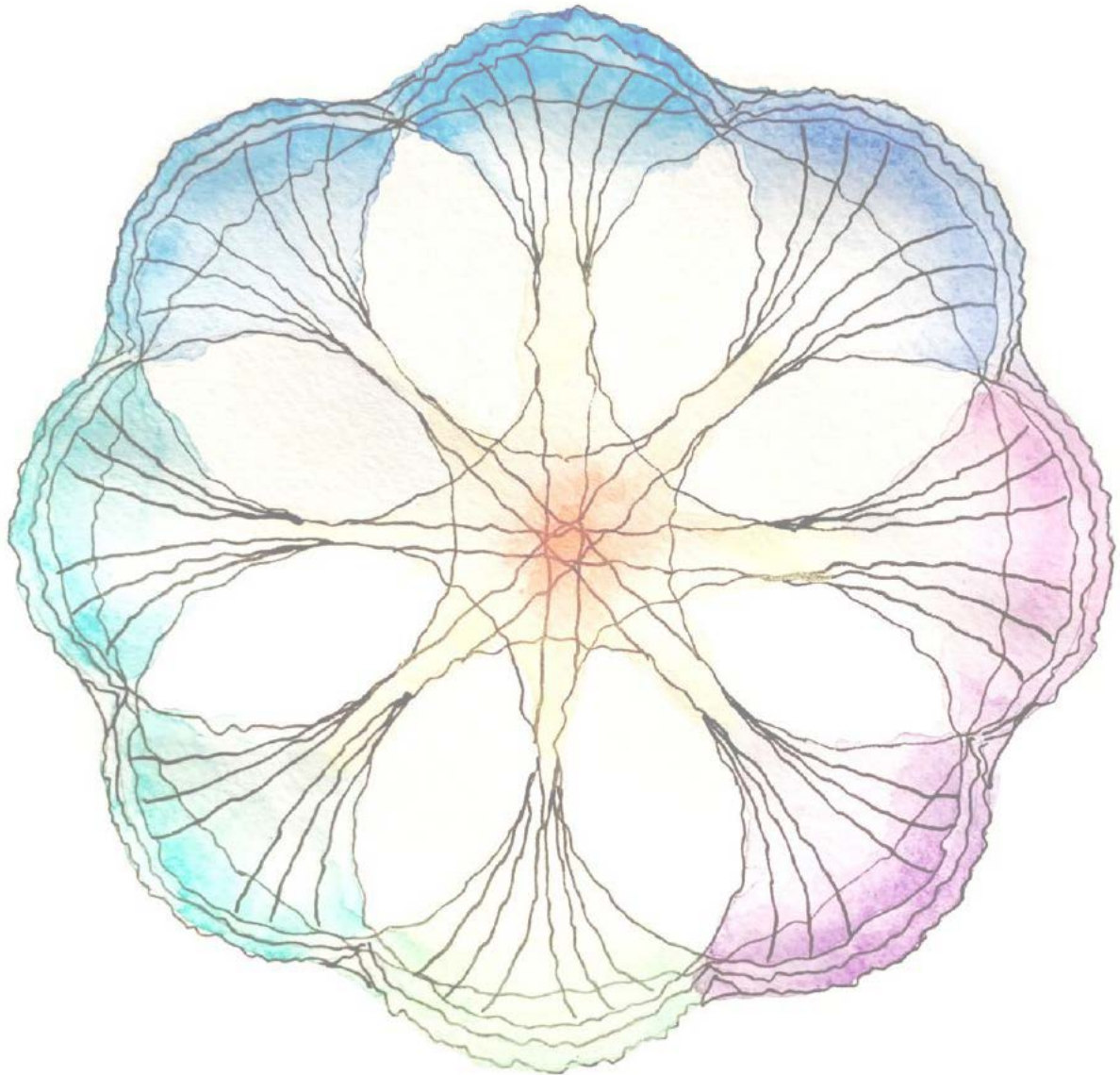# Transforming the ways we create change

Experiencing and cultivating
transformative sustainability learning

Transforming the ways we create change: experiencing and cultivating transformative sustainability learning

by Katie Elizabeth Ross

Thesis submitted in fulfilment of the requirements for the degree of

PhD in Sustainable Futures

under the supervision of Cynthia Mitchell, Elizabeth Lange, Richard Bawden

University of Technology Sydney
Institute for Sustainable Futures

July 2020

Certificate of original authorship

I, Katie Ross, declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy in Sustainable Futures at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research is supported by the Australian Government Research Training Program.

