


The background of the entire page is a dense, chaotic pattern of thin, yellow, hand-drawn lines. These lines are irregular and overlapping, creating a complex, web-like texture that fills the entire space. The lines vary in thickness and direction, contributing to a sense of movement and complexity.

W Phyllis Wong

# MENDING OPEN WOUNDS

Master Design 2024 PZI/RUAS



**MENDING OPEN WOUNDS**  
Holding Space for Relations and Resilience



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Holding Space for Relations and Resilience

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**Mending Open Wounds**

**Holding Space for Relations and Resilience**

(to be read preceding to Learn(ing) to Unlearn)

Design questions:

~How can I, as a designer and educator, design accessible and innovative methods to help transition into Regenerative Practice?

~How can I develop a reformed mental framework to unlearn cognitive skills influenced by an industrial growth-driven society?

~How can I design participatory tools and exercises to narrow the gap between Human and NonHuman species?

~ How can Regenerative Practice be integrated and enhanced into the Higher Arts & Design Education curriculum?

Keywords

#practise-of-care #redesign-cognition #affectivity #potential  
#interconnectedness #learning-to-unlearn #systems-change  
#nonhuman #more-than-nature #Regenerative-thinking

*Realise You are the Earth*

Thich Nhat Hanh

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## PREFACE

It happened in a recent August. Our young oak tree withered nearly to the core amidst another record-high scorching summer. The scalloped foliage curled inwards in desolation among weak ochre and pale beige hue. The Earth\* that kept the roots intact had dehydrated and its upper centimetres had turned into loose sand. We only discovered its ailing state upon returning from our summer break. In our absence, the magnolia and lemon also lost sight of life while bathing within the micro climate of our west-facing backyard. Diligently, water was reacquainted and the rehabilitating trees found refuge in a sheltered corner.

We did not plant nor buy the oak. In fact, there were two, alien residents who out of nowhere, mysteriously sprouted weeks apart in separate occupied pots. As how More-than Nature works, life sprang from a mere little seed to a promising plant. Within a couple of years and without much maintenance, both oak rose proudly taller than the garden desk.

What came as a pleasant surprise unfolded a few weeks later. As a warm autumn gradually entered, the parched, dry leaves clung loosely to the branches, while occasional gusts whisked some away. However, during a routine yard work on an early Sunday morning, I noticed pea-sized patches of spring green peeking from beneath some of the oak's leaves. Regeneration was underway. Through admirable effort, the oak gained strength to rejuvenate and live again. Like an open wound, the torn skin had weaved itself anew. The patch of spring green was slowly shoving out death and healing into life once more. As I lingered and hunched closer to survey the miraculous sight, I pondered on the resilience of our living systems capable of restoring and growing even in the face of adversity.

I reflected. In the context where both human and NonHuman species are considered integral components of the natural environment, I observed a significant parallel between the resilience in plant life and the capabilities of humans to adapt in response to environmental challenges. This transformation of both mind and body may require substantial effort. I could assume, only for the human species, that while potential lies in changes in our behaviour and

its driving forces, fundamental shifts in mindset leading to changes in attitudes, values and priorities are imperative. It is a process that requires determination, perseverance and collective endeavours.



This pocket book records my two-year journey where I befriended the modest connotation Regeneration necessitates. Initially, it felt as if my encounter with Regeneration was purely a coincidence. Yet looking back, just as how More-than Nature operates, it became clear that it was a meticulously orchestrated act, triggered by countless seemingly effortless connections during my studies. As I learned to embrace the ethos of Regeneration, I realised the urgent need for humanity to rekindle its symbiotic relationship with our natural world. Our disconnection from this only living biosphere has fuelled the flames of the climate crisis, demanding a profound shift in our collective consciousness.

Consequently, although still in its infancy, the outcome of this undertaking is the exploration and formulation of 'how-to' or methodologies for implementing the practise of care and adjusting the necessary changes in our (design) cognition. Design thinking with a shift in mindset offers a powerful toolkit for addressing environmental challenges. By prioritising a holistic paradigm, we can create new paths that harmonise with More-than Nature. Embracing Regenerative principles empowers us to rebuild our relationship with the environment, providing resilience and the needed positive change.

Special thanks go to the students who participated and contributed their effort and feedback to assist and enrich my research. Since adopting a Regenerative mindset, I found myself on an ongoing quest to redefine my existence as a humble reborn member of my family, community and planet. I celebrate this book as a milestone and the beginning of a new phase of my life.





## LEXICON

**Earth\*:** Humus-rich soil, comprising clay, minerals and organic matter, is fundamentally essential for sustaining all life forms and ecosystems.

**Holding Space:** To create and harness a non-judgemental and supportive mutual space that allows transformative change and restoration to occur.

**Interconnectedness:** The term refers to the recognition and appreciation of the complex web of relationships and interactions that exist within our ecosystems, societies and economies. Hence, the health and well-being of one part of the system is closely linked to its related parts.

**Learning to Unlearn:** Consciously evolving cognitive perspectives to embrace diverse species and contexts, unlearning biases for holistic understanding.

**More-than Nature:** The interconnected ecosystem comprises all living organisms, including humans, other life forms and their environments, fostering mutual dependencies. It resembles ecologist David Abrams' term "More-than-Human World". It is to supersede the word "Nature" cultivated in an industrial growth-driven society, which regards a context excluding the human species.

*"Will NonHumans benefit, like Humans, from the promise of salvation? In other words, will NonHumans be resurrected too?"*

Bruno Latour

**NonHuman:** A term that is more specific than 'other than Human' species and refers specifically to living organisms that are not classified as humans. It predominantly encompasses animals, although it can also extend to other life forms like plants, fungi, bacteria and other microorganisms. NonHuman species are defined by their biological characteristics and evolutionary relationships distinct from Humans

**Potential:** A fundamental principle of Regenerative development emphasizes that potential embodies the intrinsic capability and capacity for growth and transformation. Potential can be realized, whereas problems can only be solved. Potential direct its focus forward, while problem-solving often looks backwards.



**Imaging:** The role of imaging, also known as mental immersion in this research, draws inspiration from Confluence teaching, a concept pioneered by George Isaac Brown and Stewart B. Shapiro in the 1970s. It holds a crucial position by enriching participants' comprehension and involvement across various contexts. Alternatively known as Humanistic and psychological education, it evolved with the belief that education should simultaneously cater to learners' intellectual and emotional development. Typically, *educators structure lessons with objectives categorised into cognitive, affective and psycho motor domains. Cognitive objectives entail acquiring knowledge, affective objectives involve nurturing attitudes and emotions, while psycho motor objectives pertain to mastering manipulative and motor skills.* Integrating with Confluence education, mental immersion encompasses inner visualisation methods to place images in the mind while projecting deeper comprehension. This approach enhances accessibility and relatability, especially when grappling with intricate concepts in Regenerative practice.

Gunter et al 1990, 27

In iterative settings, mental immersion helps participants grasp abstract ideas by connecting inner representations with prior knowledge and experiences. They contextualise information by vividly picturing concepts, promoting engagement and deeper learning. This method pushes for critical and creative thinking by encouraging the exploration of multiple perspectives. Envisioning scenarios enables individuals to anticipate consequences, enhancing potential-driven skills.

Educators guide individuals through inner visualisation from personal landscapes to project outcomes to enhance emotional processing and resilience. Similarly to meditation, participants are prompted to delve into their inner understanding, often with eyes closed, to minimise external distractions and information. Each immersion session focuses on a single focal element, facilitating a journey towards empowerment as participants access their unique inner resources. This mental immersion aids in applying knowledge across various settings, catering to holistic development. Participants are encouraged to engage in these practices autonomously and privately to encourage self-observation and self-awareness, crucial for personal progression.

## INTRODUCTION

*This suffocating land  
withstanding the staggering piercing walls*

*perhaps you could just bear urban blocks for another hour  
and two for the devout and isolating abbeys*

*perhaps five more for the laborious restorers  
and seven for the hardship the land carries*

*before you become lush forests and pure flowing water  
once more  
and the wild seamless living source*

*in that hour of such unbearable pain  
when you are given back your name and care of all matters*

*give us more hours  
perhaps the lifetime of many trees  
to learn the love like a seedling  
until we are worth for all*

*let each unborn bearer mend these phases  
to learn the love like a fawn  
until we are worth for all*

Rainer Maria Rilke's *Du dunkelnder Grund*, appropriated

### On **Rainer Maria Rilke:**

Selected poems have been carefully chosen to represent corresponding chapters and appropriated to reflect our current escalating social conditions, which the late poet predicted and warned to be destructive.

## WHY IS REGENERATIVE PRACTICE NECESSARY AND HOW CAN POTENTIAL ARISE FROM EMERGENCIES?

Amidst the faceless concrete sprawl of our time, humanity has drifted and dismantled the fabric of our ecological stability. In our reckless pursuit of growth, as foretold by Donella Meadows and her team in 1972 in "The Limits to Growth," *we have cultivated an unfortunate relationship of disconnection, leading to profound climate issues.* This pursuit has favoured economic growth and short-term gain over environmental balance, gradually manifesting in behaviours that sabotage our inherent bonds with More-than Nature and each other. As humanity finds itself engulfed in this self-inflicted tragedy, diverse streams of vast and unique knowledge and wisdom converge to resurface Regenerative practices, originally developed by Indigenous cultures from all over the world.

Regeneration resembles a tree that reflects an intricate ecosystem comprised of interconnected components. From the tail-end of the roots to the tiniest leaflet peaking out on the highest branch, every element contributes significantly to the continuous sustenance and expansion of life. It bears a system of its own but only operates collectively to thrive and flourish.

Regeneration is also a multifaceted approach comprising related layers that form a mothership system perpetually replenishing and renewing within a continuous cycle. Its main purpose is to foster life and sustain its presence permanently at default. Rooted in the familiar context of More-than Nature and its relations, Regeneration is the practice where our feet currently tread, rather than just a distant destination sought for refuge. It prospers not only in ancient forests but also in the heart of urban cities, albeit in varied fashion.

At the core of Regenerative thinking lies *the concept of potential, diverging from conventional problem-centric approaches. Instead, it embraces life-affirming methods and place-based resources, encouraging optimism and exploring possibilities.* One key context where this approach focuses is bridging the gap between Human and NonHuman species, striving to maximise potential while minimising separation. This is also what this book entails.



## BRIDGING OVER

*I weave my voice in the rippling threads that stitch beyond my reach  
I weave myself into this for I will not finish this journey  
I wonder around Eternity by the lighthouse of hope  
I have been wandering long*

*And I am still pondering if I could prey, rage or simply sing a sweet soft  
chorus for the unborn*

Rainer Maria Rilke's Widening Circles, appropriated

## WHAT PRECEDES THE PRACTICE OF CARE

Mang &amp; Haggard 2016, 213

The alienation of humanity from our natural context has accentuated a division between Human and NonHuman domains. This perspective sheds light on environmental indifference, the decline of biodiversity and ethical dilemmas. There is an urgency to advocate for reconnection to promote ecological balance and sustainable stewardship. To align this awareness with what the core of Regenerative development advocates, it is crucial to understand the following essence. *To make essential systemic changes to our malfunctioning society that advocate for continual growth, one has to be able to create inner personal change and development as a start.* By addressing the individual level first, we lay the foundation for broader systemic shifts. This inner work nurtures the qualities and resilience necessary to challenge existing paradigms, envision alternative futures and advocate for sustainable and equitable change.

Macy &amp; Brown 2014, 75

Embracing renowned and seminal research, autobiographies, theories and frameworks from biologists to physicians and scientists, it quickly becomes evident that restructuring our cognitive abilities offer the potential to address our detachment. This process or transition can emerge as an intimate and personal approach to mitigate the disconnection between humans and our natural living systems, promoting small steps to greater harmony and interconnectedness. To paraphrase deep ecologist Joanna Macy's lifelong work, *we need to realise that compassion arises effortlessly from understanding our interrelatedness with nature.* Other than striving to cultivate it, we need only embrace our inherent connection to all beings including NonHuman. This awareness can foster care and an innate inclination to alleviate the suffering of others.

Harvey 2007, 72

In our time, education systems in developing regions led towards *neoliberal structures that had shaped our cognitive abilities by promoting individualism, competition and conformity.* This dominant trajectory extensively suppresses much-needed social consciousness, devalues creativity and limits broader critical thinking. *Recognising these influences is essential for allowing educational environments that prioritise holistic development, social justice and sustainable futures.* Consequently, it is imperative to re-evaluate and reform our educational paradigms to cultivate a more holistic and interconnect-

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bridging over

ed worldview. This involves not only academic curricula but also the cultivation of collaboration and deeper respect for More-than Nature in general. Such an educational shift can inspire future generations to become stewards of the planet, committed to enhancing a sustainable and equitable global society.



