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Reconstructing the 'self': representation tactics for multispecies empathy

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ABSTRACT

Humans have been accelerating biodiversity loss through spatial changes in land and sea use. Pursuing resource accumulation and exploitation, nation-states have relied on human-centric policy and development. Professionals shaping the built environment—architects, landscape architects, engineers, and urban planners—are uniquely positioned to help humans envision cohabiting with the more-than-human world. This essay argues that fostering *multispecies empathy*—the cognitive and emotional capacity to feel as other beings—is essential for this vision. Drawing on Dr. Petra Tschakert's heuristic framework for 'encountering the Unknown Other', Indigenous scholarship, landscape architecture, and other fields, this essay contends that humans must perceive themselves as extensions of their more-than-human counterparts to empathise with other beings. Using this conceptual orientation, designers can foster multispecies empathy through representation tactics, such as *relational space-time*, *more-than-human agency*, and *co-labour = co-flourishing*.

KEYWORDS

Storytelling; empathy;
multispecies;
representation;
biodiversity loss;
more-than-human

Biodiversity loss and the role of design

In *More-than-Human Stories*, Emily O'Gorman and Andrea Gaynor discuss both the ontological divide and the material entanglements between the 'human' and the 'more-than-human' within environmental humanities (O'Gorman & Gaynor, 2020). Advancing a relational framework, they advocate for human and more-than-human histories as co-constituted systems, mutually shaping and transforming one other. While O'Gorman and Gaynor credit philosopher David Abram with introducing the concept of the 'more-than-human world' in his 1996 book, *Spell of the Sensuous* (O'Gorman & Gaynor, 2020, p. 716), the 'more-than-human' term has become interchangeable with other terms, such as 'non-human.' The authors of *Field Guide to the Patchy Anthropocene* define the 'more-than-human' as encompassing humans, non-human living entities, and non-living forces, such as 'petrochemicals, volatile dust particles, or phosphorus fertilisers, the characteristics of which nonetheless have the capacity to bring about change in the world' (Tsing et al., 2024, p. 259). While acknowledging the inseparability of humans and their co-constituents, this essay distinguishes between humans and 'more-than-human' to clarify reciprocal responsibilities and obligations woven in these relationships. Moreover, while the essay honours the spirit, agency, and vibrancy of all matter (Bennett, 2010; Hutton, 2019), its primary focus is on non-human

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living beings. These beings form one thread of a complex web requiring human empathy and ethical obligations in the face of anthropogenic climate impacts and biodiversity loss.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services defines biodiversity loss as a 'reduction of any aspect of biological diversity in a particular area through death, destruction or manual removal; it can refer to many scales ... resulting in decreased total diversity at the same scale' (IPBES, n.d.). Significant unfolding biodiversity loss has raised concerns on whether we are experiencing a sixth mass extinction. Although scientists acknowledge a baseline level of extinction, known as 'background extinction,' conservative calculations estimate that the 'average rate for vertebrate species loss over the last century is up to 144 times higher than the background rate' (Ceballos et al., 2015, p. 1). Invertebrate loss may be even higher given the significant gaps in our knowledge of these species. According to the 2018 Red List of Threatened Species of the International Union for Conservation (IUCN), vertebrates make up 67% of assessed species, while invertebrates account for only 2% (Eisenhauer et al., 2019). More-than-human worlds have been disproportionately studied for reasons ranging from charismatic species biases (Tschakert, 2022), or 'spatial and taxonomic biases' (Eisenhauer et al., 2019, p. 1), to conservation cultural constructs and values of the time (Mace, 2014). Despite unprecedented extinction rates, biodiversity loss is generally untethered from anthropogenic climate science conversations, limiting our understanding of their intertwined drivers and impacts.

One of the most cited international goals tackling climate change has been the 2016 Paris Agreement, which aims to 'limit global warming to 1.5°C above pre-industrial levels' (The Paris Agreement, n.d.). In response, nations have focused on reducing greenhouse gas emissions (Mailloux et al., 2021). However, primarily focusing on greenhouse gas emissions does not necessarily tackle direct drivers of anthropogenic biodiversity loss, namely 'land or sea use changes, direct exploitation (fishing, logging, hunting), pollution, climate change, and invasive species' (Jaureguiberry et al., 2022, p. 2-3). Land or sea use changes, which are spatial drivers, therefore become critical to climate science and biodiversity conversations. In recent years, scientists and non-profit organisations have begun noting the importance of studying landscapes, or the 'stage' where species live, rather than or in addition to the 'actors,' or the species of concern (Eisenhauer et al., 2019; Tack et al., 2023; Zhu et al., 2023) to account for future climate change scenarios and climate resilience. While it has been challenging to measure biodiversity, and thus precisely define the degree of conservation needed, landscape architect Nina-Marie Lister argues that biodiversity can be likened to libraries, holding valuable data reserves that inform both human and more-than-human worlds (Lister, 1998). For example, even microscopic soil-dwelling amoeba have helped scientists advance human health (Baldwin, 2016). Consequently, these libraries require investment and advocacy to face our increasingly stochastic climate conditions (Fraterrigo et al., 2020). Professionals shaping the built environment, from rural to dense communities, therefore must foreground more-than-human beings in their designs and policies to safeguard critical cultural-ecological relationships.