Katie Ross

30 June 2020

"Today, a significant minority have abandoned the Newtonian-Cartesian belief system in favour of some elaboration of a systems theory worldview. But it may be that they, and certainly the majority of people, still see the world in Newtonian-Cartesian terms. It is a big shift for concepts to move from being simply beliefs held in the mind to beliefs that inform and transform the very act of perception" (Heron, 1992, p. 251).
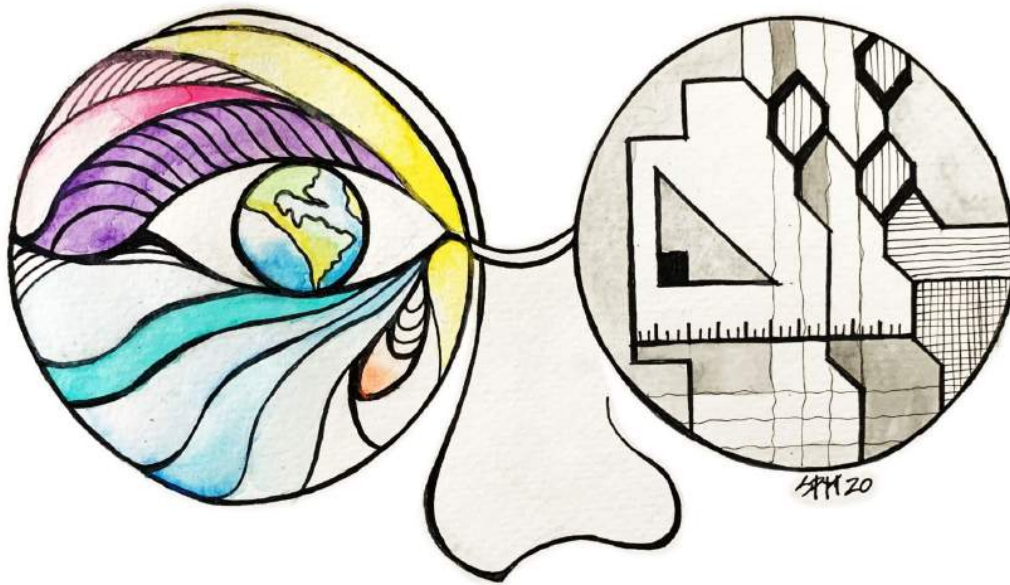
"What happens in this space is a perception of relationality. It is a space of verbs, of action, of doing, of intertwining, of becoming. It complements the Western focus on nouns, certainty, stasis, Cartesian grids, Boolean truths, and binary ones and zeros" (Chapter 8).

Acknowledgements

To all of those who have come before; to the philosophers, cultures and educators who had visions of people and nature living in more harmonious and equitable ways; whose creativity, bravery, and experimental nature meant they also acted on their hopeful visions; whose incredible ideas and work made this inquiry possible - I offer my deepest gratitude. As intrepid guides, you offered many diverse lessons from which to learn and this inquiry attempts to honour your hard work and beautiful creations. May this inquiry and interpretation be of use and inspiration to those who share a similar vision.

To Cynthia, whose trust and friendship helped me step into these waters I had not yet paddled: thank you for providing the space to follow my intuition and passion along many tricky tributaries and as well as providing safe eddies for me within our meetings, times when I often expressed uncertainties.

To my entire supervisory team, Elizabeth Lange, Richard Bawden and Cynthia Mitchell, I am so grateful for your guidance in helping me to remain aware of the maps that I was grasping so I could let them go when necessary. The intellect, experience and generosity of each of you was humbling. I most certainly benefitted in innumerable ways by sitting and discussing with you three giants.