These notions had puzzled my mind for years. Yet I was not able to precisely grasp where to intervene hence refrained from delving into them. It finally came to a yield when I, during the process of this research, was confronted with one of More-than Nature's most adaptable materials: soil. With a background as a designer, I consider myself a polymath, proficient and curious in various artistic pursuits. The allure of soil or clay interests me early in my exploration. It emerged from a blend of curiosity and a maker's inquisitive nature. After an afternoon crash course on handling clay from a ceramist colleague, the potential of this medium unconditionally unfolded before me. Within the next few months, I held a close relationship with soil, clay and Earth\*; a singular living instrument characterised by being dynamic, charismatic and versatile all at once. Being able to manipulate and shape with clay reignited the long-lost sense of childlike wonder and joy. I explored this newfound wonder reawakening how the texture and tactility of this material can comfort my being. With my bare fingertips dancing on fresh terrain, each touch was an exploration of possibility and discovery. My senses mould, squish and shape uninhibited by rules, guided only by imagination, freedom and good company. Every squelch and every smudge was a reason to unleash new opportunities as if manifesting a masterpiece in the making.

Then on a bleak Saturday morning in February, I drove east toward a small village outside Nijmegen. It was volunteering day at a newly established Regenerative farm, De Biesterhof. No-dig garden beds need to be built from scratch in preparation for sowing in early Spring. When I arrived I was greeted by a tall heap of jet-black compost standing beside the farmer's house, ready to be mixed in as fertiliser. Next to it were wood chips, clippings from the neighbour's

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pear orchard, piled up to be used to protect topsoil. Unfortunately, we were unlucky with the weather that morning. Fully clothed in waterproof gear from head to toe, we spent the day battling the ongoing drizzle while shuttling compost back and forth to the garden beds. Within a couple of hours, the mixture of rain and earth turned into a slushy, creamy mush, clinging to the soles of our rubber boots; following and tailing, increasing in mass and delaying our steps with each movement we made.

By lunch break, our boots were weighed down by a thick layer of gathered soil, lighter in shade but malleable like the industrial clay I had been working with recently. I knew very well that this region of the Dutch landscape has Earth\* richest in clay, favourably and continuously nourished by the lifeline, the river Waal. Hence it then struck me with the idea of using locally sourced clay which I could process myself. In my maker's mind, I pondered various ways to deconstruct the earth to obtain fine and pliable working clay. I questioned myself how long it would take and how manageable it would be. I also imagined the variety of objects that I could construct from this humble medium, retrievable directly from beneath my soles. But in my designer's mind, these thoughts also prompted me of the deep reminder that earth is also this same modest material that essentially forms the foundation of many lives, the same opaque humus that clads the entire base of our land and the same magical substance full of potential that provides a home for a diverse array of living species thriving underneath.

As dusk approached, I made my way home. Experiencing a mixture of fatigue and rejuvenation after a day's labour amidst the brisk, refreshing air. I drove back feeling grateful. In the trunk behind me lay a sizeable amount of earth still carrying the scent of the rain and grass, carefully wrapped in a thick plastic bag. Flashbacks of Howard and Claudi, the farmers and their courteous yet inquisitive demeanour flickered in my mind as I pierced through an empty motorway surrounded by flat farmland on both sides. We had parted ways while exchanging ideas about what I could create with the handful of soil and with them extending a warm invitation to return whenever I am in need of fertile earth.

## FROM MATERIAL TO COGNITION

Shortly after the rewarding day at the farm, my curiosity about the integrity of the Earth was piqued. I began to draw a parallel between the abundant biodiversity and interconnectedness found in soil and the adaptable characteristics and complexity of cognition. The rich diversity and interrelationships within soil serve as a mirror to the intricacies and versatility of human thought processes. Just as healthy soil initiates and sustains ecosystems, humanity should be capable of nurturing new cognitive abilities to regenerate our relationship with the environment. The challenge lies in understanding that cognitive change is gradual. Where do we start and what are the potentials?

*Paradigm shifts require the inner transformation of our hearts and minds. Outer transformation is a consequence of inner cognition.*

Donella Meadows

Our cognition and intellect is rooted in how the brain functions, encompassing perception, memory and higher-order thinking processes like configuration and decision-making. This largely influences and shapes our overall outlook and actions on life and the world. Biological factors, experiences and social interactions also form cognition. These delicate mental processes enable us to understand the world, adapt to challenges and navigate sophisticated environments influencing our behaviour while developing our unique identities. Altering our inherent cognition can then contribute to a paradigm shift, a common term coined by American historian and philosopher of science, Thomas Kuhn. This term originated

in the context of scientific theory but has since become widely used to describe fundamental changes in various fields or perspectives. A paradigm shift usually involves more than just individual cognitive changes. It results in a widened scope of impact by creating a systemic transformation in thought and practice within a community or discipline. *Kuhn contends that a paradigm shift must derive from accumulating anomalies or irregularity, leading to the formation of a crisis* which parallels the climate crisis. As climate data increasingly diverges from expected patterns, it triggers a crisis, compelling us to re-evaluate existing beliefs and solutions. This prompts the need for a paradigm shift in addressing environmental challenges, from consumption habits, energy production and eventually alterations to our worldview. Just as in science, recognising and responding to these irregularities can drive transformative changes in societal attitudes and policies.

In the context of the climate crisis, efforts to induce cognitive change leading to paradigm shifts, one potential is to incorporate elements of care and compassion in order to reconnect More-than-Nature. This concept has been ingrained in us from our earliest memories through our childhood experiences hence it is logical to explore from there. *Jean Piaget's theories on childhood development highlights the importance of early experiences in shaping cognition and morality. He discusses how children's interactions with their environment, encompassing experiences of kindness and concern can influence their moral development.* This implies that addressing significant issues requires not only factual or logical arguments but also other cognitive qualities and an understanding of individuals' perspectives and emotions. It is a nuanced approach that recognises affectivity on the complexity of human responses to environmental challenges.

Childhood experiences can also be pivotal in shaping cognitive patterns and behaviours that endure into adulthood. *Beginning from our infant years, cognition works from within ourselves through layers of different environmental systems learnings from our immediate surroundings ranging from our family (microsystem), community (exosystem), cultural values (macrosystem), historical*

*context (chronosystem).* By understanding these systems and their impact on individuals, cognitive interventions can be tailored to support the process of Learn(ing) to Unlearn current social norms. It can also assist comprehensive development emphasising the importance of nurturing environments for optimal cognitive growth and societal well-being. These fundamental experiences can gain insight into the basis of cognitive processes and how they manifest into a bigger impact.



In the context of design education, this research highlights the importance of cognitive transformation through the practice of care. It identifies and emphasises three interconnected and essential cognitive traits: Empathy, Reciprocity and Long-Term Thinking. Participants engage with the Learn(ing) to Unlearn framework, using designed instruments and tools to experience practical outcomes. By infusing affectivity or the influence of emotions, during the participatory process, they can cultivate deeper understanding and impact that resonate with individuals' sentiments and experiences. This approach can stimulate the development of potential strategies and methodologies, addressing the root causes of societal issues and fostering substantial and enduring change. For details of the framework, its iterations and the subsequent process and results leading to student participants' application to their projects, refer to my DR documentation, "Learn(ing) to Unlearn."



## ON EMPATHY

Krzmaric 2014

If Regenerative practice calls for inner development to gradually effect outer systemic changes in society, then focus on our empathy aligns with this distinctive unlearning and mending approach. Social philosopher *Roman Krzmaric underscores the significance of empathy in comprehending others' perspectives, nurturing connections and tackling societal issues. He asserts, empathy lies at the heart of human society and is a gateway to compassion.* Acknowledging that both Human and NonHuman species are essential elements of the more-than nature world, this perspective and mindset shift can extend to encompass interactions with not only among humans but also with NonHuman species. By utilising imaging or mental immersion exercises to assist in this shift, participants can be guided through a mental journey into their cherished landscapes from their childhood, prompting reflection on who else, besides humans, inhabited this picturesque setting.

Taking the impression of a favourite childhood landscape captured by student participant Anna. Her recollection transports us to Villa Melara in Sicily, a haven of vibrant colours and perpetual sunshine, where she spent many summers in the comfort of her nearest kin. Amidst this idyllic backdrop, the presence of Carbonara, the affectionate yet unrestrained cat, symbolises the untamed beauty of More-than Nature, reminding us of our interconnectedness with the animal domain. The ritual of burying perished creatures savaged by the feline tenderly memorialised with makeshift crosses reflects a deep empathy and reverence for life, embodying the principles of Regenerative practice. As Anna and her cousin honour the captured, they also embrace a holistic understanding of their place within the ecosystem, giving a sense of responsibility and stewardship. The ensemble of birds chirping and loud cicadas underscores the vitality of the natural world, while the rows of Cypress trees and the scent of freshly cut grass evokes a sense of tranquillity and harmony. These elements serve as a reminder of the interconnected web of life, urging us to cultivate empathy and awareness in our interactions with the environment and each other.

Through childhood experiences like Anna's, individuals can cultivate a deeper sense of compassion and potentially connect with the world around them, nurturing a mindset conducive to Regenerative

I grew up around lots of nature, both taken care of by humans and completely wild. Because I grew up in such a space, I could just step out of my door and explore my garden, sure that I was always gonna find something new and interesting. I was always encouraged to keep exploring using all my senses and move my body to blend with the nature around me. I have now many manual skills and I'm not afraid of nature, of its changes ~~para~~ but it's an interesting element of my life that gives me some peace and the opportunity to become a kid again.



All We used to have a cat called Carbonara and she was always in the garden. This never been a "normal" house pet but more a wild one. And many times she used to come but the door with a mouse or bird she killed. My cousin and I would then bury those animals in a special spot in our garden, and build a cross with sticks on it.

thinking. However, empathy is a complex trait influenced by various factors such as socialisation, experiences and individual differences. While empathy towards NonHuman species seems to be less restricted in childhood, honouring and preserving the beauty and diversity of our surroundings as a human species, regardless of age, can reform behaviours and contribute to sustaining what could be a more compassionate society.



The role-play card game I designed elevates the mental immersion exercise to a deeper level. The act of impersonation of an endangered NonHuman species prompts participants to embody a perspective beyond human experience. In this engagement, players delve into the species' existence, encouraging empathy and understanding. Loosely inspired by *Dave Gray's Empathy Map*, players navigate challenges to experience 'pain' and 'gain' by using their senses while confronting the species' vulnerabilities and threats. This confronting challenge exposes the species' vulnerabilities, prompting contemplation of real-world environmental and societal dilemmas. Such an interactive approach encourages empathy-driven thinking and deepens appreciation for the interconnectedness of life. By engaging with the plight of the chosen species, participants cultivate awareness and advocacy, encouraging a sense of responsibility towards the preservation of biodiversity and the protection of vulnerable ecosystems.

Building upon the immersive experience of the role-play card game, I later developed an extension in collaboration with student participants. Players were asked to image a NonHuman species dear to them and consider the threats it faces within the context of their upbringing. They were then prompted to devise ways to protect this species by integrating the persona they developed into their major's project. By doing so, students can infuse empathy-driven thinking and a deeper comprehension of environmental challenges into their work. This approach adds a personal dimension to their projects, encouraging a stronger connection to the issues at stake and encouraging innovative solutions that prioritise the well-being of the chosen species and its ecosystem.



