed bombs to whomever may want any. To quote Kimmerer, “The essence of the gift is that it creates a set of relationships. The currency of a gift economy is, at its root, reciprocity” (28). Gifting and collaboration not only create relationships but also strengthen pre-existing ones. While planning for *Seedlings*, I thought about how my work could be more intentionally infused with acts of reciprocity. If many of the elements were received as gifts, what could I give away as gifts? In future work, I could push this idea further, by incorporating community collaboration. In a culture of hyper-individualism, one in which we have been further separated from each other due to the COVID-19 pandemic, I feel a pull toward establishing and enhancing connections with others. In giving away some of the components of *Seedlings*, I strive to continue a cyclical act of reciprocity. Having made multiples of everything, there is plenty to go around.

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<sup>4</sup> Gratitude to Adam Glover, Tara Cooper, Rick Nixon, Sara Pearson, Julie Hall, Jacob Irish, Ashley Guenette, Jordan Blackburn, my roommates, and Central Stores.

The aspect of “the multiple” in print media lends itself to a vast array of possibilities: a more collaborative, collective, and communal method of making and disseminating art, the creation of artist’s books, as well as the fabrication of elements that form large sculptures and installations when combined. Throughout my MFA, I have explored the print as a conceptual and physical building block. I have also incorporated found and recuperated materials to create modular and sculptural building components that attach, stack, and repeat. Whether I am creating handmade paper from recycled egg cartons or shaping clay and soil to create dozens of seed bombs, I am constantly creating multiples. This modularity and repetition of forms has parallels in architecture and all forms of organic life. For example, plants are constantly creating multiples of similar, yet never identical, versions of shapes. In this way, I see printmaking as more akin to the process of plants creating numerous versions of similar forms (such as leaves, seeds, fruit, and flowers), than to the computational act of digital replication, which duplicates files identically. For me, printmaking feels like an act of biomimicry.<sup>5</sup>

One of my artistic influences is the artist Andrée-Anne Dupuis Bourret. In her exhibit titled *La Machine Paysage* (2018-2019), colourful, screen-printed paper objects exist in an accumulation of multiples, evoking plant life in highly controlled or artificial settings. They are set up in orderly groupings, resembling indoor vegetable farms, laboratory experiments, as well as piles, bins and displays of packaged products. The latter leading to the question: are the “plants” of Dupuis Bourret’s paper world communicating a message about their own commodification?

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<sup>5</sup> In her book *Emergent Strategy*, adrienne maree brown quotes Janine Benyus, a scholar of biomimicry, who defines it thus: “Biomimicry is basically taking a design challenge and then finding an ecosystem that has already solved that challenge, and literally trying to emulate what you learn. There are three types of biomimicry—one is copying form and shape, another is copying a process, like photosynthesis in a leaf, and the third is mimicking at an ecosystem’s level, like building a nature-inspired city” (46-7).



Her work not only exemplifies the vast possibilities of print-based installation, but also the blurring of definitions and categories. *Seedlings* also blurs definitions and categories. However, my installation strategies point more towards themes such as interconnectivity and cyclicity, than to artificiality and commodification.



Fig. 3. Andrée-Anne Dupuis Bourret, “La Machine Paysage” (2018-2019) from Dupuis Bourret, Andrée-Anne. Andrée-Anne Dupuis Bourret, <http://www.aadb.space/#/la-machine-paysage-2018-1/>. Accessed 12 April 2022.

Situated on the left, *Forest Floor* is the first piece the viewer encounters in the exhibition. Crawling out from *Forest Floor*, (not just physically, but also from the idea of it), peeking out from the gallery’s corners, and spreading out like a strange garden or petri dish growth, is a continuity of collected, gifted, and reconstituted objects. These materials “cross-pollinate” throughout the installation, appearing in different locations and within various other materials such as handmade paper made from cardboard, egg cartons, and/or paper scraps, as well as embedded seeds. The printed imagery of West Coast plants that appears in *Forest Floor*’s unfolding “book” also appear on sheets of this handmade paper as well as on larger sheets of Japanese Masa paper,

the same paper that was used for the book's prints. This diverse assemblage of prints, seed bombs, handmade paper, flattened egg cartons, pieces of plywood and MDF, stacks of cardboard, and more, spread across the floor like roots and creep up the wall like vines. Throughout these surfaces, the various components fit together, sometimes neatly, and sometimes imperfectly, like a jagged patchwork. *Seedlings* is a fictional ecosystem, in which numerous components, many of which have undergone transformations, come together to form a sort of symbiotic, modular architecture.





Figures 4, 5, and 6. *Seedlings* extends throughout Gallery 2 of the University of Waterloo Art Gallery.

In the eastern corner of the gallery sits *(The Garden of) Forking Paths*, an interlocking wooden structure consisting of bought and found pieces of plywood, laser-printed on both sides with images of plants native to this area (Southern Ontario) and the surrounding eastern area of Turtle Island, such as Black Walnut, Eastern White Pine, and Northern White Cedar. These images are all photos I have taken in Waterloo. Some of these photos are close-ups of specific parts of plants, like the fruit of a Staghorn Sumac or a milkweed pod, while some depict groupings, like the asters or a small field of Wild Bergamot (see Figure 8 for reference). Through laser-printing, the images are etched into the wood itself, embedding the plants into the substrate. Like the laser-prints in *Forest Floor*, this creates a thematic connection between image and material. After the laser-printing, they were cut from 12" x 12" squares into organic shapes, drawn freehand on the wood. Again, although there are similarities, no two components of this piece are perfectly identical. To emphasize this sense of subtle differentiation, they were then stained with homemade inks (made from foraged black walnuts, berries, and gifted acorns). These multicoloured pieces and images join together via slits cut into the wood, representing multispecies connections—a biodiverse ecology of relationships. The ways that this structure could be put together are innumerable. Like a large child's toy, it can be disassembled and reassembled in dozens of ways. It also allows for growth, as more pieces could be added. As an interactive sculpture<sup>6</sup>, it emphasizes that human interaction with the more-than-human world need not be destructive necessarily, but symbiotic.