To the Institute for Sustainable Futures, University of Technology Sydney, and the Australian Government for offering the scholarship to undertake this inquiry, and creating the space for deep learning, a hearty thank you.

To Mel and Laura, our PhD retreats were joy and therapy. From our collective spring of inspiration, I absorbed many ways of re-finding balance and well-being during this process. Tanja, every conversation we had left me feeling better and lighter; I am so grateful we had each other during our PhDs. To Dena, I dedicate my maps, and offer my sincere gratitude for your encouragement and advice. To Jane, the deepest bow of appreciation for your thoughtful review. To the Resistance, I am so thankful we found each other.

To my family: no doubt our adventures led me towards and assisted me on this path. Thank you for your love of nature, regardless of the weather, and for always creating the space to laugh and grow stronger in times of uncertainty. Our summer adventures have meant the world to me. And your tokens for this journey always lifted my spirits: Shelly's tea cup and pencil tin, Luke and Evie's tea vessels, Mom and Dad's books upon books that

Preface

Reading this document may feel different (or, it might not). This feeling could arise because of the language that I invoke. To explain and prepare the reader, I introduce in this preface what could be considered variations of typical 'languaging' (Maturana, 1988).

The language we choose is reflective of the worlds we create (Lakoff & Johnson, 2003). In this inquiry, I attempt to bring my language into alignment with the beliefs I try to embody. That is, I try to language-into-being a stronger perception and respect of relationality; or what can be construed as a profound *evolving*, mysterious *interdependence*. So, how do I attempt to language relational perceptions and worlds into being in this document?

The reader may have already noticed, emotionally or cognitively, the use of *'present tense'* verbs. When I use present tensing in this inquiry, I am encouraging myself and you, the reader, to be mindful of reality as a process: that reality is not stagnate but a perpetual becoming. When we use nouns, we tend to be stuck in the perception of a changeless state and order of things, e.g. a preference for a materialist paradigm.

To recognise and honour all learning as a relational dialogue (Marti & Sala, 2019, p. 28), I also use both pronouns of *'I' and 'we'*. I recognise that 'I' (whatever that may be) have done the writing, yet this inquiry is being put forward as a dialogue with you, the reader. Therefore, we are on this journey together. At times, I use the pronoun 'we' out of respect for your contributions to this journey; e.g. attempting to invoke a more relational experience.

To recognise learning as a relation between emotional, aesthetics and the rational in a static written document, I include many *visuals*; both my own creative analytical visuals, and work by other artists. Visuals offer a moment to pause, to contemplate what has been written, and to engage with transrational learning through the embodied processes invoked by visuals and in particular art. In this inquiry, I attempt to recognise how knowing transcends just rational cognition (Inayatullah, 2005, p. 7).

My visuals are deliberately *hand-drawn* as an intension[1] of a particular epistemological belief: knowledge as relational, creative and evolving. By using hand-drawn diagrams, I am

---

[1] E.g. the internal content of a concept.

attempting to invoke another 'subjective' integration of myself into the document. This also represents the process of knowing as meaning-seeking in addition to meaning-as-conclusion.

To further invoke the belief of 'knowing as dynamic', I often use the term *inquiry*, in addition to *thesis*. Etymologically speaking, in this document I am 'asking and seeking' (inquiry) in addition to 'putting down' (thesis). That is, I use the word 'thesis' primarily when I am referring to this actual document. I use the word inquiry when referring to my on-going dialogue with philosophers and educators. For me, 'inquiry' is more respectful and mindful of all of those whose work and learning has been enfolded into my inquiry, and whose learning is yet to come. And, 'asking and seeking' involves the kind of education that is the subject of this thesis.

Similarly, to embody 'truth as an ever-unfolding continuous process' (Hutchins, 2014, p. 99), part of my intention in this inquiry is to raise more questions relevant to transformative sustainability learning than I am able to answer. At the end of most chapters, I raise *generative questions*, as a form of 'revealing illuminations'.