Student participants reflect over the Role-Play card game amongst themselves

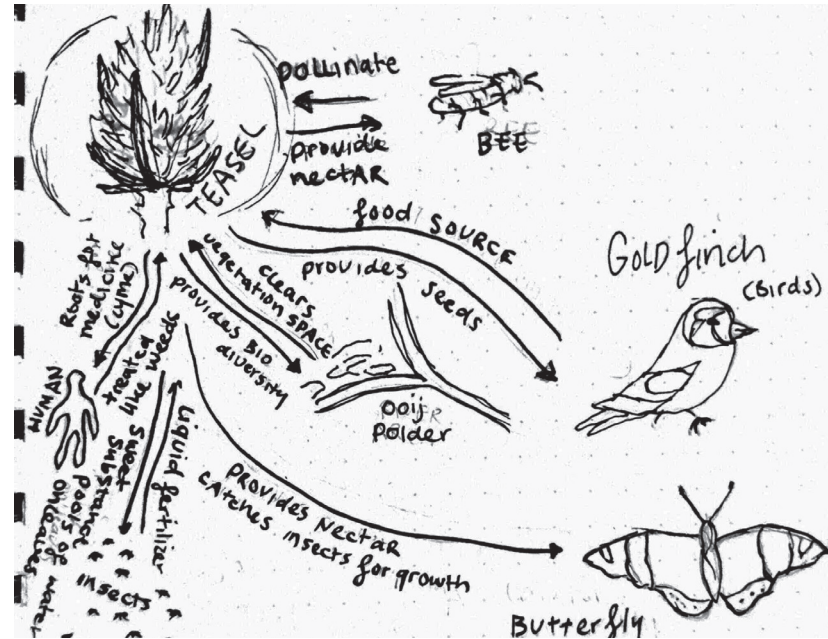


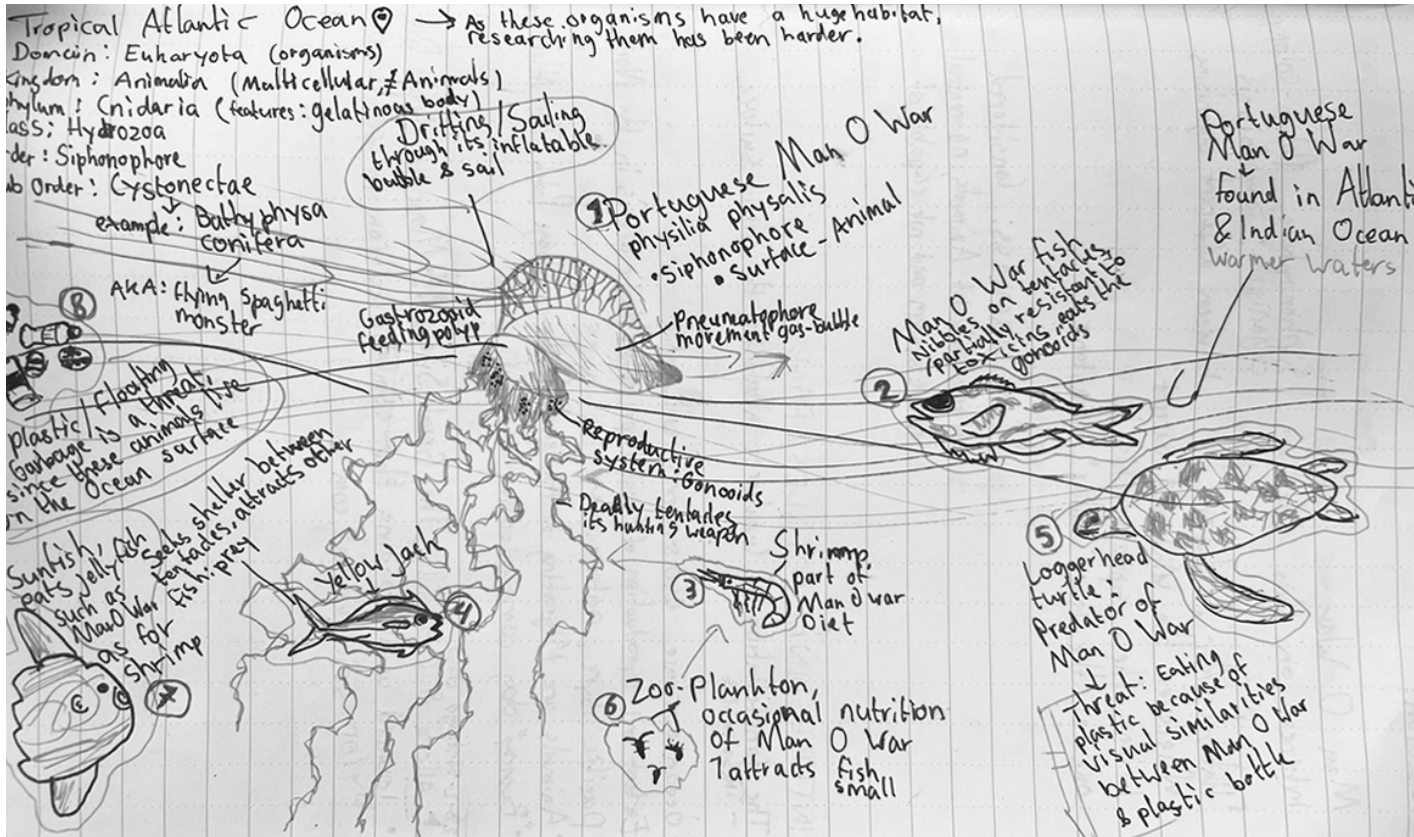
## ON RECIPROCITY

Mang & Haggard 2016, 88

Guild formation, derived from *Permaculture, a Regenerative farming method*, involves the clustering of species around a central subject. Essentially, it signifies the symbiotic relationships among various organisms within an ecosystem. Guilds typically consist of cluster of plants performing multiple ecological roles, mutually benefiting each other's strength and vitality. They form a community where plants aid one another by enriching soil nutrients, offering shade, retaining water, attracting beneficial insects, deterring pests and diseases, enhancing soil health and mitigating erosion. Ultimately, plant guilds embody both form and function, aiming to replicate natural stacking and interconnections while offering essential ecosystem services.

Reciprocity is often overlooked in our society where self-interest prevails. By prioritising collective well-being over individual gain, reciprocity can transform our surroundings, nurturing interconnectedness and provide a harmonious balance between human activities and the environment. Using the guild concept as a guide, it can extend beyond ecological realms to encompass reciprocal actions that nurture personal growth and progression. This certainly can enable positive change and environmental impact through inner development. As individuals transition from cherishing childhood landscapes filled with NonHuman species to cultivating empathy, the role of reciprocity can evolve accordingly. This can be achieved by learning from guild formation and understanding the relationships around which these species revolve. By observing how various organisms interact within their ecosystems, the intricate web of connections that sustain life can be recognised. This mirrors how plants and animals in a guild support each other's growth, extending empathy and similar attributes to other NonHuman species. Through this lens, exploring the richness of relationships beyond human-centric perspectives nurtures a profound understanding of interconnectedness and mutualism. Thus, emulating the principles of guild formation in interactions with NonHuman species can deepen reciprocity and cultivate a holistic appreciation for the complexities of the natural world.









I organised field trips as part of inner development of Learn(ing) to Unlearn, situating in context within natural environments to facilitate and promote comprehension of reciprocity. Led by experienced forest rangers, visits to diverse Dutch landscapes provided first-hand experiences. Immersed in forests, participants gained insights into local ecosystems, observing interactions among flora and fauna. These excursions not only deepened the understanding of reciprocity but also promote an appreciation for the intricacies of More-than Nature.

To demonstrate the interdependence among organisms, the 'Earth\* gathering' exercise was designed to involve the deliberate unearthing of a handful of soil to reveal the multitude of species residing within it. This simple activity serves as a tangible demonstration of ecosystem complexity, highlighting the intricate web of relationships where organisms rely on each other for survival. Participants witness the diverse array of life forms present in seemingly ordinary soil, highlighting an appreciation for biodiversity and the interconnectedness of living beings with the practical understanding of guild formation. By exposing the hidden world beneath the surface, this child-like and hands-on approach can deepen the understanding of ecological constructs and encourage stewardship of the natural world, promoting awareness of the delicate relationships that underpin Earth's biodiversity. Through guided exploration from engaging forest rangers, individuals developed a nuanced understanding of their relationship with More-than Nature, recognising the potential and reciprocal exchanges fundamental to ecological health. Consequently, these immersive experiences promotes personal growth, encouraging participants to incorporate principles of reciprocity not only in these exercises but also into their daily lives beyond the classroom.

## ON LONG TERM THINKING

Long-term thinking is integral to Regenerative practice as it stresses the consequences of present actions on future generations and the environment. By prioritising sustainability and intergenerational well-being, Regenerative practice aim to create lasting positive impacts that endure beyond immediate concerns.

Nestled within Indigenous wisdom, cathedral thinking and the notion of leaving legacies are foundational to their practice as they embody a profound respect for interconnectedness and the well-being and prospects of future generations. *Indigenous cultures view themselves as custodians of the earth, tasked with preserving the balance within More-than Nature for the benefit of all life forms. This vision and planning for the long term recognise the enduring impact of present actions on the collective future. The concept of "Seven generations" into the past and future underscores this ethos, emphasising decisions' consequences on descendants into the future.* Such forward-thinking embodies holistic considerations, wherein individuals act as custodians of their environment, preserving it for posterity.

Wilson 2008

*We should acknowledge too that future generations would never forgive us if we gave up while there was still the possibility of change, no matter the odds. We must hear their voices in our dreams and heed them in our decisions.*

Roman Krznaric

Leaving legacies involves intentionally passing down knowledge, traditions and stewardship practices to successive generations, ensuring cultural continuity and ecological harmony. For Indigenous communities, these concepts are inseparable from their identity and worldview, guiding their interactions with the natural world and reinforcing the importance of comprehensive and intergenerational responsibility. Through cathedral thinking and leaving legacies, Indigenous wisdom offers valuable insights into sustainable living practices and the preservation of cultural and environmental heritage. Furthermore, Indigenous cultures also value storytelling as

a means of transmitting knowledge across generations. Elders pass down wisdom through oral traditions, ensuring continuity and cultural preservation. These narratives often contain ecological teachings, guiding communities on mindful living practices.

Macy 2003

*Joanna Macy's Double Circle or Seventh Generation ritual serves as a powerful embodiment of long-term thinking within Regenerative practice. This ritual, inspired by Indigenous wisdom, invites participants to reflect deeply on their interconnectedness with past and future generations and the earth as our only home.*

*They tell us that whole species of animals and plants are going extinct. We know about that, too, because gone is gone. But they tell us you know about that while it's happening. Is that true?... And if it is true, what's that like for you?*

Double Circle Ritual

In the Double Circle, participants form two concentric circles representing different time frames: the inner circle symbolises the present generation, while the outer circle represents the seventh generation into the future. Through guided narrative and dialogue, participants explore the impacts of their actions on both the past and future, casting a confronting and profound sense of responsibility and stewardship. This ritual demonstrates long-term thinking by encouraging participants to consider the consequences of their choices not only for immediate outcomes but also for generations before or yet unborn. By envisioning the well-being of descendants seven generations ahead, participants are compelled to adopt consequential thinking that prioritises resilience and intergenerational equity. The Double Circle ritual also cultivates a deeper awareness of the interconnectedness of all life, emphasising the importance of collective action. By engaging with this ritual, individuals and communities are inspired to align their values and behaviours with the principles of Regenerative practice, creating a holistic approach to societal transformation rooted in long-term vision and legacy-building.





## MANIFESTATION

*His vision, from the constantly avoiding gaze,  
has grown so weary that it cannot hold  
any hope. It seems to him there are  
a thousand mentions; but behind the words, no future.*

*As he questions in open-ended doubts, over and over,  
the trace of his powerful soft probing  
is like a ritual dance repeating around a center  
in which a mighty will stands paralysed.*

*Only at times, the limbs draw a stop  
lifts, falls and quietly--. An image enters in,  
rushes down through the bothered, restrained thought,  
plunges into the heart and is gone.*

Rainer Maria Rilke's *The Panther*, appropriated

## CONNECTING THE DOTS

Albrecht 2011

To design Regeneratively for NonHuman species embodies the understanding of Symbiosis, departing from the anthropocentric mindset and era. *The Symbiosis approach introduced by ecologist Glenn Albrecht, prioritises the well-being of other species, enabling reciprocal relationships where Human interventions aim to enhance rather than exploit the ecosystems.* This practice of care nurtures cognitive change and affectivity on roles of empathy, reciprocity and long-term thinking towards all living beings. It also importantly acknowledges our interconnectedness and shared habitat. This paradigm shift in design philosophy recognises the urgency of co-creation and sustaining coexistence by envisioning a future where Human actions positively contribute to the resilience and flourishing of all life forms with More-than Nature.

During the 2023/24 academic year, I guided Regenerative Practice studios with two different years of BA students at Willem de Kooning Academy, majoring in Transformation Design. The studio curriculum included cognitive change and various frameworks outlined in this book. The assignments were diverse; one tasked students with initiating change through creating an Assembly/Initiative as a team, while the other involved giving voice to NonHuman species by designing a product, experience, or service based on the theme of Symbiosis. The resulting student projects spanned a range of designs across different scales and contexts, all centred on inclusivity towards NonHuman species. These assignments promptly kick-started the challenge of Learning to Unlearn within learners. Riveting ideas, critical inquiries, self-reflections and inspiring proposals demonstrated the students' grasp of effecting systemic change amidst today's climate urgencies which selected few are showcased as follows.