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<sup>6</sup> In a situation in which gallery and pandemic regulations allow for it to be so.



Fig. 7. (*The Garden of) Forking Paths*. University of Waterloo Art Gallery. Photo: Scott Lee, April 2022.

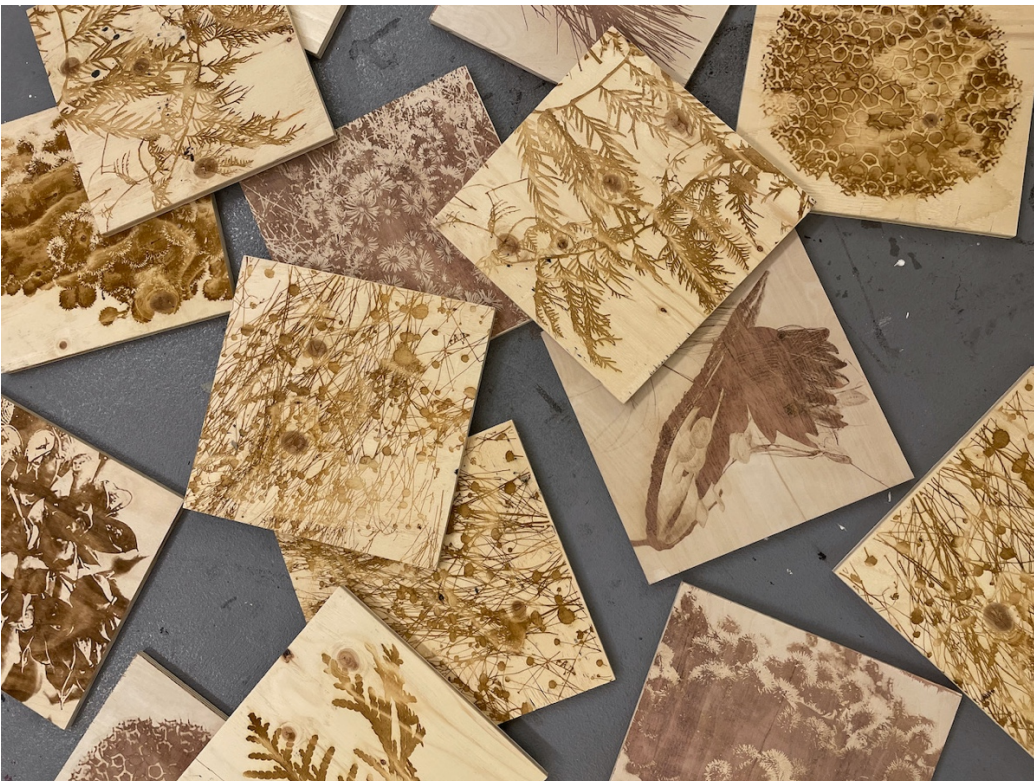


Fig. 8. Laser-printed images of East Coast plants on 12" x 12" squares, before they were cut into rounded shapes.

Seeds are a constant presence in this body of work. Real seeds have been incorporated into both paper forms and seed bombs, representing potentiality in a suspended state. When encapsulated into seed bombs, (small balls created using clay, soil, and water) and dried out, the seeds will remain in that state until they are planted and/or watered. Seed bombs are a practice borrowed from guerrilla gardening.<sup>7</sup> I have an affinity for the terms “seed bombs” and “guerrilla gardening,” as they simultaneously express an explosive, revolutionary desire along with the nurturing act of gardening. When I started creating seed bombs, I chose to use microgreen seeds for their quantity, their accessibility, and their versatility. One unexpected result of this decision was that microgreens were constantly sprouting in my studio—from damp, leftover paper pulp, for example—and often unintentionally, which excited me.

My advisor Tara Cooper also gifted me several leftover seed bombs, which had incorporated wildflower seeds, from a workshop that happened a few years ago. In the case of my installation, wildflower seeds and DIY home gardening microgreen seeds have been incorporated into multitudes of these roughly spherical, earthy forms. Throughout the run of my exhibition, I periodically watered the containers of seed bombs, which resulted in microgreens growing out from their containers, and even knocking some seed bombs to the floor. This final

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<sup>7</sup> “Guerrilla gardening is the act of growing food or flowers in neglected public or private spaces. Here, ‘guerrilla’ refers to the lack of authorization to grow in a given space—and this makes guerrilla gardening illegal in most cases.” Kuchta, David M. “What Is Guerrilla Gardening? Definition and Examples Throughout History.” *Treehugger*, Treehugger, 4 Apr. 2022, <https://www.treehugger.com/what-is-guerrilla-gardening-5196129>.

element of the installation incorporates the aspect of change over time, as well as unexpected movement.



Fig. 9. Microgreens sprouting from damp paper pulp in my studio.

