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**Relating Systems Thinking and Design
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A Practice for Sympoietic Thinking

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Designing for isolated entities can lead to unintended consequences, as nothing can exist entirely on its own. There is an urgent need to recognise the interconnection and entanglement of life on Earth. Many cultures recognise these entanglements in deep knowledges learned across many generations, but some cultures with industrial practices have developed worldviews based on ideologies that separate humans from the rest of nature.

Dualist ideologies that seek to understand through establishing specialist areas have revealed a paradox; we may gain insights into the functioning of a specific component, but in doing so, we lose sight of how it exists in the wider world. How might recognition of entanglement affect approaches to the multiple predicaments we and all beings of the Earth face, such as the effects of climate change, physical and mental wellness, equity and how wealth is quantified?

My MA in Sustainable Design masterwork explores sympoiesis, which means to “make-with.” How do we learn to “make-with” the other beings, forms and forces we are entangled with but speak a different language to? I propose a sympoietic thinking practice as an exercise to encourage designers and researchers to consider the interconnection and interdependence of the beings, forms, and forces within their project and to challenge anthropocentric thinking. The tool is influenced by a diverse range of ontologies. It has been designed for use in industrial cultures, and I acknowledge that it might not be relevant to all people or cultures.

KEYWORDS: sympoiesis, sympoietic thinking, reflective practice, systemic design tool, design beyond anthropocentrism, more than human, interconnection.

RSD: Methods & Methodology, Socioecological Design

Presentation standpoint and context

Everyone designs (Herbert, 1996), but some have more power, inclination or means, which results in an uneven landscape of designers, co-designers, and willing and unwilling participants. Donna Haraway describes sympoiesis as “a simple word; it means “making-with.” Nothing makes itself; nothing is really autopoietic or self-organizing” (Haraway, 2016, p. 58).

It is clear that there are no quick fixes to reverse many of today’s crises, which can be seen as wicked problems that do not have solutions without consequence (Rittel & Webber, 1973; Sweeting, 2018). Kyle Whyte argues that environmental techno-solutionism will not be effective in tackling climate change as these designs are rooted in social and environmental injustice (Whyte, 2017). More meaningful approaches may be found by reorientating ourselves in the world.

Those from industrial cultures are often taught to think as individuals, which is at odds with scientific findings that show that most beings are ecosystems (Gilbert, 2017). Cartesian dualism, which separates mind and matter, human and more-than-human, is often recognised as laying the foundations for the human-nature divide in industrial nations (Paterson, 2006). Yoko Akama et al. note that designers can “braid, juxtapose and interweave multiple worldviews, eroding separations between beings and non-beings in favour of a greater entanglement between them” (Akama et al., 2020, 9). This work is influenced by various ontologies, which I will discuss later.

My standpoint is malleable, but as Donna Haraway argues, knowledge is situated, so the following information is relevant to my position as a researcher (Haraway, 1988): I am human, but the limits of where ‘me’ and my symbiotic relatives begin/end are unclear. I

am a white English woman born in 1986 with English-Irish heritage and no known disabilities. I have a supportive family and recognise that the privileges I have shape my viewpoint. My standpoint originates from British ways of seeing the world, but Asian-Global Buddhist philosophies have also profoundly influenced my outlook.

The sympoietic thinking tool

The practice begins and ends with a short meditation exercise where the user is asked to bring their attention inwards to detect bodily sensations. This is influenced by Māori Rongomātau methodology and Buddhist practices. Kiri Dell discusses how different insights can be gained by noticing sensations in the body and mind through the Rongomātau methodology, which means “sensing the knowing” (Dell, 2021).

The user is then asked to apply the sympoietic thinking practice to a project; for example, I worked with a Nature Conservation Management professional to use the tool in assessing the development of a visitor centre on a nature reserve. The user chooses a being, form or force relevant to the project (Figure 1) across each of the five scales (Figure 2).

Following this, the user answers a series of prompts (Figure 3), some of which may be difficult to answer, but the practice purposefully encourages the user to arrive at their own responses, for example, “is it a parent/child? Why?” could be answered in a number of ways for non-biological entities. The answers will depend on the user’s standpoint and what they are able to find through their research.

The seven-generation question references the Haudenosaunee seventh-generation principle, which seeks to consider future generations in decisions and is noted in the Haudenosaunee Gayanashagowa, meaning “Great Binding Law” (Haudenosaunee Confederacy, 2022). The idea has been used by environmental movements and eco-businesses but usually only focuses on humans. I acknowledge that I do not have a full understanding of the Haudenosaunee cultural context behind the principle, but I recognise the wisdom of having a perspective that stretches beyond our lifetimes.