## PIEN

*ART OF GIVING BACK TO More-than NATURE*  
 biodegradable popsicle sticks made from bioplastic  
 containing blueberry seeds

NonHuman persona: honey bees

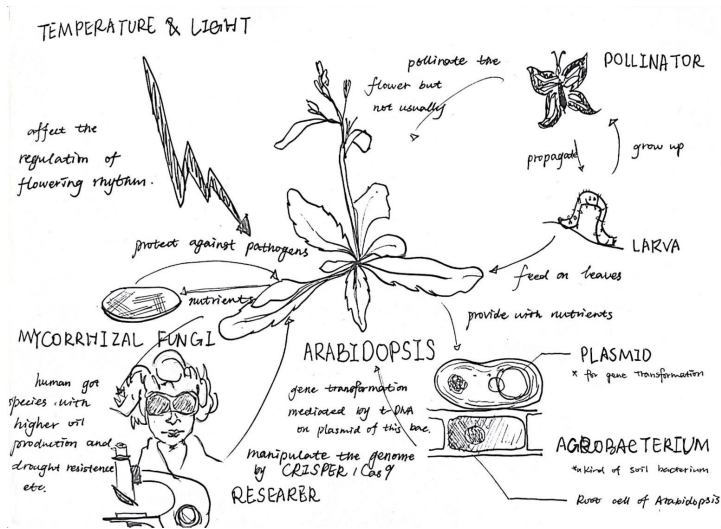
on potential:

*“It could create a mindset change, as people  
 subconsciously think about their behaviour and its  
 impacts on other species”*

reflection on Pien’s work:

Pien’s approach to addressing „disposable growth“  
 is simple, fun and effective. Through clever use of  
 sustainable materials, she makes the notion of sweet  
 pleasure accessible to all age groups, demonstrating that  
 sustainable living can be enjoyable and inclusive.





Guild formation drawing of Arabidopsis; a flowering plant with a short life-cycle typically used in lab for experiments

## YUKI

### PLANTIN: SITUATED KNOWLEDGE TOWARDS BIOPHILIA

a digital platform, PlantIn, demonstrating the observation from Twitter beyond utility for scientific research

NonHuman persona: arabidopsis

on empathy:

*"I use the extremely human-centered platform LinkedIn as a metaphor, indicating how NonHuman species are suffering and what is overlooked in both Human and NonHuman species. I hope this digital platform can serve as an educational archive to spread awareness of situated knowledge as common sense in pursuit of the era of symbiocene"*

reflection on Yue's work:

Yue's background in biology has cultivated a deep appreciation for environmental justice, even in seemingly ordinary plants. Her meticulous approach provoke innovative and inspiring outcomes, demonstrating the transformative power of attention to detail in cultivating ecological causes.



**Arabidopsis pulchraflora**  
Model Organism/ Watercolor Muse/ Street Performer/ Therapist

Who viewed you  
2543  
Views on post  
2248

Recent

- # Model Organism
- # Watercolor Muse
- # Street Performer
- # Therapist



**Q1: A New Role Emerges: Arabidopsis thaliana is taking on a new role in the city. Which one does it embrace?**

- Urban Greenery Ambassador, greening up concrete jungles.
- Botanical Artwork Character, splashed across city murals.
- Ph.D. Journey Companion, thriving alongside students in the libraries.

**PlantIn News**

Arabidopsis News from  ->



Join us for Transformation

## AVA

### RESTORATION AS A PRACTICE OF CARE

restorative action for seagrass and system change  
in the fishing licensing process in Canada

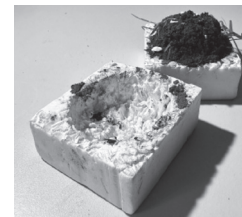
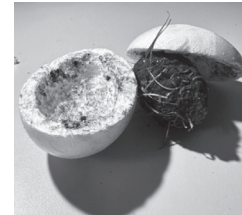
NonHuman persona: dungeness crab

on insight:

*“I want to create more care and thought in the hearts  
and minds of those fishing in Canada, towards the envi-  
ronment they are entering and the species within it.  
Ideally a positive system change!”*

reflection on Ava’s work:

Ava’s advocacy for system change is comprehensive and impactful, spanning initiatives from seagrass growth to altering fishing license policies. As a maker and caring thinker, she addresses diverse and crucial aspects, highlighting the multifaceted nature of environmental conservation and the need for systemic reform.

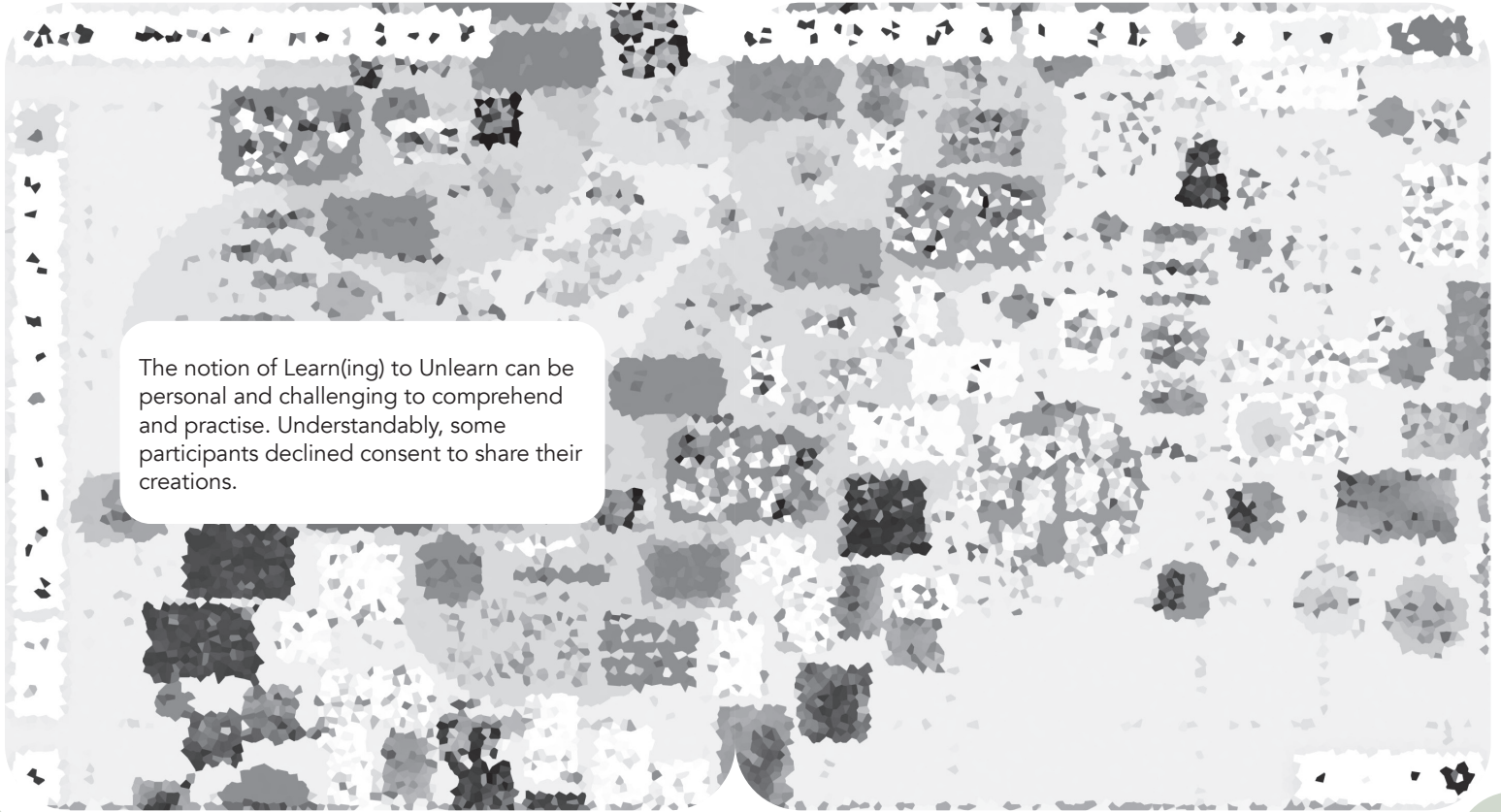


## PARTICIPANT

### ROLE PLAY GAME

reflection on participant's work:  
This participant's has an innovative approach, viewing potential through destruction. It is embodied in an educational game which challenges humanity to reconnect holistically and reciprocally with More-than Nature, illustrating the transformative power of starting with a clean slate.





The notion of Learn(ing) to Unlearn can be personal and challenging to comprehend and practise. Understandably, some participants declined consent to share their creations.

Part of the participant's digital workspace where the student researched, linked and interrelated Regenerative learnings and chosen NonHuman persona while demonstrating the student's comprehension of the concepts central to Regeneration

## SARA GARCIA DOMINGUEZ

### DIARIES OF LIMONIUM CARIMINIS: A GREEN REVOLUTION

an animated short film to raise awareness of  
an endangered native species

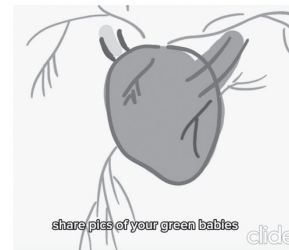
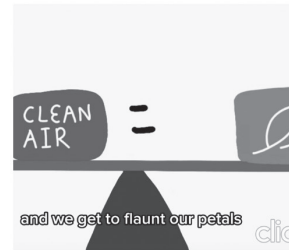
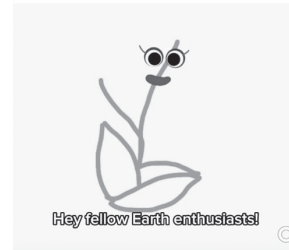
NonHuman persona: limonium carminis

on insight:

*“I think throughout my project I thought a lot about the Guild formation, the relation between a plant and a human and how we share the same environment. I did this by questioning, researching and interviewing.”*

reflection on Sara’s work:

Sara’s choice of a resonant medium ensures her message is both received and remembered. Her pop and witty style grabs attention and makes her cause approachable. By simplifying complex issues, she powerfully raises awareness about protecting endangered plants effectively.





## CONCLUSION

*The future: time's excuse  
to frighten us; too vast  
a project, too large a morsel  
for the heart's mouth.*

*Future, who won't wait for you?*

*Everyone is going there.*

*It suffices you to deepen  
the absence that we are.*

Rainer Maria Rilke's *The Future*

## TO THE FUTURE UNBORN

A destination could be an end but at the same time a new beginning. This publication is marking a new birth in my research and our collective journey towards Regeneration. The potential to hold space for the future unborn is vast, inviting us to envision and craft a new worldview where Regenerative Practices are not metaphors or theoretical concepts but living realities.

Guiding the Generation Z student participants was a deeply reflective experience. This generation who often projects a doomsday future perspective faces unprecedented global challenges that they find helpless to combat. I have experienced fears and uncertainties resolved by confusion and anxiety during my interaction with the students participants. However through this research, I have also witnessed the possibilities of their remarkable potential to drive change from implicit nature of many who already have a connection with More-than Nature. It is our tasks to shift their outlook from one of impending catastrophe to one of endless possibility with as adequate time, compassion and love. Knowing that this may be a long process than planned, we can assist them envision and work towards prospects that is not only sustainable but flourishing by securing them with genuine knowledge and relatable tools.

Reflecting on the Zoöconomic future for example, we foresee a world where the intricate connections between human, animal, plants and environmental health are acknowledged and prioritised. This holistic approach offers a promising forecast, one where the synergy between these domains can lead to sustainable and Regenerative solutions. By embracing this vision, we can guide future generations towards a Regenerative era, stimulating a reciprocal coexistence with our planet. This is not just a hopeful perspective, but a feasible future that we can collectively strive towards.

This research is a call to action for a Regenerative Now and Regenerative Future. In collaboration, we can transform our daily life and world ensuring that Regeneration becomes the fundamental driver of our shared progress.



## AFTERWORD

I am writing these closing words in a modest white cottage, nestled in a rustic old fishing village on the northernmost German coast by the Baltic Sea. This humble holiday house sits on two parcels and the view from my room faces the property's lavish piece of wild pasture. Occupied by a combination of mainly towering aged pine and other mature native trees, this piece of undisturbed land is filled with ferns, wildflowers of diverse sorts and multiple assorted plants. It is early May and the pristine sprouting leaves of the huge crowning beech tree directly in front of my window is sparkling shy green; casting a delicate sight of the new Spring.