*Seedlings* (i.e. the installation and the working methodology) incorporates and fuses philosophies of ecology with an eye towards a visionary, liberatory futurity. What stories, theories, actions, and materials will comprise the building blocks of a more ecologically sustainable and socially just future? Seeds have potential, like radically hopeful ideas. Tending to the seeds of radically hopeful ideas means bridging the gap between concept and construction. Seedlings are ideas that have taken root and are growing in both familiar and unexpected ways.



Fig. 10. Seed bombs set within the installation. Photo: Scott Lee, April 2022.



Fig. 11. Seed bombs sprouting microgreens in the installation.



## THE POLITICS OF ECOLOGY

For several years now, my work has recontextualized and reimagined elements typically defined as part of nature, such as plant life and landforms. For example, in 2019, I created a series of sculptures under the title *Seedbuilding*. Linocut prints, based on the seeds of fruits I had eaten in México, were blown up to much larger sizes and printed in various colours. Combined with sculpted construction foam, the imagery of seeds became structural building blocks.



Fig. 12. *Seedbuilding 1 (Guanábana)* and *Seedbuilding 2 (Papaya)*, 2019. Linocut prints, construction foam, wooden dowel, wooden panel, nails, pins.

This line of inquiry led me to philosophies and ways of being that call into question anthropocentric and hierarchical perceptions of the natural world. The critique and decentering of anthropocentric perspectives have often been present in various Indigenous worldviews as well as other marginalized communities. The work of Potawatomi botanist Robin Wall Kimmerer

(already mentioned) and social justice facilitator adrienne maree brown have been central influences on this body of work.

Many have named our current epoch the *Anthropocene*. Constructed in 2000 by Paul Crutzen and Eugene Stoermer, the concept of the Anthropocene attempts to point at human activity as the main cause of the ecological crisis (Moore 25). On the surface, this is a salient point, as it counters the idea that climate change is some sort of “natural” planetary occurrence. However, in conceptually flattening all of humanity, the term fails to account for the deeply entrenched global inequalities driven by capitalism and imperialism.<sup>8</sup> All humans are not equally responsible for ecological destruction, and the worst effects of it will be felt more extremely along racialized, gendered, and class lines. In her book *Staying with the Trouble: Making Kin in the Chthulucene*, feminist scholar Donna Haraway argues in favour of using the term *Capitalocene*<sup>9</sup> as opposed to the Anthropocene to describe our current epoch; a switch in qualifiers that decenters human nature, pointing to capitalism as the primary driver of ecological disaster (47).<sup>10</sup> *Capitalocene* improves upon *Anthropocene* by diminishing the importance of individualized, personal actions, emphasizing the much larger impact of extractive capitalism coupled with infinite growth, which locates the root of the problem. Although *Capitalocene*

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<sup>8</sup> Monbiot, George. “Never Mind Aid, Never Mind Loans: What Poor Nations Are Owed Is Reparations.” *The Guardian*, Guardian News and Media, 5 Nov. 2021, <https://www.theguardian.com/commentisfree/2021/nov/05/the-climate-crisis-is-just-another-form-of-global-oppression-by-the-rich-world>. Accessed 12 March 2022.

<sup>9</sup> Possibly coined by Andreas Malm in 2009 (Moore, 30-31). Haraway independently started using the term in lectures in 2012 (Haraway, 206).

<sup>10</sup> 100 companies are responsible for 71% of global fossil fuel emissions since 1988. “Just 100 Companies Responsible for 71% of Global Emissions, Study Says.” *The Guardian*, Guardian News and Media, 10 July 2017, <https://www.theguardian.com/sustainable-business/2017/jul/10/100-fossil-fuel-companies-investors-responsible-71-global-emissions-cdp-study-climate-change>. Accessed 12 March 2022.

rightly places the blame on huge, extractive corporations, it can have the effect of encouraging feelings of powerlessness, of “doomerism”—there is no ethical consumption under capitalism, and personal ecological “impacts” are miniscule compared to those of corporations, so why bother? Sadly, a generalized idea that people are too small to create change is also advantageous to those very same corporations.

I would argue that we are not mere isolated, atomized beings, as much as neoliberal capitalism might want us to be. We are complexly entangled. Personal, human actions do contain potential, but only when they become relational, collaborative, and collective does that potential sprout. Enter Donna Haraway’s term *Chthulucene*<sup>11</sup>, which references the interlaced, tentacle-like connections of our multi-species world (31). The Chthulucene, a paradigm which coexists with the Capitalocene, has perhaps not yet fully arrived. To quote Haraway, “Specifically, unlike either the Anthropocene or the Capitalocene, the Chthulucene is made up of ongoing multispecies stories and practices of becoming-with in times that remain at stake, in precarious times, in which the world is not finished and the sky has not fallen—yet” (Haraway, 55). The Chthulucene is a concept of entanglement and collaboration which creeps and crawls throughout *Seedlings*, from the ways that the materials were sourced and collected, to the interconnected mingling of objects throughout the installation.

In their book *The Ecological Thought*, philosopher Timothy Morton eschews the term “nature” in favour of “ecology,” saying that:

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<sup>11</sup> According to Haraway, the term Chthulucene is unrelated to the Lovecraftian monster Cthulhu. Although both derive from a similar etymological root (*chthonic*, deriving from the Ancient Greek word “khthon,” meaning earth or soil), Haraway’s Chthulucene seems to me to describe an entirely different paradigm than the one embodied by the incomprehensibly terrifying and destructive monster created by the racist, fascist H. P. Lovecraft (Haraway 173-4).