In sum, my language might be described as soft and gentle. The intention is to bring humility and relationality into the process of academic writing. As I recently learned in India, humility is that stage of consciousness in which, whatever the realisation, you know the infinite is still in front of you. How do I interpret this within the context of my inquiry? I was raised within a Western paradigm, and I am sure I remain ignorant of how my complex worldview and its alchemic manifestations still results in reductionist, separatist perceptions. And this is my challenge throughout this inquiry: to strive to be aware of my unconscious worldview within the simultaneous becoming of me and this inquiry, even while knowing separatist tendencies still have diverse and spectacular manifestations that I might not perceive. So even though I maintain an intention for 'languaging' a different world into being (Maturana, 1988), I am sure there are many moments where I fail. For that, please forgive this misalignment and help me/us expand my/our awareness.

My inquiry was born from experience and passion around the questions of: what type of learning could help us humans reciprocally co-create more ethical, life-affirming presents and futures? This has been an on-going quest for many years. And so, we must remember, there is no beginning and no end to inquiry. Inquiry, Learning, Change is the process of life. Therefore, this doctoral inquiry started before my official start date and will continue long after; this 'thesis' is but a proverbial page, albeit a very long page, in my/our book of continual learning.

Table of Contents

List of Artwork

List of Cartographies

List of Figures

List of Visuals

List of Tables

Conceptual guide and glossary

There are two primary concepts used throughout this inquiry. The first concept is of 'dynamics of reality'. The second concept is of 'orders of learning'.

Here I present a visual summary for both of these concepts. Below each visual, I define the terms used to describe these concepts.

The first concept, 'dynamics of reality' is a heuristic for inquiry and change creation. The premises of this heuristic are firstly: reality is influenced by many dynamics, some visible and tangible, and some hidden and often unconscious. Secondly, in order to fully grasp a situation, and create more meaningful change, inquirers can delve into all of these dynamics of reality (e.g. the layers in *Visual 1*).
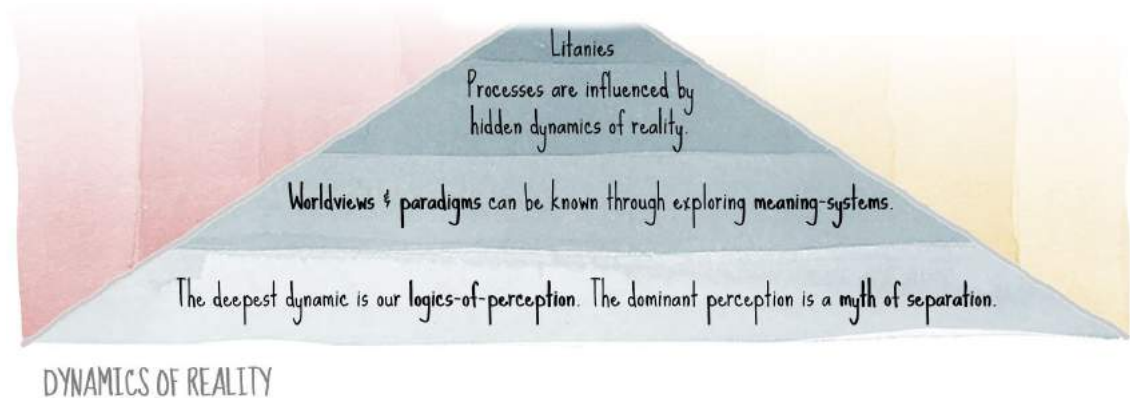
Visual 1. Concept of 'dynamics of reality'

I use several terms in relation to the 'dynamics of reality' concept. Below, I define the primary terms of the 'hidden, or internal dynamics, e.g. the bottom two layers in *Visual 1*, in the order that the terms build on one another.[2]

---

[2] As the terms are so few, and it is arguably more beneficial to grasp these terms in relation to each other and their over-arching concept, I present them relationally, using visuals and a relational logic for presenting the terms (instead of in alphabetic order, for which the primary goal is efficient orientation).