Built almost a hundred years ago by my husband's great-grandparents, this holiday destination is a stone's throw away from the beach. The house is the result of a 'healing and cleansing' health-beneficial retreat due to the stimulating climate of sea and land combined, missing elsewhere in this almost landlocked country. With gratitude, it continues to serve as a shared refuge within the family in a rotating fashion, especially favourable in Spring and in the increasingly warm Summer months where the Baltic North weather remains unassumingly enjoyable.

Although the interior is basic and unpretentious while the heavy wooden furniture and mix-matched decoration still echo memories of a distant past, the family benefits enormously not only from the ownership but also from the foresight of the forefathers. Apart from the luxury of the property and house, a special relationship with this place and land is forged due to our yearly visits. For the last decade or so, we have been tasked with 'opening' up the house every Spring when the cottage breaks from its winter hibernation as it remains empty in the colder months. It is a unique reciprocal and

caring experience to 'wake up' a premise to allow human interference again. Mundanely enough, it simply involves days of cleaning up. The house when vacant is favourable by insects of many kinds. The physical traces of these winter occupiers are usually their remains; bare webs, beasties hard shells or the occasional paper mache-like wasp hive hung uninhabited but snugly in the attic ceiling. Out in the garden, left unattended most of the year, the scene is free and wild. Every year, the elms and cherry grew denser while the unswerving pines reached nearer to infinity. There are plenty of options where to hang a hammock with the assistance of the study trees or pitch a tent made full of twigs and sticks. It is a mini forest feast the house is surrounded with.

A few minutes walk away from this piece of family heritage lies the basin of the untamed Baltic Sea. Over the years, the climate struggles have battled the coastline significantly. There have been harsh winters where the breakwaters were destroyed and the beaches washed away. The dunes built to mitigate such events were reinforced regularly and floodgates were installed with the fear for the worse. Some parts of the same coastline outskirts of the village have erosions slowly chewing off its bits where we helplessly and empathetically witnessed it inching in every year. But back on the stretch of sandy shore, it remains as the playground for beach combing and sunbathing in the stout and distinct hooded wicker chairs scattered along the edge. This hotspot is an extension of the house and garden as reacquainting with the Baltic Sea is medicinal and traditional for the family. Most of the generations including my children experienced their first beach encounter here on almost the same shore. They would have swum in the same cold salty water and played around with tiny starfish, crabs and trapped jellyfish while the stray wilted seaweeds danced about in the crashing foamy waves. Every generation has shared the same pleasure, joy and observations that this unostentatious place, full of life forms, unconditionally offers. Each visit concludes with hearts full, as each generation absorbs the enriching experience, pulsing with the essence of More-than Nature, replenishing resilience and vigour.

Regeneration is place-based, deeply personal and rich in emotions. I am certain that this place will maintain its distinctiveness for my children, who have spent as much time here as I have since they were born. The uniqueness of this place will possibly become one of their favourite landscapes and hold a special spot in their mental memory, where they will unconsciously weave themselves and their interconnectedness with various familiar species of this place. As they grow, this haven will serve as a touchstone, grounding them amidst life's ups and downs, offering peace and strength drawn from the enduring comfort of More-than Nature and the legacies left for them. Woven with shared experiences and cherished moments, this humble cottage and its surroundings will remain a vibrant, ever-evolving chapter, enriching generations to come with its boundless gifts and comfort.

I zoom out to visualise the many other significant landscapes that surrounded and comforted the childhoods of my student participants. These influential places have partly shaped their relationships with More-than-Nature and influenced how they will design their world for the better. Just as every cell of humanity is created and operates according to the values of More-than-Nature, every inch of space in our minds carries the bright potential to reacquaint, regenerate and reinvent possibilities for everyday challenges. This intrinsic and deep connection is our innovation and capacity. We are inherently linked to the natural world around us and together, we can inspire and create a tomorrow grounded in creativity and harmony.



*it's 3:23 in the morning and I can't sleep  
because my great great grandchildren  
ask me in my dreams  
what did you do while the earth was unravelling?*

Drew Dellinger

## CREDITS

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Know that, this research which is the fruit of your attention, insights and guidance will continue to mature and evolve. I give you all my thanks.

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W Phyllis Wong

# LEARNING TO (UN)LEARN

Master Design 2024 PZI/RUAS



**LEARNING TO (UN)LEARN**  
A Regenerative Design Framework



# LEARNING TO (UN)LEARN

A Regenerative Design Framework

**pw**/W Phyllis Wong

For the completion of  
MA in Master Design 2024

Piet Zwart Institute /  
Rotterdam University of Applied Science, NL

Design Research Title:  
Learning to (Un)learn  
A Regenerative Design Framework  
(to be read subsequent to Mending Open Wounds)

Design questions:

~How can I, as a designer and educator, design accessible and innovative methods to help transition into Regenerative Practice?

~How can I develop a reformed mental framework to unlearn cognitive skills influenced by an industrial growth-driven society?

~How can I design participatory tools and exercises to narrow the gap between Human and NonHuman species?

~ How can Regenerative Practice be integrated and enhanced into the Higher Arts & Design Education curriculum?

Keywords

#practise-of-care #redesign-cognition #affectivity #potential  
#interconnectedness #learning-to-unlearn #systems-change  
#nonhuman #more-than-nature #Regenerative-thinking

*There is No Point of No Return*  
Arne Næss

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## INTRODUCTION

In a flash, a significant portion of this research has deepened and established itself over the last few semesters. Starting from semester 2, where the foundation of my research began to take shape, I embarked on identifying the intrinsic motivation behind what the research means to me. This journey has led me to rediscover who I am, what I stand for and most importantly, my broader sense of purpose.

*The whole is greater than the sum of its parts*

Aristotle

Reflecting on the past, while not knowing how the various components of my research would unfold, I find myself content here, realising that the entirety of my work thus far has provided me with a profound understanding that the whole can indeed be greater and more powerful than the sum of its parts. This realisation has enriched my perspective, both personally and professionally, demonstrating how my entirety, in turn, can contribute to a more meaningful and impactful outcome for others I will cross-path in the near future.



This Design Research documentation is a glossary of iterations and exercises that culminate as the Final Design, which is a learning or educational module leading to Regenerative Design. It is crafted to be applicable to Higher (Arts & Design) Education and the Ecological and Regenerative professional field. Key iterations are explained and reflected upon in the following chapters. As noted in my ST publication, my research iterations were designed and implemented by guiding two semesters of Regenerative Practice with 2nd and 3rd-year students (2023/24) from Willem de Kooning Academy, majoring in Transformation Design. The diverse and insightful input from these two groups has enriched my understanding of the limitations and potential of Regenerative design principles in educational contexts.

**Note that** before proceeding with reading my Design Research documentation, please begin first with my ST publication, *Mending Open Wound*, where the thinking and analysing process of the research is explained.



## LEXICON

**Earth\*:** Humus-rich soil, comprising clay, minerals and organic matter, is fundamentally essential for sustaining all life forms and ecosystems.

**Holding Space:** To create and harness a non-judgemental and supportive mutual space that allows transformative change and restoration to occur.

**Interconnectedness:** The term refers to the recognition and appreciation of the complex web of relationships and interactions that exist within our ecosystems, societies and economies. Hence, the health and well-being of one part of the system is closely linked to its related parts.

**Learning to Unlearn:** Consciously evolving cognitive perspectives to embrace diverse species and contexts, unlearning biases for holistic understanding.

**More-than Nature:** The interconnected ecosystem comprises all living organisms, including humans, other life forms and their environments, fostering mutual dependencies. It resembles ecologist David Abrams' term "More-than-Human World". It is to supersede the word "Nature" cultivated in an industrial growth-driven society, which regards a context excluding the human species.

*"Will NonHumans benefit, like Humans, from the promise of salvation? In other words, will NonHumans be resurrected too?"*

Bruno Latour

**NonHuman:** A term that is more specific than 'other than Human' species and refers specifically to living organisms that are not classified as humans. It predominantly encompasses animals, although it can also extend to other life forms like plants, fungi, bacteria and other microorganisms. NonHuman species are defined by their biological characteristics and evolutionary relationships distinct from Humans

**Potential:** A fundamental principle of Regenerative development emphasizes that potential embodies the intrinsic capability and capacity for growth and transformation. Potential can be realised, whereas problems can only be solved. Potential direct its focus forward, while problem-solving often looks backwards.



Gunter et al 1990, 27

**Imaging:** The role of imaging, also known as mental immersion in this research, draws inspiration from Confluence teaching, a concept pioneered by George Isaac Brown and Stewart B. Shapiro in the 1970s. It holds a crucial position by enriching participants' comprehension and involvement across various contexts. Alternatively known as Humanistic and psychological education, it evolved with the belief that education should simultaneously cater to learners' intellectual and emotional development. Typically, *educators structure lessons with objectives categorised into cognitive, affective and psycho motor domains. Cognitive objectives entail acquiring knowledge, affective objectives involve nurturing attitudes and emotions, while psycho motor objectives pertain to mastering manipulative and motor skills.* Integrating with Confluence education, mental immersion encompasses inner visualisation methods to place images in the mind while projecting deeper comprehension. This approach enhances accessibility and relatability, especially when grappling with intricate concepts in Regenerative practice.

In iterative settings, mental immersion helps participants grasp abstract ideas by connecting inner representations with prior knowledge and experiences. They contextualise information by vividly picturing concepts, promoting engagement and deeper learning. This method pushes for critical and creative thinking by encouraging the exploration of multiple perspectives. Envisioning scenarios enables individuals to anticipate consequences, enhancing potential-driven skills.

Educators guide individuals through inner visualisation from personal landscapes to project outcomes to enhance emotional processing and resilience. Similarly to meditation, participants are prompted to delve into their inner understanding, often with eyes closed, to minimise external distractions and information. Each immersion session focuses on a single focal element, facilitating a journey towards empowerment as participants access their unique inner resources. This mental immersion aids in applying knowledge across various settings, catering to holistic development. Participants are encouraged to engage in these practices autonomously and privately to encourage self-observation and self-awareness, crucial for personal progression.

## DESIGN RESEARCH QUESTIONS:

**Q<sup>1</sup>.** How can I, as a designer and educator, design accessible and innovative methods to help transition into Regenerative Practice?

The Regenerative movement is widely practised across various industries, including agriculture, the built environment and medicine. However, there is a noticeable gap in educating people about what Regenerative Design entails and its significance. Therefore, I view my role as a catalyst for raising awareness, guiding understanding and facilitating the transition to Regenerative principles. By bridging the gap between theory and practical application, I aim to inspire and empower individuals and communities to embrace Regenerative design, ultimately contributing to a more sustainable and resilient future.

**Q<sup>2</sup>.** How can I develop a reformed mental framework to unlearn cognitive skills influenced by an industrial growth-driven society?

While drawing from and analysing the works of various influential authors, ranging from environmental activist Joanna Macy (Works that Reconnects) to systems theorist Fritjof Capra (The Systems View of Life) and from philosopher Roman Krznaric (The Good Ancestor) to practitioner Janine Benyus (Biomimicry 3.8), a common theme emerges: the urgent necessity for our cognitive abilities to embrace new mindsets in order to enact life-sustaining differences within the intricate web of our living systems. Incidentally, the three most prominent cognitive concepts that highlight the practice of care are Empathy, Reciprocity and Long-Term Thinking. This is where the framework “Learn(ing) to Unlearn” begins.

**Q<sup>3</sup>.** How can I design participatory tools and exercises to narrow the gap between Human and NonHuman species?

The practice of care is central to the design of the tools and exercises in this research. It emphasizes the three interconnected and essential cognitive traits mentioned in **Q<sup>2</sup>**. Participants engage in this process using curated methods to facilitate the practical implementation of the exercises. By incorporating imaging and emotional elements into the design process, they can deepen their understanding and achieve significant outcomes that resonate with personal experiences and feelings towards NonHuman species. This element is crucial for learning within our More-than Nature context.

**Q<sup>4</sup>.** How can Regenerative Practice be integrated and enhanced into the Higher Arts & Design Education curriculum?

As explained in **Q<sup>1</sup>**, there is an urgent need to educate on the concepts of Regenerative Practice, particularly to our generation of future custodians in tertiary education. This urgency arises as neurodevelopment is still taking shape within this age group and their evolving maturity begins to grasp complex issues. Engaging students through art and design encourages creativity, critical thinking and problem-solving skills essential for addressing societal challenges. By integrating these disciplines, students not only acquire practical skills but also develop a profound understanding of the interconnectedness between human and NonHuman environments. This understanding can inspire innovative ideas that prepare them to collectively lead in building a Regenerative future.