“Nature fails to serve ecology well. [...] Ecology can do without a concept of a something, a thing of some kind, ‘over yonder,’ called Nature. Yet thinking ... has set up ‘Nature’ as a reified thing in the distance, under the sidewalk, on the other side where the grass is always greener, preferably in the mountains, in the wild” (3).

In *Seedlings*, I attempt to break down this false, typically Western theoretical dichotomy between what is and is not traditionally designated as “Nature.”<sup>12</sup> For example, I use a variety of paper products and wooden objects, both of which are derived from trees, to form a kind of installation-ecosystem. Whereas “tree” is generally placed in the “Nature” category, “cardboard box,” “egg carton,” “Masonite,” and “printmaking paper” are not, even though they all have a similar origin (see Fig. 13).



Fig. 13. *Seedlings* (detail).

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<sup>12</sup> In this paper, I use alternatives to the word “nature,” such as “more-than-human world” or “ecology,” although I understand that “nature” still needs to be used in certain contexts. “More-than-human world” is a phrase coined by philosopher and magician David Abram in his 1996 book, *The Spell of the Sensuous: Perception and Language in a More-Than-Human World*. It has since been widely adopted by many scholars of ecology.

Morton also describes the interconnectedness of all things as a vast, interwoven “mesh,” arguing that the ecological crisis necessitates thinking on a large scale (28). Indeed, the relationships inherent to ecological study are reflected in the vast webs of physical, political, economic, and social causes and effects in discussions about climate change. Morton points out that “[e]cology shows us that all beings are connected. *The ecological thought* is the thinking of interconnectedness. The ecological thought is a thought about ecology, but it’s also a thinking that is ecological” (7). I consider the “mesh” of Morton’s ecological thinking to be akin to Haraway’s Chthulucene. *Seedlings* is a small realm in which everything is connected, materially and thematically. In the installation, objects such as plywood and seed bombs show up in all corners of the gallery. Depictions of plants repeatedly show up in the unfolding book sculpture, printed onto handmade paper, and laser-printed onto pieces of plywood. Cardboard, egg cartons, and seeds also show up *within* other items, such as the handmade paper and seed bombs. The matter that comprises *Seedlings* is its own mesh of interconnected relationships and repeating patterns.

Older than capitalism is the presence of hierarchical social relations. In the philosophy of social ecology, Murray Bookchin proposes that the ecological crisis is historically intertwined with various forms of social hierarchy (Bookchin 82). If a hierarchical, separate, and dualistic outlook on the more-than-human world is intimately tied to unequal social relationships, then working towards more just, equitable and democratic social relations must exist in tandem with working towards a more ecologically sustainable future. Indeed, the ecological and social realms are connected ideologically, physically, and systemically, in the “mesh.” Regarding ecology, Bookchin places emphasis on complexity: “...ecological wholeness is not an immutable

homogeneity but rather the very opposite—a dynamic *unity of diversity*. In nature, balance and harmony are achieved by ever-changing differentiation, by ever-expanding diversity” (88). In the book *Art as Politics*, Adam Michael Krause mirrors Bookchin’s writing about ecology in his own about the need to transform the art world. His sentiment is one that reflects my approach to *Seedlings*:

Art should be recreated to approximate an ecosystem that grows, changes, and evolves, but not in a neat, orderly way. Rather, there ought to be a tangled mess of interactions and symbiotic relationships that change over time, leading to growth, adaptation, and yes, progress. We ought to utilize a wide variety of artistic practices and activities in order to arrive at a richer, more meaningful art world with ever-increasing complexity, subjectivity, and individuation.

Progress is not linear or teleological in the natural world *or* the art world (77).

*Seedlings* is similarly “a tangled mess of interactions and symbiotic relationships” that is subject to change and adaptation over time (77). If it grows, its growth will not be linear. In growing, it can simultaneously achieve more diversity and complexity as a wider variety of patterns and materials are incorporated. There is also potential for greater interaction with the viewer in possible future iterations of *Seedlings*—viewers could become participants by interacting with the movable, adaptable parts of the installation, or even participating in workshops, making components as part of a collective effort.

In her book *Emergent Strategy: Shaping Change, Changing Worlds*, adrienne maree brown describes biomimetic lessons for building political movements, solving complex problems, and creating progressive social change. In brown’s *Emergent Strategy*, biomimicry is a guide, a

framework, a lesson-learning methodology. Rather than using observations seen in the more-than-human world to try and explain human behaviour, brown advocates for seeing a behaviour or pattern in the more-than-human world and taking inspiration from it. One such idea is that of fractals, which are repeating patterns often found in plant life and landforms. As brown states, “what we practice at the small scale sets the patterns for the whole system” (53). Fractals are a model for systemic change, for changing things from the ground up. It asks how small-scale change might be reflected at larger scales. The fractal concept means “see[ing] our own lives and work and relationships as a front line, a first place we can practice justice, liberation, and alignment with each other and the planet” (53). This biomimicry and fractal-logic melds well with Kimmerer’s observations about reciprocity. Instead of obsessing over how big or small an ecological impact our individual actions may have, we can move towards practicing relationships of care and mutualism in our ecosystems and communities and think about how those practices can echo out.



Fig. 14. An example of a fractal: the branch of a Western Red Cedar (Gabriola Island, BC, 2021).