Term	Description
Worldview/paradigm dynamic of reality	
beliefs	A set of often unconscious assumptions or theories about oneself or the world that give meaning to our experience of the world around us.
meaning-system(s)	Categories or fields of belief 'types'. Examples of these 'systems for meaning' include beliefs in: reality (ontology); knowing (epistemology); what is good and valuable (axiology); the relationship between humans and nature (anthropology), etc. All of these meaning-systems mutually influence each other to create profound meaning through which reality is perceived and interpreted. In recognising the interdependence amongst these meaning-systems, I often link the meaning-systems in the text, i.e. onto-epi-axiology (which refers to beliefs that arise from one's interdependent beliefs about reality, knowing, and value).
worldview	An *individual's* constellation of meaning-systems; that is, a complex constellations of meaning and meaning-making that converge to dynamically organize *one's very own* synthetic apprehension of the world and thus inform how one uniquely interprets, enacts, and co-creates reality. A worldview develops in an individual (i.e. ontogeny).
paradigm	A *culturally-shared* constellation of meaning-systems; that is, an evolutionary and prevalent pattern of often unconscious beliefs *shared across a collective* or *culture*. Paradigms develop in a culture over time (i.e. phylogeny).
dominant-cultural-paradigm	A signifier representing the dominance of one particular paradigm. The meaning-systems of this dominant paradigm include: reality as material and static; knowing reality by reducing complexity (reductionism) to find the 'true' knowledge (positivism), in order that we humans can ascertain, plan out and control change (determinism) in the most efficient way (sequentialism). This paradigm is *dominant* in the sense that its impacts and consequences are globally ubiquitous.
Logic-of-perception dynamic of reality	
logic-of-perception	The mind's predominant habits of logic used to make unconscious inferences based on one's embodied perceptions.
myth of separation	The logic-of-perception within the dominant-cultural-paradigm is largely a disjunctive, exclusionary logic. This logic is also variously referred to as: binary, dualist, fragmenting, oppositional, etc. Using this logic to the exclusion of all other logics is following and enacting a 'myth of separation'.
<>	Symbols I use when recognising 'opposites' or 'distinctions' that can be perceived as in relation, inseparable play.
Integration of 'internal' dynamics of reality	
philosophical premise	When a person or a group of people consciously reflect on the influence of one's own unique worldview and culturally shared paradigms on their experience and creation of reality, and subsequently espouse desired *meaning-systems* and *logics-of-perception*, this articulation can become a personal or shared *philosophical premise* informing one's actions in the world.

Table 1. Definitions of terms relevant for the 'dynamics of reality' concept

In addition to the 'dynamics of reality' concept, the other over-arching concept is one of 'orders of learning', presented below visually and in definitions.
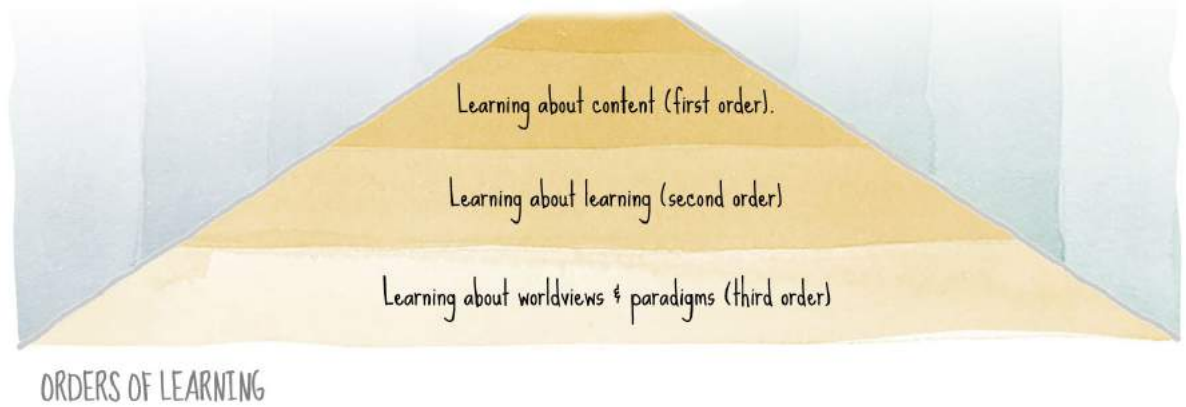
ORDERS OF LEARNING

Visual 2. Concept of 'orders' of learning

Many scholars have embraced and re-interpreted these dimensions of learning. Hence in the table below, I articulate my definitions for these terms in this inquiry.