## TOWARDS THE WHOLE; THE FINAL DESIGN

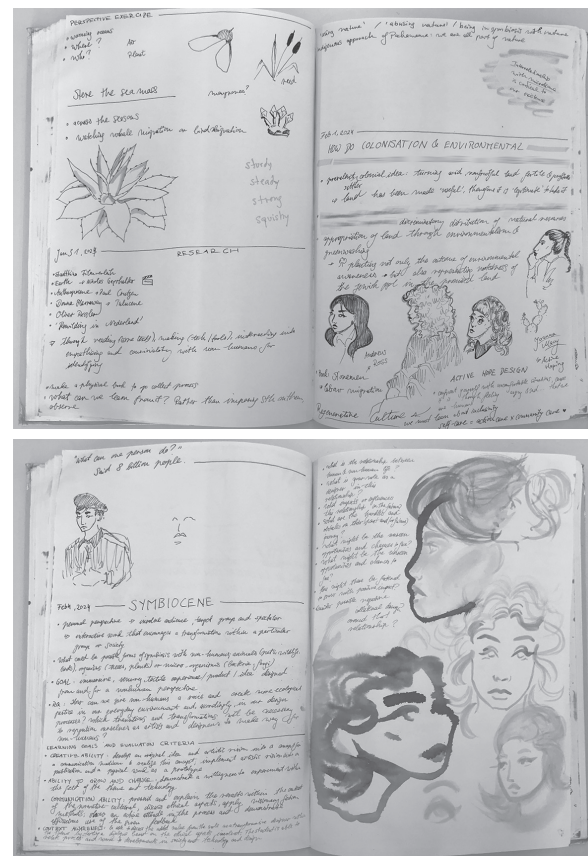
The Final Design, representing the culmination of the research, comprises a series of interconnected and participatory exercises. Its goal is to generate a growing impact, enabling a transition towards a Regenerative practice paradigm. This transition was evidenced in the semester projects of the student participants, where collaborative, sustainable and innovative design within their communities played a pivotal role. For documentation of the student projects, refer to my ST publication, "Mending Open Wound," pages 52-67.

The subsequent pages outline the 'methodology' and 'tools' devised to encapsulate my final design, including a module map that integrates the activities. Additionally, 'concepts' and 'stimuli' derived from Regenerative Practice are provided as supplementary information that guided the teaching process.

At the start of the semester, student participants engaged in a reflective exercise by maintaining a routine journal. This practice aimed to monitor new learnings and document incremental steps towards a mindset shift. Keeping a record of written entries and/or visuals is crucial for identifying self-observations (with changes) and self-actualisation (with goals). Journaling caters self-awareness, reflection and clarity, all of which are essential for Regenerative thinking. It aids in recognising patterns, encourages creativity and supports the development of an evolving perspective, facilitating the emergence of both inventive and compassionate solutions.

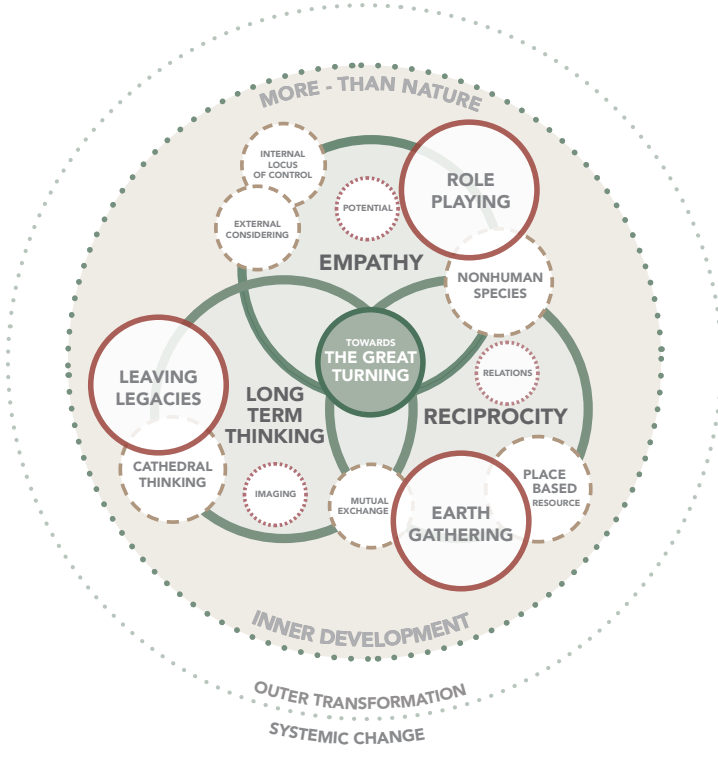
reflection on participants' journal:

During the semester, a range of journals, both analog and digital, were established. Journals persist as powerful instruments for monitoring participants' understanding and comprehension, particularly concerning abstract concepts. Participants can revisit these journals at the term's conclusion and delve deeper if they wish.










Pages from a journal written by student participant Lena provides insights into her thoughts and understanding of her surroundings

## A REFORMED MENTAL FRAMEWORK



The Learn(ing) to Unlearn model focuses on modifying our cognitive traits of Empathy, Reciprocity and Long-Term Thinking that are shaped by a society structured by Industrialism and exponential growth. This model reflects the Regenerative principle where, to allow a positive systemic change in our outer sphere (society), our inner development must first be altered, especially along with More-than Nature characteristics. Instruments are designed to associate with each trait. They are interconnected, supporting and enhancing one another through the relationships that bond them.

This framework is designed to respond to design question *Q1*, How can I, as a designer and educator, design accessible and innovative methods to help transition into Regenerative Practice? and design question *Q4*, How can Regenerative Practice be integrated and enhanced into the Higher Arts & Design Education curriculum?

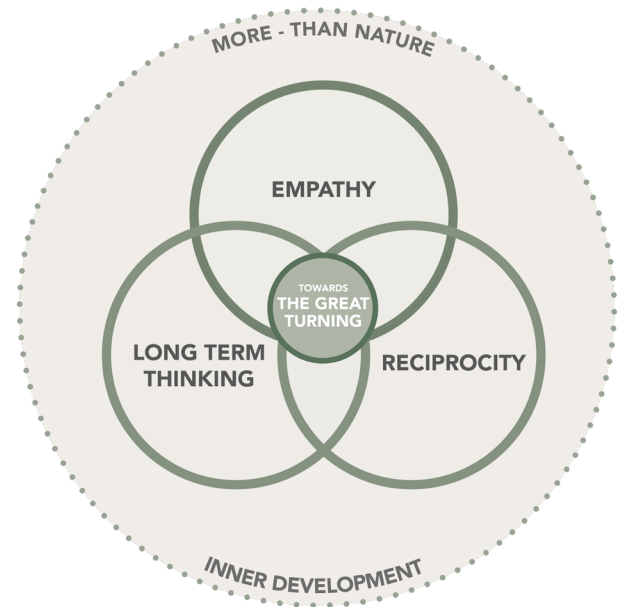
-  Methodologies (key areas of cognitive relearning)
-  Tools (participatory exercises or activities relating to respective methodologies)
-  Concepts (of Regenerative practice and development)
-  Stimulus (extra anecdotes)
-  Goal (Towards a Regenerative and Life Sustaining society or "The Great Turning")
-  Context (inner development that aligns with More-than Nature)
-  Context (outer environment where systems change takes place)

## ON METHODOLOGY

The methodology of my final design underscores the significance of cognitive transformation through the practice of care. It derives and emphasises the three interconnected and essential cognitive traits mentioned earlier. Participants engage in the journey of Learn(ing) to Unlearn using designed instruments and tools to experience the practical outcome. By infusing affectivity or the influence of emotions during the participation process, they can cultivate pathways towards deeper understanding and impact that resonate with individuals' sentiments and experiences.

The convergence of the three cognitive traits is a step closer to the goal of inner transformation. It is named "The Great Turning," a term coined by psychologist Craig Schindler who believes humanity's self-inflicted threats to our lives require an transformative shift in our thinking and behavior. Environmental activist and author Joanna Macy popularised the same term through her lifelong devotion, *The Work That Reconnects*. Macy believes a global movement towards ecological and social healing has already commenced. She defines "The Great Turning" as an ongoing era where pioneering practitioners strive for a sustainable and just world by living against a extractive and growth-driven society.

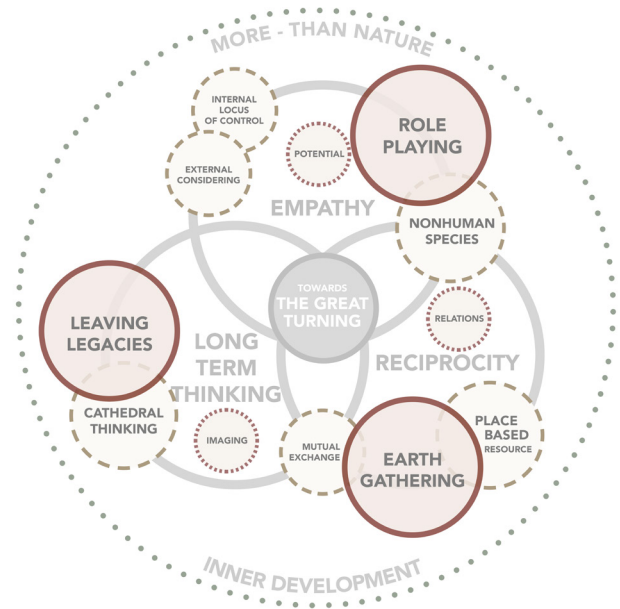
This methodology is designed to respond to design question Q3, How can I develop a reformed mental framework to unlearn cognitive skills influenced by an industrial growth-driven society?



## ON TOOLS

This stage encompasses designing instruments or tools, ranging from exercises to activities, to underpin and expand the methodology of the research.

The tools are designed to respond to design question Q3, How can I design participatory tools and exercises to narrow the gap between Human and NonHuman species?



## ROLE PLAYING

This is an impersonation card game where players step into the role of a NonHuman species to experience its threats. This game is by far the most interactive and successful. Participants are able to understand both the physical and mental objectives of the game. Empathy becomes tangible as the game becomes personal when participants are instructed to investigate a NonHuman species (their persona) that is meaningful to them.

## EARTH GATHERING

The simplest act of 'excavating and seeking' symbolises the cycles of nourishment and renewal that sustain life. A handful of earth witnesses this give-and-take. Referencing the theme of reciprocity in the research, this exercise represents the interconnectedness of all members in this living system, emphasising the need for harmonious coexistence. This activity is conducted after the Guild Formation exercise, where participants gain a better understanding of the relationships and conditions pertaining to their chosen NonHuman species and what it ultimately means.

## LEAVING LEGACIES

Adapting Joanna Macy's Double Circle ritual to assist participants in developing long-term thinking, it encourages envisioning decisions and actions considering their impact on seven generations into the future. Participants gather to reflect on their interconnectedness with past and future generations, recognising the consequences of present choices on future societies and ecosystems. This ritual urges individuals to act as stewards of the Earth, encouraging a more sustainable and equitable world for generations to come.




Student participants play and explore the Role-Play card game

# ROLE PLAYING CARD GAME (EMPATHY)

on tools

Vulnerable Species



**GROUND SQUIRRELS**  
*Sciuridae*


Ground squirrels are small rodents with round bodies and typically long, bushy tails. Their fur is smooth and varies in color from brown to red at the rear. Native to various countries, their population has been declining since the 1950s.

The main threat to ground squirrels is the degradation of their natural habitats, primarily due to agricultural development for food production for human consumption.

Ground squirrels are considered pests in urban and suburban environments because their diet includes vegetation, shrubs, and flowers. They are known to inhabit vineyards, potentially causing crop losses if their population is large enough. Additionally, the species digs burrows under vines, on golf courses, and in other suburban areas, which can lead to pest problems.

**LOOK FOR GRASSLAND AND PASTURES**

Habitant Loss



**GRASSLAND & PASTURES**  
*Bromus erectus semicy grasslandae*


Due to intense urban sprawl and extensive food production, many developed countries are becoming more built-up and farmed, leaving little land for wildlife.

Poor agricultural practices can degrade soil and strip grasslands of life. Without proper crop rotation, soil can become infertile, rendering it unproductive for several years.

Monocropping, the practice of growing only one crop at a time, depletes soil nutrients. Since grasslands rely on the biodiversity of plants and animals, monocropping weakens the biome and increases its vulnerability to natural disasters. Additionally, toxic pesticides used in agricultural fields can be deadly for wild flora and fauna.