## THE POLITICS OF SF<sup>13</sup>

As a child and especially as an adolescent, I was an avid reader<sup>14</sup>, voraciously (and repetitively) devouring works of fantasy literature. I later dove into worlds of speculative and science fiction, fascinated by the worldbuilding of dystopian alternate futures or the expansive imagining of interplanetary societies to communicate political messages about our own world. adrienne maree brown's work is also rooted in science fiction, particularly the fiction of Octavia E. Butler. To quote brown,

Art is not neutral. It either upholds or disrupts the status quo, advancing or regressing justice. We are living now inside the imagination of people who thought economic disparity and environmental destruction were acceptable costs for their power. It is our right and responsibility to write ourselves into the future. All organizing is science fiction (197).

It can very well be concluded that the ecological crisis reflects being stuck in a capitalistic, disconnected, and hierarchical mode of imagination. However, perhaps one missing piece from this conclusion is a fundamental lack of exercising much imagination at all. All too often, we see or hear the phrase "failure of the imagination" in reference to political and institutional decisions that fall back on and perpetuate harmful practices.

Speculative and science fiction can encourage the imagining of possibilities that exist beyond the status quo. Or perhaps a better, more comprehensive phrase is *visionary fiction*.

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<sup>13</sup> SF, a common acronym for *science fiction*, is used by Donna Haraway in *Staying with the Trouble* to describe "science fiction, speculative feminism, science fantasy, speculative fabulation, science fact, and also, string figures" (10).

<sup>14</sup> I still read often, although much more slowly than I did back then.



Coined by writer and activist Walidah Imarisha, “visionary fiction” is a wide-reaching term that encompasses the genres of “sci-fi, speculative fiction, fantasy, magical realism [and] myth” and specifically explores themes of collective change, centering marginalized communities (brown 163). As once said by Imarisha, “[visionary fiction] reminds us to be utterly unrealistic in our organizing, because it is only through imagining the so-called impossible that we begin to concretely build it” (Rewriting The Future). I believe that sci-fi and visionary fiction can plant the seeds of potentiality and possibility, and in some cases, imagine worlds beyond capitalist, authoritarian dystopias, pushing against what Mark Fisher describes as “Capitalist Realism” in his book of the same name—an all-encompassing acceptance of the alleged inevitability of capitalism, or to paraphrase Fredric Jameson, the ease with which we are able to imagine the end of the world rather than the end of capitalism (2).

In observing the worsening effects of the ongoing ecological crisis, many young people feel as if their futures have been stolen from them, coupled with frustration with a situation of political stasis in which necessary structural and systemic changes never truly seem to occur. Why does our world feel so resistant to change? Mark Fisher asks, “[H]ow long can a culture persist without the new?” (3). To me, it is unsurprising that there has been a recent resurgence in popularity of Octavia Butler’s *Parable* series of novels. In Butler’s *Parable of the Sower*, the protagonist, Lauren Oya Olamina, lives in a version of America where society is collapsing under the weight of socio-economic and ecological crises. Under these circumstances, she imagines a new thought system called Earthseed, which is based on the idea that God is essentially the concept of change. A whole belief system that revolves around ideas of change is radical and attractive in a world that feels static and in which political change requires mountains of effort.