While international bodies recognise anthropogenic climate change and biodiversity loss as interconnected 'wicked problems,' efforts remain focused on substitutions from high to low-carbon alternatives. These substitutions-oriented solutions conceal how biodiversity loss drivers spatialise uneven political economies (Nightingale et al., 2020). Often glossed over in these market-focused conversations are the interconnections between cultural and ecological loss. For Indigenous peoples, this loss has been vividly clear for millennia. Sheila Watt-Cloutier, then International Chair for the Inuit Circumpolar Council, framed climate change as a human rights issue in her 2005 petition to the Inter-American Commission on Human Rights (*Sheila Watt-Cloutier et al. v. the United States of America*, 2005). In the Arctic, the Inuit people cannot substitute between ice thicknesses or wildlife to hunt. If the ice is thin, it breaks and hunters fall to their peril. If the wildlife disappears, people starve. Ice grounds and hunting rituals have no substitutes; they are intertwined with Inuit peoples' lifeways. Watt-Cloutier petitioned the United States to address its 'acts and omissions' contributing to global warming (*Sheila Watt-Cloutier et al. v. the United*

States of America, 2005). Acknowledging that arctic ice melt is not only a threat to the Inuit people but to the entire planet, Watt-Cloutier requested 'the right to be cold' on behalf of her people and more-than-human relations (Watt-Cloutier, 2015). The court dismissed the petition. Twenty years have passed since the petition hearing, and global political polarisation perennially threatens human coexistence with more-than-human beings.

There is no one way to address the deeply enmeshed intricacies of biodiversity loss, but the interwoven nature of multispecies fates is evident. While technological substitution markets will continue to dominate climate change narratives, land use policy and design must also prioritise our more-than-human relationships. Architects, landscape architects, engineers, and urban planners are uniquely positioned to help humans envision coinhabiting with the more-than-human world. For instance, developers transform landscapes by razing topography, vegetation, and any elements that do not acquiesce to the standard bearer of housing or commercial developments. Agricultural landowners, facing economic pressures, overwork their soils at the expense of wildlife and macroinvertebrate systems. Policymakers continue to displace racially and ethnically minoritized peoples (Chan et al., 2021) and more-than-human beings (Kay et al., 2022) by implementing top-down construction projects. In these market transactions, humans lose access to the outdoors, as well as a sense of individual and collective identity (Beery et al., 2023). Designers working in the built environment have an obligation to existing site inhabitants. Landscape architects, in particular, mediate between humans, plants, and wildlife, wielding significant power over what remains or is removed from a landscape. Beings displaced or remaining then set the stage for how residents relate to their human and more-than-human counterparts.

In *Staying with the Trouble*, Donna Haraway discusses the need for relational worlding, acknowledging our multispecies entanglements. Relational worlding can be characterised as 'becoming-with' (Haraway, 2016) or 'co-becoming' (Ishiyama & TallBear, 2022, p. 187), as well as entailing both grieving and imagining-with (Haraway, 2016; Rasmussen, 2024; Tschakert, 2022). When designers draw to think, market proposals to clients, or share ideas with a public audience, their drawings articulate a range of possibilities. Designers, such as Maya Lin, Kate Orff, Joyce Hwang, and Nina Marie-Lister advocate for multispecies assemblages in their research and practice (Hwang, 2022; Kolodziejski, 2015; Lister et al., 2015; Rehak, 2012). However, most built projects have a human-centric focus and narrowly prescribe how people can inhabit landscapes. In her book, *Ruderal City*, Anthropologist Dr. Bettina Stoetzer describes how walking, picnicking, or running have become sanctioned 'tools of governance' for 'making citizens' in the city of Berlin (Stoetzer, 2022, p. 105). While improving people's well-being, recreation as the primary source of interaction with the built environment can obscure meaningful relationships with the landscape and more-than-human inhabitants. Alternatively, drawings can tell different stories, those of multispecies entanglements encompassing shared joy and grief. In turn, this may prompt human empathy with other beings, what I call *multispecies¹ empathy*. While empathy has conceptually been studied widely in business marketing, user experience design, psychology, and architecture, it has largely focused on human-to-human relationships. Multispecies empathy can help us reimagine our obligations to and relationships with other beings.