**YOU MAY STAY PUT**

Critically Endangered Species




**FRESH WATER CRAB**  
*Gecarcinucidae*

Freshwater crabs are crustaceans that thrive and breed in clean and clear aquatic habitats. They live in streams ranging through undisturbed bed forests and tend to seek cover under rocks in the stream.

Freshwater crabs face numerous threats from urbanization and the alteration of drainage patterns, which disrupt their habitats and breeding grounds. Urban development often leads to pollution and habitat loss, further endangering these species. Climate change exacerbates these issues by causing acidification of streams, which affects the crabs' survival and reproductive success. Additionally, changes in water temperature and flow patterns due to climate change can stress crab populations, making it harder for them to adapt and thrive in their natural environments.

**LOOK FOR HILL STREAMS**

Near Threatened Species



**OTTER**  
*Lutrina*


Often recognized for its cute, furry face and long, slender body with a brown back and creamy chest, the otter became extinct in the 1960s but was reintroduced in the 2000s.

Otters experienced a dramatic population decline due to the introduction of industrial chemicals and pesticides. These chemicals entered the environment, accumulated in wildlife, moved up the food chain, and caused death and reproductive failure.

Pollutants in rivers, lakes, and streams, along with habitat loss from urbanization and deforestation, harm otter populations. Canalization, removal of bankside vegetation, dam construction, wetland drainage, aquaculture, and other human activities also negatively impact aquatic systems.

**LOOK FOR LAKES AND RIVERS**

Habitant Loss



**RIVERS AND LAKES**  
*Fresh water sources*


Treated discharges and sewage overflows pollute freshwater sources. Even after treatment, discharges remain pollutants and heavy metals can cause rivers to overflow, releasing untreated sewage into lakes and rivers.

Excessive use of manure in agriculture contributes agricultural nitrogen and phosphorus to the environment. Factory discharges, sewer leaks, and nitrogen from vehicle exhausts also add to the pollution.

Diffuse pollution, such as pollutants from car exhausts washed into water by rain, continuously contaminates the environment. These small but numerous pollution sources collectively have a large adverse impact. Additionally, long-polluted soil can eventually threaten groundwater, as seen with oil left on former garage sites.

**YOU MAY STAY PUT**

Habitant Loss




**HILL STREAMS**  
*Fresh water sources*

Pristine hill streams face ongoing vulnerability to pollutant introduction, posing risks of habitat loss, population decline, and species extinction. These pollutants are runoff from construction sites, disposal of trash, and release of chemicals into the watersheds. These pollutants threaten the delicate balance of the ecosystem and jeopardize the survival of aquatic species.

Deforestation threatens hill streams in forests by reducing shade, which increases water temperatures and disrupts the habitat for aquatic life. The removal of trees also leads to soil erosion, causing sediment to accumulate in streams, which can smother aquatic habitats. Additionally, the loss of vegetation destabilizes stream banks, altering the natural flow and increasing the likelihood of flooding and runoff, which introduces pollutants and further degrades water quality.

**YOU MAY STAY PUT**

Critically Endangered Species



**HONEY BEES**  
*Apis Mellifera*

Bees are part of the biodiversity on which we all depend for our survival due to their crucial role in pollination.

However, honey bees, bumble bees and solitary bees face many threats and one that has received increasing attention is the use of agrochemicals. Agriculture intensification accompanied by a drastic increase in scale largely through land consolidation. Fertilization of soil and water with nitrogen and phosphorus used for intensive livestock farming. As a result certain plants, such as nettles and grasses grow faster than others which means that fewer flowers bloom which is unfavorable for bees.

Additionally, global warming is driving a decline in wild bees, as some species can only thrive within specific temperature ranges, leading to habitat loss as temperatures rise.

**LOOK FOR FLORA**

Food Source Loss




**FLORA**  
*Pollination sources*

Flora and fauna in urbanized places have gone through substantial alterations and unprecedented changes in terms of yield potential due to rapid urban development and industrialization.

This has resulted into flower poverty, the condition where bees and other pollinators experience a scarcity of food sources from flowering plants in their habitat. This scarcity can arise due to various factors such as habitat loss, changes in land use, intensive agricultural practices using pesticides, urbanization and environmental pollution. As a result, bees struggle to find enough nectar and pollen to sustain themselves, which can lead to negative impacts on their health, reproduction, and overall population dynamics.

**YOU MAY STAY PUT**

YOUR OWN ENDANGERED SPECIE




Fawn (*Cervus talpico / cervinato*)  
NAME OF SPECIES

Features of your specie:  
Really pretty, family woods, you can also eat it, runs fast, amiodiacate, likes poo, pois

Threats faced by your specie:  
ppp that hear it, galy, dry weather → no mouch + no food from plants

What could be done to prevent these threats?  
more green, autogems, more water, bodies + protection (no pollutants in water), ppp actually follow hunting regulations

YOUR OWN ENDANGERED SPECIE




Ruby eel  
NAME OF SPECIES

Features of your specie: *Miscraon, Fish that swim fast, blue like water, long of 100cm, long long body, long thin, sharp, and strong*

Threats faced by your specie: *overfishing, pollution in the water, and poor fishing regulations*

What could be done to prevent these threats?  
*more regulated, invest works for people of hunting fish, and better work for animal fishing regulations*

YOUR OWN ENDANGERED SPECIES




cornus/maize need  
NAME OF SPECIES

Features of your character:  
- feathery flower clusters, stiff, smooth, occurs along the margins of lakes, fens, marshes and streams - 45-50 cm tall

Threats faced by your character:  
- illegal cane cutting  
- illegal road fine  
- extreme changes in climate  
- unknown diseases

What could be done to prevent these threats?  
more care (?)

YOUR OWN ENDANGERED SPECIES



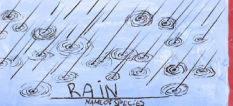
Arabidopsis  
NAME OF SPECIES

Features of your character:  
- Sensitive to environmental changes  
- Model organism in plant biology, both ecologically and genetically.

Threats faced by your character:  
- Invasive research practices disrupting natural life cycles and integrity.  
- Genetic manipulation altering its inherent role in the ecosystem's balance.

What could be done to prevent these threats?  
- Establish ethical guidelines for genetic research to minimize impact.  
- Raise awareness of the silent plight of commonly used species in scientific research

YOUR OWN ENDANGERED SPECIE




RAIN  
NAME OF SPECIES

Features of your character:  
Wet, falls from sky/clouds, see through, cold,

Threats faced by your character:  
Desertification, Pollution, Humans

What could be done to prevent these threats?  
"growing techniques" breeding, buds, water management

YOUR OWN ENDANGERED SPECIE




butterfly  
NAME OF SPECIES

Features of your specie:  
Flying insect; good for plant growth

Threats faced by your specie:  
Climate change: to warm and used for decoration (america) and goals.

What could be done to prevent these threats?  
To let the butterfly live without humans trying to get them out of their natural habitat

YOUR OWN ENDANGERED SPECIE




Bengal Tiger  
NAME OF SPECIES

Features of your specie: yellow - light orange coat with stripes ranging from dark brown to black. The belly & interior of limbs are white, tail orange with white rings

Threats faced by your specie: poaching, loss & fragmentation of habitat

What could be done to prevent these threats?  
Lands to stop poaching, conservation parks & conservation of nature, appreciation

YOUR OWN ENDANGERED SPECIES



Pinulocca - Pinulocca  
NAME OF SPECIES

Features of your character:  
Discrete life stages  
Autonomous, 3rd party, 6 legs, antennae  
Symbolic for metamorphosis

Threats faced by your character:  
Habitat loss  
Climate change  
Disease  
Pesticides  
Invasive plants

What could be done to prevent these threats?  
Preserving the ecology of our extreme environments, as well as restoring lost habitats, promoting environmental taking care of climate change on a local scale.

reflection on role playing card game:

This game is an efficient ice-breaker for participants and their peers. It is light-hearted and easy to navigate, yet can become confrontational when participants find it challenging to represent or think like a NonHuman species. It acts as a stepping stone to raise awareness about this dilemma and the inability to show empathy due to a lack of attention to the More-than-Human sphere.

## EARTH GATHERING (RECIPROCITY)

on tools



reflection on earth gathering exercise:

It is very refreshing to see participants getting hands-on and curious about one of the most mundane yet vital materials in our ecological living system: soil. The expertise of local forest rangers helps participants gain external insights into the shared topic of regeneration, especially when applied to its place-based principle in the local woods of Rotterdam, where most of us reside.

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on tools



Field trip to Kralingse Bos for Earth\* Gathering exercise

on tools

**TRANSFER A HANDFUL OF EARTH ONTO THIS PAGE**

1. Identify (draw, trace and describe) all living and non-living characters in your handful
2. Identify how each living character contributes to one another in this mini ecosystem
3. Take a photo of this page of your findings and email it to [studio@phylwong.com](mailto:studio@phylwong.com)
4. Return the earth back to where you found it

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YOUR FINDINGS

Student participants' findings and observations

## LEAVING LEGACIES (LONG-TERM THINKING)

on tools



### reflection on leaving legacies exercise:

The moral dialogue exercise is overly confrontational, emotional and dense. The design of the ritual is insightful and its simplicity makes the practice memorable. However, participants find it difficult to answer the moral questions between generations and some struggle to understand how they can contribute. There is potential to redesign and simplify the depth of the questions for future iterations.

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on tools

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## ON CONCEPTS

Concepts are principles central to Regenerative Practice and some include designed exercises to help participants bridge theoretical understanding with practical application.



The internal locus of control refers to the control that originates from within ourselves. This encompasses exercising personal control over our behaviour and having agency over our lives and actions. External considerations extend from empathy and the practice of consciously and proactively taking others (including NonHuman entities) into account.



As stated in the Lemmas, the term is more specific than 'other than Human' species and refers specifically to living organisms not classified as Humans. Primarily, it encompasses animals, although it can also extend to other life forms such as plants, fungi, bacteria and other microorganisms. NonHuman species are defined by their biological characteristics and evolutionary relationships distinct from Humans.



Place-based resources consider the genius loci, or the prevailing influence of a specific location, typically the geographic place most closely related to an individual. It involves deeply appreciating and cultivating the finest quality and potential of what the place can nurture and sustain.



As the words suggest, mutual exchange activities are practised using the plant care or plant swap exercise, which usually takes place at the beginning of the semester. Another similar exercise is Guild Formation, which is a crucial process to understand the relationships of a particular species and how it assists in exchange to achieve a balanced ecosystem. Accounts and reflections of both exercises can be found on the following pages.



Cathedral Thinking is a mindset that embraces long-term vision, where metaphorically, the brick masons lay the foundation knowing they will not witness the completion of the building in their lifetime. It involves transcending personal interests to extend benefits to future generations and beyond.

## PLANT CARE EXERCISE (MUTUAL EXCHANGE)

To incorporate NonHuman species into our More-than Nature environment in all aspects of (design) considerations, student participants were each assigned a small houseplant to care for from the beginning of the semester. These houseplants can be either provided by educators/schools or exchanged with other peers from existing collections. Students are instructed to nurture and monitor the growth and needs of their assigned plants. This mutual exchange exercise aims to demonstrate their practice of reciprocity and compassion.



reflection on plant care exercise:

An enjoyable and lively ,quick and dirty' iteration with long-term effects that bring delight to participants. This simple yet responsible task highlights the principles of care and reciprocity. It adds a playful touch to the complex and sometimes abstract topic of Regenerative Practice. Furthermore, this exercise has the potential to foster a sense of community within the class and build bonds through collective plant care-taking.

40

on concepts

## ON STIMULUS

Stimuli are additional anecdotes designed to assist participants in comprehending the various constructs of Regenerative Practice.



Regenerative development lies in viewing situations from the perspective of potential rather than problem. Potential represents an inherent ability to effect change, foster growth and bring about outcomes that have yet to be realised. It involves envisioning what something could become and understanding how fulfilling its purpose contributes beneficially to a larger system. The "Letter to my potential" exercise (on the next page) helps participants identify their own capabilities and consider how these abilities can enhance overall quality.



Relations are the connections through which two or more species/characters (Human or NonHuman) are mutually linked and intertwined. They enable us to comprehend that reciprocal acts of relating benefit many rather than individual contentment alone. The state of survival and sustenance relies on the healthy state of relations to foster and nurture flourishing. The Guild Formation exercise is designed to assist participants in understanding the ecosystem surrounding their NonHuman species.