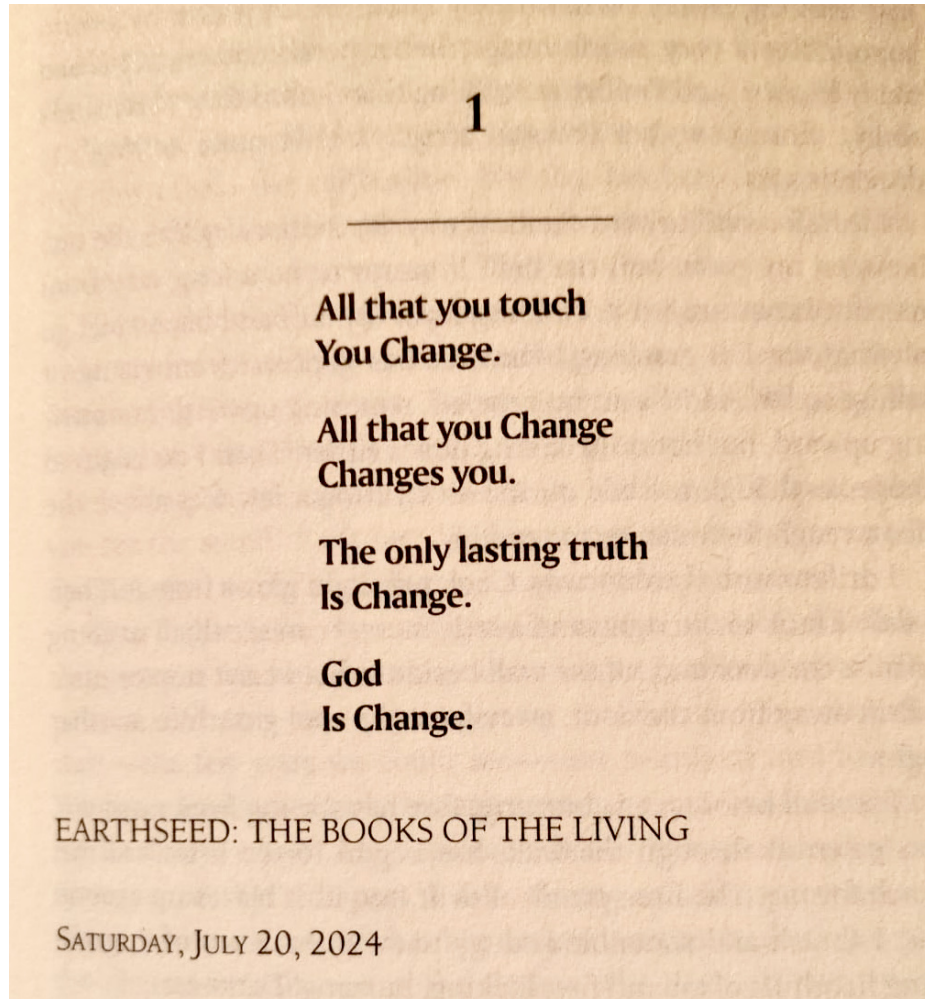


Fig. 15. The first page of *Parable of the Sower* by Octavia E. Butler. Photo: Rida Hamdani, April 2022.

The solarpunk genre lies precisely at this intersection between art, ecology, and political action. Solarpunk is a fictional genre, aesthetic, and movement that rejects dystopian visions of the future in favour of more hopeful ones. A Google image search for “solarpunk” will reveal a plethora of imaginative illustrations, depicting anything from intensely green, futuristic, Art-Nouveau-inspired cityscapes to fantastical, pastoral imagery reminiscent of Studio Ghibli’s films (see Fig. 16 for an example). In addition to its more aesthetic components, it focuses on community, sustainable energy, social equity, permaculture, mutual aid, and artisanal

technology and craft.<sup>15</sup> Solarpunk is not a realm of techno-utopian, capitalistic solutions to the ecological crisis, nor one of banal optimism—a solarpunk ethos accepts that adapting to climate change will be necessary, but also looks towards practical solutions for a radically hopeful future (Ayoub). It does not reject technology whole-heartedly but imagines a world in which technology serves to aid people and the earth, not capital. One of the exciting aspects of solarpunk is the coexistence of “eco-topian” artistic visions alongside practical, feasible projects that exist on personal and community levels, such as community gardens and mutual aid endeavours. Solarpunk bridges the visionary with the practicable. As such, my artwork embodies elements of the solarpunk genre: the DIY sensibilities of the handmade, the upcycling of materials, the illustrative depiction of plants, as well as aspects of mutualism, decentralization, and a lack of apparent hierarchy in the construction of the installation.



Fig. 16. *Vegetal City* by Belgian architect Luc Schuiten. From Schuiten, Luc. “Le Panorama Vegetal City.” *Vegetal City - Luc Schuiten*, <http://www.vegetalcity.net/en/vegetal-city/>. Accessed 3 April 2022.

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<sup>15</sup> Basinski, Alex. “You’ve heard of cyberpunk and steampunk, but what’s solarpunk?” Medium.com. 12 June 2019. <https://medium.com/@ajbasinski/youve-heard-of-cyberpunk-and-steampunk-but-what-s-solarpunk-e0e472bd9c9f>. Accessed 15 November 2020.

Who gets to decide what is and isn't within the realm of the possible? Who controls that narrative and by what means? To quote Donna Haraway, "It matters what stories we tell to tell other stories with; it matters what concepts we think to think other concepts with" (118). That which is deemed possible is highly contingent on a combination of many factors. Is giving land back to the First Peoples of Turtle Island an impossible dream? Some might label this aspiration as such, but I would call it a necessary act of justice. I once found it difficult to imagine a world without police. Now I can, and mentally painting a picture of what that possible future looks like was key. Can we imagine thriving worlds without prisons, or fossil fuels? Beyond the patriarchal, white supremacist, capitalist status quo? Such worlds should be in the realm of the imaginable—even if those worlds are in the realm of fiction. That said, where is the line between "imaginable in fiction" and "imaginable in the real world" (and who gets to draw it)? Whether they are fictional works of the imagination that expand what was previously thought possible, or complex, grounded, concrete ideas to work towards, both fit into the realm of solarpunk.

In Chapter 6 of *Staying with the Trouble*, "Sowing Worlds: A Seedbag for Terraforming with Earth Others," Donna Haraway discusses Ursula K. Le Guin's "Carrier Bag Theory of Fiction," in relation to the writing of both Le Guin and Octavia Butler. For me, as for Haraway, the fecund imaginations of sci-fi authors such as Le Guin and Butler "reseed our souls and our home worlds" (117). Le Guin's "Carrier Bag" theory challenges us to look at and create different kinds of stories. Instead of the typical male-Hero's Journey in the shape of an arrow, we might think of stories in the shape of a carrier bag or receptacle. "A book holds words. Words hold things. They bear meanings. A novel is a medicine bundle, holding things in a particular, powerful relation to one another and to us" (Le Guin 339). The installation *Seedlings* is full of things that were once

receptacles for other things, such as egg cartons, cardboard boxes, and plastic take-out containers, whose original usages have been transformed somehow. Some verbs Haraway associates with such stories are gathering, sowing, and recuperating, all of which are actions that have been part of the creation of *Seedlings*. I am not only collecting and foraging for objects, but also for ideas, in the form of lessons, theories, fiction, and art. In a sense, *Seedlings* is a carrier bag of ideas. I strive to be the visual artist equivalent of a visionary sci-fi author, looking to Butler, Le Guin, and others for influence. As artists, people who work within the realm of the imagination, we are well positioned to envision alternatives.