Term	Description
First-order learning	Learning about the content, or the matters at hand.
Second-order learning	Learning about how we learn; or learning about the 'context' of learning.
Third-order learning	Learning about how one's own unique worldview and other shared paradigms influence how we learn about the matters at hand and how we learn about learning. In other words, learning about the context of 'the context of learning'; or learning about the philosophical premises informing the learning process and content, and why that matters.
Threshold concepts	Concepts that might indicate an opportunity for third-order learning. These concepts are part of the philosophical premise informing the context of the learning experience.
Consciousness	The focus of our awareness or our attention. For example, one can bring one's awareness to one's own worldview-in-action, or the differences in experiencing contexts born from unusual premises.
Worldview change	When one becomes aware, or conscious of one's worldview, and attempts to adjust their meaning-systems, be it a feeling of stretching, expanding, nuancing, complexifying, or transforming their worldview. In this inquiry, 'complexify' refers to transitions from less dualistic to more contextual worldviews.

Abstract

The dominant cultural paradigm is reflected in language heavy with static, mechanistic nouns. The perceptions of paradigm disrupt the complex inter-relationality from which diverse life on this world emerges and evolves.

Most learning experiences in the dominant paradigm, even though well-intended, unconsciously perpetuate these static, mechanistic, anthropocentric, and hierarchical beliefs. This thesis is a deep and wide exploration of how else things might be.

A diverse group of educators have been experimenting with ways to bring more relational paradigms into being. The work of these educators can be described as transformative sustainability learning. The intention of transformative sustainability learning is to create the conditions for students to perceive, feel, think, and act in ways within and beyond the dominant paradigm. Helpful in creating these conditions for students are pedagogies born from more relational paradigms, such as transdisciplinary, critical, experiential, systems and complexity theories.

The thesis explores how each of the philosophers who created such relational pedagogies paused to reflect on the long arc of history, and as a result asserted that the dominant paradigm, and its views of reality, brings deleterious effects which seriously impede humanity's ability to be sustainable, let alone resilient and regenerative. As such, these philosophers created processes to help learners transcend these beliefs.

Even though the pedagogies associated with transformative sustainability learning were born from a more relational perception, with a focus on verbs, process, dynamism, not everyone who uses the term 'transformative sustainability learning' works from within these philosophical premises. Not everyone has an awareness of their own worldview or the influence of the dominant paradigm on their educational practices. Thus, these relational and complex pedagogies can be separated from their philosophical foundations and be practised within the beliefs of the dominant paradigm (i.e. static things organised by human superiority). Perhaps this inability to transcend the invisible beliefs of the dominant cultural paradigm explains in part why earlier sustainability pedagogies have not been as broadly impactful as hoped. *If so, how can we become more aware of our own worldviews and the paradigmatic implications of the concepts we engage?*

Relational pedagogies share a critique of the separatist perception infusing the dominant paradigm. Helpful in complexifying this perception is one's own transformative

experiences. This inquiry reveals and probes the stories of the philosophers who preceded transformative sustainability learning as well as transformative sustainability scholar-educators who have undergone such transformative experiences. Designing transformative sustainability learning is benefited by having transformative experiences of one's own.

As consciousness of their worldview and the surrounding paradigms strengthened, these educators developed an expanded set of relational beliefs to inform their learning design. They design experiential learning about content, process and experiences enabling new ways of perceiving and being, which create the condition for a more sustainable, regenerative world.

Weaving the whole together results in a rare, deep and wide exploration of diverse meaning-systems, and the subsequent distillation of threshold concepts for stretching and complexifying both learners' and teachers' ways of being towards sustainability.

In short, this is a story about an unusual cohort of worldview-aware educators who are helping others to become worldview-aware. This inquiry offers scholarship into the philosophical premises and processes of transformative sustainability learning, in support of educators and facilitators seeking learning experiences that will support a more sane, more just, ecologically alive world.