The role of empathy in spatial planning and design

Since Rachel Carson's *A Silent Spring* sparked environmental policy changes, interest in how humans might care for biotic and abiotic beings has grown (Reed & Lister, 2014). Through a multispecies lens, 'care' and 'justice' guide human behaviour towards more reciprocal and intentional relationships with other beings (Celermajer et al., 2021; Jacobs & Wiens, 2024). While such relationships are not wholly devoid of friction, they can guide daily practices of relating with our more-than-human neighbours. Dr. Maria Puig de la Bellacasa's work highlights soil as a living and breathing web of organisms, endangered by large-scale, monofunctional agricultural

land use. By working with and tending to soils, one can recognise their vibrancy as a host to and embodiment of time, material, and energy flows. Acknowledging soil agency positions it as a subject of care (de la Bellacasa, 2015). Working from 'object' and towards 'subject' is ostensibly the crux of the multispecies justice question (Celermajer et al., 2021, p. 13). Seeing 'Others' as entities deserving of intrinsic value and rights is foundational to multispecies justice, yet this classification has been used as a tool for objectification and domination (Escobar, 2023; Tynan, 2021). Landscape architect Dr. Beth Meyer has written about the construction of culture-nature binaries as a basis for legitimisation of territorial power and control (Thompson & Steiner, 1997, p. 46). However, most institutions and frameworks do not foster an expansive, relational way of being. Trawlwulwuy scholar Dr. Lauren Tynan describes relationality as an active, intentional practice, constituting 'responsibilities with kin' (Tynan, 2021, p. 589). Writing about cultural burnings within her community, Tynan describes fire not as a management strategy but as a kinship-building practice allowing people, fire, and other beings to feel 'more unified as one' (Tynan, 2021, p. 602). While visions of more-than-human care, justice, and relationality may seem radical, they can shape everyday practices through intentionality. Empathy, as a foundation, can help bridge these theoretical ideas and galvanise a multispecies ethics of care.

Empathy involves complex, multifaceted neurological activation and behavioural responses. Despite extensive neuroscience and social science research, researchers disagree on how to define and measure empathy (Adriaense et al., 2020, p. 63). Growing research differentiates between 'emotional empathy' and 'cognitive empathy', linking their activation within distinct brain regions, while functioning integrally as one system (Asada, 2015). In the influential Russian Doll Model of empathy, primatologist Dr. Frans De Waal posited how 'perception-action mechanism' (PAM), or a mirroring of neural responses, might form the foundation for nested empathetic responses, each becoming more cognitively complex (Adriaense et al., 2020, p. 66). For example, De Waal's model nests emotional contagion and mimicry at the inner core. Emotional contagion studies, such as those by Professor of Psychology Elaine Hatfield, have explored how people subconsciously regulate their facial, body, and vocal shifts in response to their human counterparts, resulting in a synchronised pattern of mimicry (Hatfield et al., 1993). De Waal's model positions perspective-taking at the outer shell. Perspective taking has been studied as imagining how another might 'perceive the situation and feel as a result' (Batson et al., 1997, p. 751). Perspective taking also requires emotional regulation and 'Self-Other distinction' for humans to not feel so much distress that they are overwhelmed and cannot provide aid to the Other (Adriaense et al., 2020, p. 63; Lambert, 2024). De Waal's nested model may be critiqued for interpreting emotion as lesser than or more simplistic when compared to cognition. Alternative models, such as Dr. Shinya Yamamoto's Combination Model, explore empathetic responses through non-linear and non-sequential lenses (Yamamoto, 2017). Despite the variability in empathetic human and more-than-human responses, scientists must reckon with 'the notion that human empirical data serve as a benchmark to which animal data should be compared' (Adriaense et al., 2020, p. 76), thus risking perpetuating anthropocentric beliefs and models. Empathy remains a widely debated subject matter, requiring more multidisciplinary studies and approaches to understand its potential for fostering deeper human and more-than-human connections.