## RECUPERATE, RECONSTITUTE, RECONSTRUCT

Many of us grew up with the slogan “reduce, reuse, recycle,” but perhaps we need a new “three Rs” for the Capitalocene/Chthulucene. “Recuperate, reconstitute, reconstruct” has become a guide for my studio practice and methodological approach. What can I collect from a pile of so-called garbage? Is it biodegradable? Can it combine with and metamorphose into something else?

The origins of this guide for creating work began when I started collecting cardboard from Central Stores. Then, in the summer between my first and second year, Jordan Blackburn gifted me the wooden floor tiles when he was emptying out his studio. To add to my accumulation of wooden pieces, I started recuperating wood from the wood shop’s scrap bin. This process made me think more about how much of what is deemed “garbage” can be redirected to other uses, especially as a gift economy/exchange already existed amongst my fellow MFA students and me. How could I make that part of my methodology beyond the regular, year-round MFA studio giveaways? I set a loose rule: I would gather or recuperate as many of my materials as possible. In so doing, I wondered what a truly circular economy would look like. What would it take to create a world without trash? My approach is not meant to be a solution, rather an opportunity to reorient my relationship to my community as well as my materials. It also gave rise to unprecedented outcomes. For example, the plywood used for *(The Garden of) Forking Paths* was largely a combination of poplar bought from Home Depot (a rare exception to my loose rule) and some unidentified, softer plywood (possibly meant for construction purposes) which had sat unclaimed in my shared house for over a year. This mixture of wood types resulted in a

variety of colours. For example, when the poplar went through the laser printer, a pinkish-brown shade was revealed in the second layer.

In his book *Balance: Art and Nature*, writer John K. Grande describes how artists, often frustrated with the limits of the capitalistic art market, attempt new approaches to the creation of art (36). However, artists often run into a conflicting problem: “Socially relevant art is not necessarily ecologically relevant” (21). Through resource extraction, the materials used to create art position the artist as superior to nature and position nature as “something to be framed. Nature becomes a device to be used and one of its main purposes is to have a name attached to it” (30). Grande calls for a more holistic and equitable relationship between the art world and the more-than-human world from which we, as artists, derive our supplies; for a new artistic legacy that rejects the guidance of art history and avant-gardism as well as market forces (36). In my work, I try to respond to this call seriously by letting a sustainable sensibility guide my approach to materials. In so doing, I have utilized various recuperated and gifted items, reconstituted paper scraps via DIY papermaking, learned how to create ink from carefully foraged plants, and taken into account whether my components could be composted, recycled, or gifted when the exhibition was over.

Thinking about the circular economy of Nadine’s chickens is what originally encouraged me to start collecting egg cartons. The egg cartons evolved from being symbolic references to eggs to being materials for papermaking. “Reconstitution” describes the recombining of various substances to create something new. In the winter 2022 semester, I started teaching myself papermaking. I gathered my repurposed cardboard and egg cartons, as well as scraps of printmaking paper, paper bags and napkins from my lunches, compostable pink packing peanuts

from an online order (which dissolved easily in water), and the microgreen seeds. The paper products were then blended to a pulp. Different combinations of these materials resulted in different colours of handmade paper. The dozens of seed bombs, created using purchased soil and seeds, as well as gifted clay, also reflects this approach.



Fig. 17. Compostable pink packing peanuts are shown dissolved in water. They were later added to white paper pulp, creating a pale pink tint.



Fig. 18. Different colours of handmade paper. On the left, paper made from cardboard boxes; on the right, paper made from egg cartons; and in the middle, paper made from a mixture of both.



Here I look to Donna Haraway's idea of "humus," a concept of compost, a coming-together of a "Multispecies Muddle:" ever-changing, transforming, nourishing, and full of potential (32). Haraway discusses "sympoiesis" ("creating with") as opposed to autopoiesis—the act of solo creation (33). With sympoiesis, we return to the Chthulucene, a realm of tentacular connections and collaborations. adrienne maree brown discusses a similar concept under a different name—collaborative ideation: "...how do we disrupt the constant individualism of creation when it comes to society, our shared planet, our resources?" (158). When plants sprout together, they are often connected in a rhizomatic root system, sometimes aided by mycelium, underneath the surface. Sympoiesis and collaborative ideation reflect a needed paradigm shift away from hyper-individualism. Now that *Seedlings* has been shown in the gallery, I have been giving away the seed bombs and prints to whomever wants them—doing my best to continue the act of gifting and reciprocity in collaboration with others.<sup>16</sup>

In *Braiding Sweetgrass*, Kimmerer describes the interdependence inherent to the Indigenous farming tradition of The Three Sisters: corn, beans, and squash. In planting corn, beans, and squash together, the three plants aid, encourage, and protect each other in their growth (128-140). Kimmerer contrasts this tradition to that of monocrops, such as massive corn fields (a common sight throughout Turtle Island) which require large doses of manufactured herbicides and fertilizers to grow (138-9). Kimmerer describes plant monocrops as akin to the "monoculture" of Western science and looks toward a future "when the intellectual monoculture

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<sup>16</sup> I often wish that artistic collaborations were more common. Although art collectives and collaborative artistic partners (looking at you both, Julie and Jacob) are not unheard of, the art world is mostly composed of individual artists who are expected to follow solitary career paths. What would the art world look like if more artistic collaborative ideation was encouraged?

of science will be replaced with a polyculture of complementary knowledges. And so all may be fed” (139). *Seedlings* is itself a kind of polyculture, and this is reflected in its “diverse assemblage” aesthetic. This theme can also be seen in *(The Garden of) Forking Paths*, in its mix of plant depictions and its subtle assortment of colours.