Being	Form	Force
<p><i>This is open to your personal interpretation, but it could be a living being that is impacted, interacts with or relevant to your chosen theme and the beings, forms and forces included in your project.</i></p> <p>Examples:</p> <p>Human</p> <p>Probiotic bacteria</p> <p>Professional</p> <p>Child</p> <p>Community group</p> <p>Customer</p> <p>Fox</p> <p>Whale</p> <p>Worm</p> <p>Wild orchid</p> <p>Oak tree</p>	<p><i>This is open to your personal interpretation, but it could be something that takes shape that is impacted, interacts with or relevant to your chosen theme and the beings, forms and forces included in your project.</i></p> <p>Examples:</p> <p>Land/landscape</p> <p>Fossil</p> <p>Sand</p> <p>Design</p> <p>Structure</p> <p>Place</p> <p>Cloud</p> <p>Artefact</p> <p>Architecture</p> <p>Farm</p> <p>Vehicle</p>	<p><i>This is open to your personal interpretation, but it could be a factor interacting with the beings and forces relevant within your chosen theme.</i></p> <p>Examples:</p> <p>Gravity</p> <p>Light</p> <p>Peer pressure</p> <p>Psyche</p> <p>Culture</p> <p>Emotions</p> <p>Economic factors</p> <p>Politics</p> <p>Media</p> <p>Climate change</p> <p>Tide</p>

Figure 1. Definitions of being, form and force, plus some examples of what these could be. Examples are provided to encourage the user to come up with their own ideas relevant to their project rather than to limit the scope of their thinking.

Think of a being, form, or force to add to each of the scales below, in relation to your chosen topic. It can be anything, allow your mind to wander, or if you are doing the activity with others, see if you can come up with a couple of ideas – they can be literal or metaphysical.

- Internal (within)
- External (near)
- External (national)
- External (global)
- Internal and External

Figure 2. The user is asked to think of a being, form, or force for each of the five scales listed.

Consider the below prompts for the being, form, or force chosen for each of the scales, based on your existing knowledge, or intuition. Again, allow your mind to wander, your answers can be literal or metaphysical.

- Where is it situated?
- How long does it live for?
- How long would seven generations be?
- What does it need to be healthy?
- How does it communicate?
- Does it live with other beings?
- Is it a parent/child? Why?
- What do we know about it not in relation to humans?

Figure 3. The user is asked questions for each being, form or force chosen for each scale.

The practice is influenced by ecofeminist approaches, allowing the user open interpretation of the prompts by resisting prescriptive paternalistic tendencies (Khadilkar and Jagtap, 2021) and incorporating ecofeminist priorities of well-being into the questions relating to health and relationships.

Design influences include Mathilda Tham's "me, we, world and back again" yarn meditation, where she encourages participants to consider issues on various scales from micro to meta (Tham, 2022), and Joseph Dumit's "Implosion Technique", where users are encouraged to reflect on their "analytical, imaginative, physical and political" choices (Dumit, 2014, 360).

Interdisciplinary working presents opportunities to see beyond silos of thought to the bigger picture(s). Ben Sweeting and Sally Sutherland (2022) note that "design has both its own place (now as a form of meta-position or meta-question) and a deep connection to all other disciplines, including its own designerly practices" (p. 4). The work is inspired by the biological concept of symbiosis but encourages the user to think with and beyond the biological, to include literal and metaphysical concepts, such as artefacts or forces in their thinking.

Systems thinker Donella Meadows says, "There are no separate systems. The world is a continuum. Where to draw a boundary around a system depends on the purpose of the discussion – the questions we want to ask" (Meadows, 2009, 97). Following the exercise, the user is asked a series of questions about the information they found and whether they think about their project differently. One user said the practice gives "the opportunity to consider your theme from different angles and how the beings, forms and forces interact at different scales" (Cunningham, 2022, 52).

Conclusion

Tony Fry notes that all design "goes on designing" (Fry, 2009, p. 190). It is hoped that the practice will enable entangled thinking in design researchers, which may generate empathy and consideration for the beings, forms, and forces in the user's project. However, this is not inevitable, as each project output will be unique, reflecting complex entanglements and the personal nature of epistemology (Bateson, 1979).

Although the sympoietic practice aims to unravel industrial thought, industrial ideas like economic growth and productivity may factor into the outcomes. Such framings may appear to limit the outputs, but encouraging interconnected thinking within these contexts is where the practice may achieve its biggest impact. As Tom Ainsworth notes, "all models are wrong, but some are useful" (Ainsworth, 2022). The sympoietic practice does not claim to provide solutions and is best thought of as part of a conversation rather than the final word.

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