Imaging is the capacity to conjure visuals or images in our minds, enabling a concentrated effort to perceive accurately from within our minds as if it were real and operational. When imaging a situation or system, personal emotions or reactions come into play and our mental vigour responds, allowing us to envision potential outcomes.

### A letter to my Potential

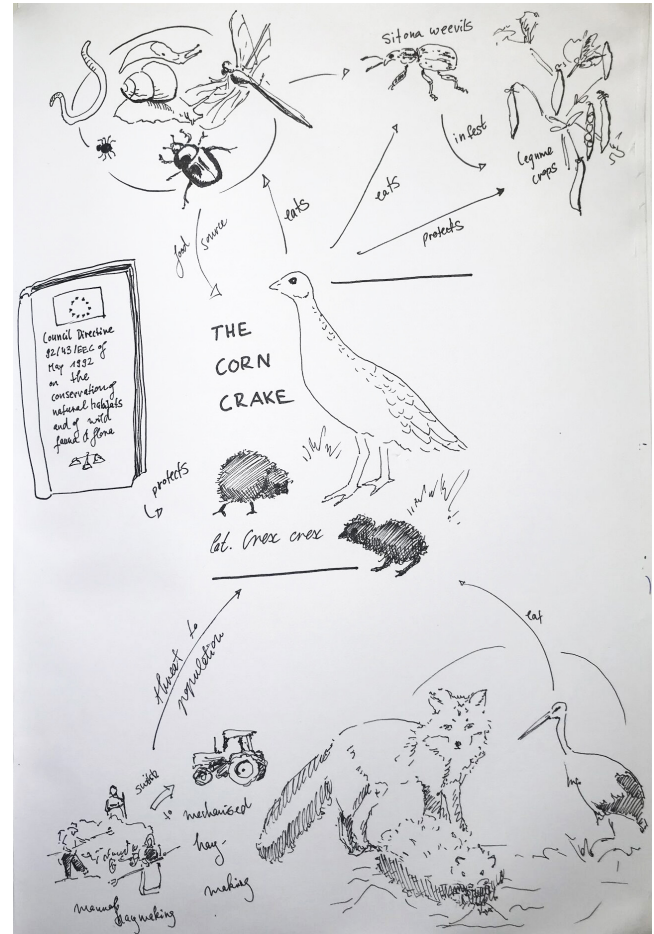
I'm not sure if I have A potential, I would rather say that I have a few ~~small~~ qualities that could be considered as such. Being emotional, emphatic and understanding what I would consider as one of my biggest one. I believe that this quality helps me communicate ~~but~~ better and gives me the ability to build bridges. I would also say that I am a BRIDGE.

but I truly believe that once I will embrace this and ~~not~~ fully own ~~it~~, it will become a power-ful tool / potential? which will be able to help <sup>not to help</sup> others (human and non-humans as well.)

The "Letter to my potential" exercise from a student participant denotes a self-observation aspect that monitors personal changes and development towards the Regenerative development paradigm.

## GUILD FORMATION (RELATIONS)

A guild is a network of systematically reciprocal exchanges that unites a diverse range of entities as co-creators of the whole that sustains them. Employing the principle of Guild Formation exercises helps participants recognise the essence and importance of Mutual Exchange within our ecosystems.

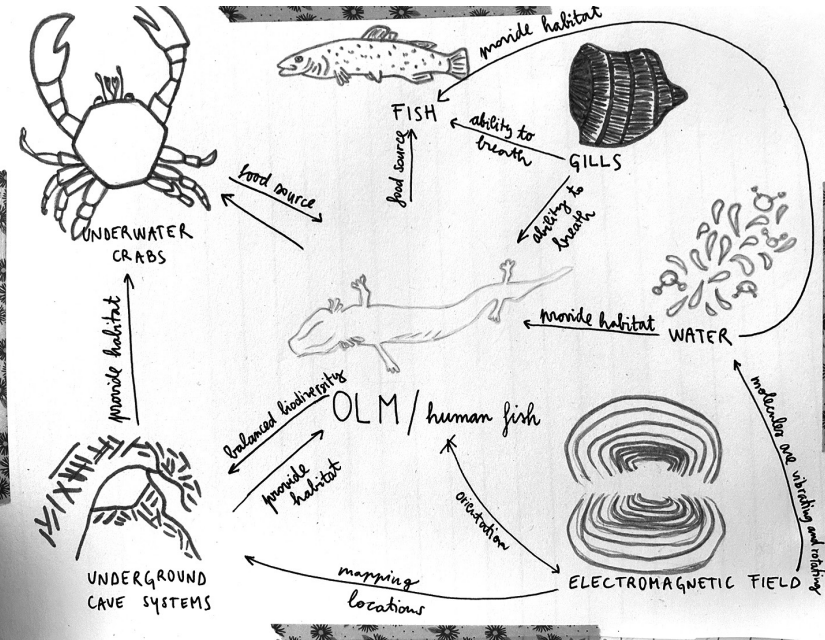


reflection on guild formation exercise:

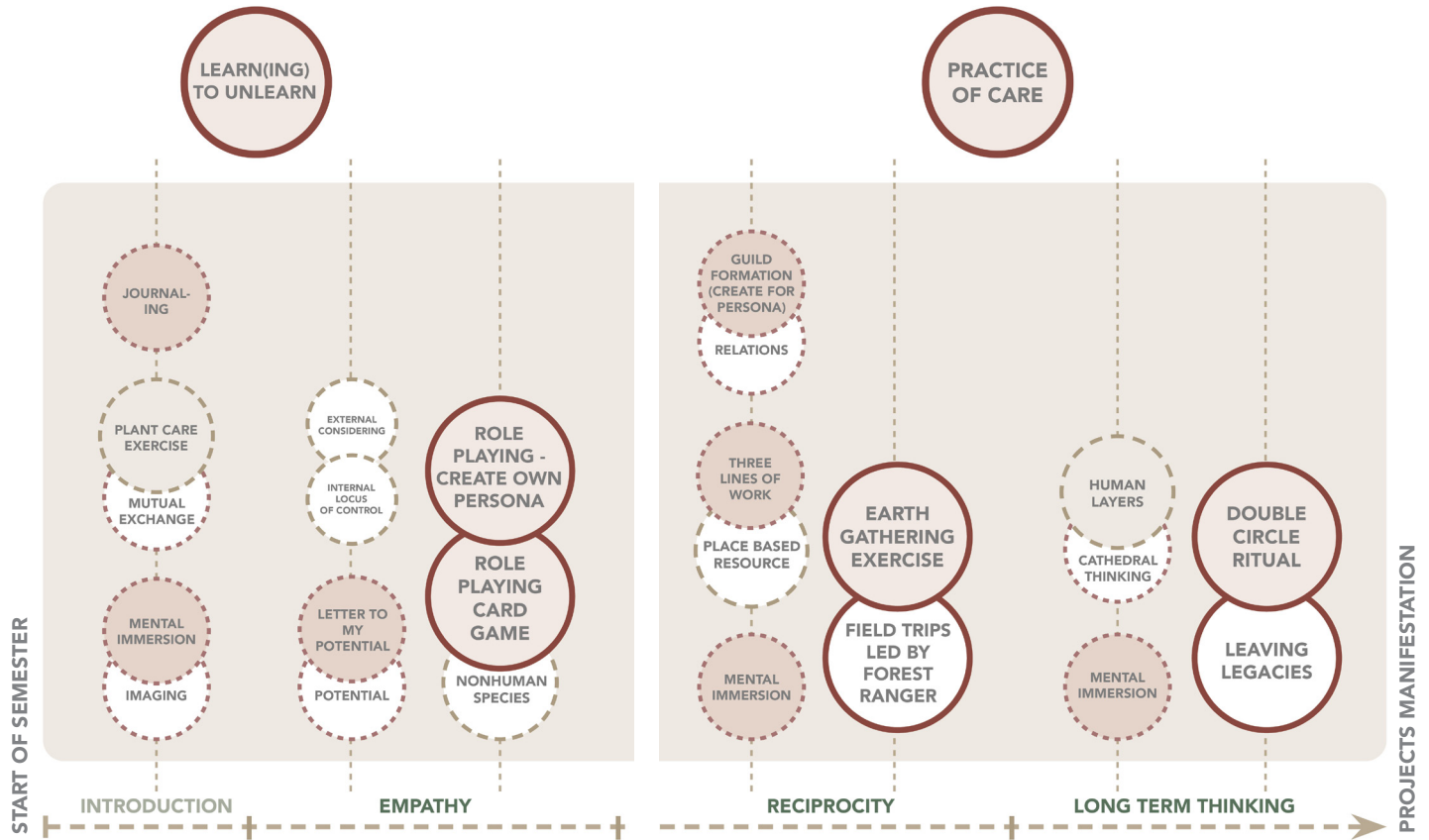
This exercise presents participants with a valuable opportunity to delve beyond their current knowledge of NonHuman species. They gain an appreciation for the broader ecosystem and the diverse roles each member plays in sustaining its vitality. Moreover, this exercise allows participants to broaden their understanding of other species that may relate to their persona but of which they

44 were previously unaware.

Guild formation drawing from student participant Lena and her NonHuman specie, the Corn Crake



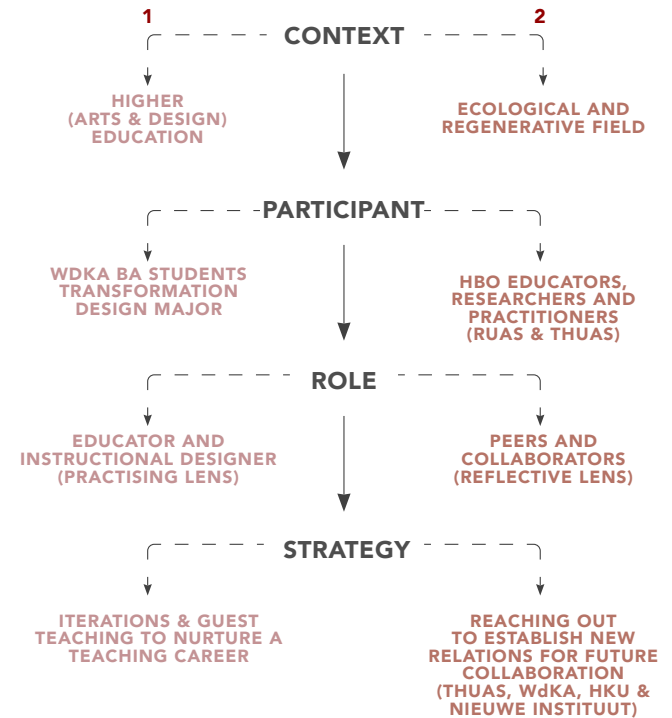
# MODULE MAP



A mapping of exercises and activities following the trajectories of the Learn(ing) to Unlearn model, leading to the practice of care within participants' inner development.

Refer to ST publication, Mending Open Wound, page 52-67 for the manifestation of student projects.

## DESIGN RESEARCH LEMMAS



reflection on DR lemmas:

This diagram illustrates the two trajectories of context I pursue in my research. One is Higher (Arts & Design) Education and the other is the Ecological and Regenerative professional field. I have intentionally planned and designed roles and strategies to lay an initial foundation for my New Practice: as a Regenerative Design Educator and as a Regenerative Practitioner or Consultant. Pairing these two tracks allows me to reflect on and share my iterations and learnings with student participants (trajectory 1) and my peers and collaborators (trajectory 2). In return, my peers share their experiences and advice with me. As Regenerative education is still in its infancy in the professional sector, reaching out to like-minded professionals has broadened my network and provided possibilities for future collaborations.

## CONCLUSION

Crafting a conclusive statement proves challenging when continuous iterations are necessary to ensure a comprehensive understanding of my research, for both participants and myself. Furthermore, while acknowledging that my current knowledge serves as a foundation for future endeavors, I feel compelled to elevate my research to a more substantial level. Despite encountering pitfalls and experiencing triumphs over the past year, I am driven to redesign and refine my approach, particularly in preparation for future teaching opportunities within the context of Higher Arts and Design Education.

This journey of continuous refinement will enrich my understanding and enhance my ability to impart valuable Regenerative insights to generations born and bred in the era of climate emergencies. Embracing the lessons learned, I am prepared to adapt and improve my teaching methods, ensuring that they remain dynamic and relevant. My commitment to ongoing growth means that I can contribute meaningfully to the academic and creative development of future generations in this field. Ultimately, this process of improvement and reflection highlights the importance of evolving research and teaching practices to better serve the educational community as well as advancing the discipline of arts and design.

to a new beginning