One poetic aspect of compost is that of the new emerging from the old. Indeed, nothing is created in a void, but sometimes there are surprising moments: offshoots and materializing tendrils. How might we encourage the “new” to sprout? As adrienne maree brown says, “I learned in school how to *deconstruct*—but how do we move beyond our beautiful deconstruction? Who teaches us to reconstruct? How do we cultivate the muscle of radical imagination needed to dream together beyond fear?” (59).

“Reconstruct” is about rebuilding, regenerating, and reimagining, with adaptability and transformation in mind. Draping wet sheets of handmade paper over small pieces of wood resulted in brick-like shapes, many of which are present throughout the installation (see Fig. 19). The repeated creation of multiples in my work—prints, pieces of wood, egg cartons, seed bombs, handmade paper, and more—remind me of building blocks. By nature, children’s building blocks are modular and reusable. *Seedlings* is the result of taking my multitudes of multiples and building a small world, a fictional ecosystem, that is open to rearrangement.



Fig. 19. *Seedlings* (detail). Six paper bricks are visible in this image, installed upside-down in the installation.

Another transformation within the work is the flattening of egg cartons. The grey cardboard of generic egg cartons, when soaked in water, becomes very malleable. I crushed many of them with a thick piece of wood and some bodily force. When dried, they no longer functioned as egg cartons, and only somewhat resembled their past selves. They had metamorphosed into another kind of building block, another architectural component.

The seed bombs also demonstrate transformation over time. Several of the seed bombs were placed in recuperated take-out containers and were watered consistently throughout the run of the exhibition, resulting in the growth of microgreens (see Fig. 11). Upward growth, however, as exemplified by the sprouts, is not the only kind of growth, nor is growth always linear. Just as plants might also grow deeply or spread horizontally, so might systems or

structures. Some forms of organic life multiply fractally. An old-growth forest grows methodically and slowly. Upward, infinite growth might seem like a very natural occurrence, an assumed inevitability that some superimpose onto capitalism in order to naturalize it. However, scholar Jason Hickel, in his book *Less Is More: How Degrowth Will Save the World*, points out that comparing the infinite “growth *for its own sake*” of capitalism with plants is untenable: once they reach maturity, living organisms usually stop growing (44-5). Hickel’s argument for degrowth is a selective one; renewables need to grow, for example, while fossil fuels, beef, arms manufacturing, and advertising (to name just a few) need to scale down, and things like food waste and planned obsolescence should end (355-374). According to Hickel, all his proposals taken together<sup>17</sup> seriously challenge the “deep logic of capitalism” (394). This degrowth proposal opens an opportunity for a different kind of growth—toward a post-capitalist world.

What if the things we made, including our systems and structures, were created with cyclicity and transformation in mind? A circular economy would be one in which trash doesn’t exist, but we don’t live in that world just yet. Modularity is a methodology characterized by structural change and adaptability, in which changeability is not only considered but is foundational (and consequently, material waste is reduced). All the various elements of *Seedlings* are modular and can be disassembled, reassembled, rebuilt, reformed, broken down, or rearranged in myriad ways, making this installation adaptable to its environment as well as open to future iterations. In thinking about the components of architecture, I also think about how the built environment might be reimagined to incorporate care for local ecologies and notions of

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<sup>17</sup> Only a few of which have been mentioned here. He also highlights the forgiving of debt, reducing inequality, the decommodification of public goods, reducing work hours, implementing a jobs guarantee, shifting from ownership to usership, and much more (355-404).

adaptability over time. The built world can also embody the human need for connection to ecosystem and community.

## CONCLUSION

What might we bring together in a messy muddle in order for something new to sprout? Individual people are capable of enacting individual actions, but change begins when people create connections. In creating connections, in recognizing entanglement, new avenues for compassion are created. In what ways might we gather ourselves, collaborate, and organize the future?

What are the physical, theoretical, and imaginative building blocks we might use to build something new out of the compost? Visionary fiction and solarpunk are elements in this worldbuilding toolbox that can expand the boundaries of what is considered possible. Robin Wall Kimmerer describes the process of learning through lessons from plants and Indigenous stories “re-story-ation” (9). Many SF authors and community organizers have this in common: thinking radically beyond the status quo. Our minds, our imaginations do not exist in voids. We can expand the fertile soil of our capacity for thought.

Radical, eco-social, political imaginings may be some of the key ingredients in bringing about a more ecological and equitable world. The word “radical” simultaneously refers to “of or growing from the root of a plant,” as well as “favoring extreme changes in existing views, habits, conditions, or institutions.”<sup>18</sup> Or as Angela Davis once said, “After all, *radical* simply means ‘grasping things at the root.’”<sup>19</sup> Sometimes, like a sprouting seed, radical ideas can grow, branch

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<sup>18</sup> “Radical | Definition of Radical by Merriam-Webster.” Merriam-Webster, <https://www.merriam-webster.com/dictionary/radical?src=search-dict-hed>. Accessed 23 November 2020.

<sup>19</sup> Davis, Angela Y. *Women, Culture, & Politics*. New York: Vintage Books, 1990.

out, and benefit their environments. *Seedlings* is an assorted, adaptable assemblage, a small world emerging from recuperated and reconstituted ideas.

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