In architecture and art, empathetic relationing has been identified as *Einfühlung*, a German term for 'feeling into...to describe an embodied response to an image, object, or spatial environment' (Koss, 2006, p. 139). Philosopher Robert Vischer described how the art viewer could become wholly transformed, their 'identity destabilized' (Koss, 2006, p. 139) despite the other not being physically present (Ganczarek et al., 2018, p. 141). Sculpture artists have been incisively effective in this effort. For example, Kara Walker's 'A Subtlety', or the *Marvelous Sugar Baby*, confronts viewers with the United States' legacy of slavery and otherizing of Black women (Walker, 2014). Through the monumental scale and commanding pose of the sphinx woman, the *Marvelous Sugar Baby* temporarily enfolds viewers into contemplating the nation's

entanglements with White supremacy. While artists have generally been undaunted by provocative storytelling, architects have been more confined by tacit rules of polite public discourse. However, to unmoor people from comfortable tropes regarding coexistence with otherized beings, storytelling needs to account for complex cognitive and emotional empathy. For designers who want to represent more-than-human entanglements to a public audience, this means a delicate negotiation between fostering empathetic responses while strengthening human resolve to embrace alternative futures. In this context, empathy plays a critical role in shaping stories, spaces, and visions, serving as a bridge between the self and other.

Empathy can be characterised as a guiding tenet of spatial planning and design. Prior to sketching spatial possibilities, designers must consider the physical or neurological abilities of their stakeholders. It is an exercise of decentring the self while acknowledging the responsibilities of the self to the other. Ideally, designers would get to know project stakeholders or even be part of their communities, but this latter scenario is rare. More often, driven by geographical, monetary, or time constraints, designers must rely on their imagination to take the perspectives of others (Sandman et al., 2022). While empathising with unfamiliar groups of people is not insurmountable, relating to other species requires humans to interrogate their deeply rooted beliefs in their exceptionalism. Recent research finds that human may have a preference for beings that are closest in 'phylogenetic distance,' prioritising primates and mammals over invertebrates and plant life (Miralles et al., 2019, p. 2). Despite worries about anthropomorphising more-than-human beings, the study by Miralles et al. assessed that humans exhibit more empathy and compassion with those they perceive to have external human-like features. For design and conservation practitioners, these findings suggest the need to foster multispecies empathy while also foregrounding humans' individual and collective responsibilities towards more-than-human beings (Tschakert, 2022).

Building on social and neuroscientific empathy studies, as well as deep ecology and multi-species ethnography, Dr. Lauren Marie Lambert has proposed an ecological empathy model to address 'human-nature (re)connections' (Lambert, 2024, p. 1). Her framework outlines six sub-competencies needed to cultivate ecological empathy: personal embeddedness, body embeddedness, ecological embeddedness, more-than-human perspective taking, more-than-human temporal perspective taking, and more-than-human sensing and listening. In defining these competencies, Lambert also suggests applicable exercises, some of which resonate with the design fields. For example, creating systems thinking maps and integrating more-than-human perspectives early in design processes can elevate more-than-human registers (Lambert, 2024, p. 8). While these competencies have great potential to reshape human and more-than-human relationships, this framework suggests all six competencies are prerequisites to attain ecological empathy. In contrast to developing a singular methodology, landscape architects Sean Burkholder and Karen Lutsky speculate how probing the landscape might lead one to plural methodologies with unexpected questions and scenarios (Burkholder & Lutsky, 2017). Inviting serendipity, their self-described *curious methods* physically engage with and are attuned to landscape agents. Through inquiry and insights gained, Lutsky and Burkholder record their impressions, which then leads to greater inquiry. Such playfulness and openness are fertile grounds for building more-than-human empathy and learning from the landscape.

Indigenous scholars, such as Dr. Kim TallBear, Dr. Linda Tuhiwai Smith, and Dr. Zoe Todd, have long foregrounded the role that other inhabitants and our surroundings play as relations, kin, and teachers (Ishiyama & TallBear, 2022; Smith, 1999; Todd, 2017). In *Jagged Worldviews Colliding*, Dr. Leroy Little Bear states, '... Aboriginal languages allow for talking to trees and rocks, an allowance not accorded in English. If everything is animate, then everything has spirit and knowledge. If everything has spirit and knowledge, then all are like me, then all are my relations' (Bear, 2000, p. 78). To see one's more-than-human neighbour as kin or as a relation requires deep empathy and love, which can only take place through the labour of continuously showing up (hooks, 2000). Such complex cognitive-emotional states and processes do not

happen automatically or in a vacuum. Nor will they take place if humans continue to view themselves as separate from their more-than-human neighbours. While acknowledging that otherizing can have harmful effects for all, this author also recognises that people's construction of the 'self' influences how they perceive themselves, their roles in society, and their ability to change their life outcomes (Sedikides, 2021). Thus, while destabilising or decentring the self might lead to empathy, completely dissolving the self might lead to the inability to cope with challenging life situations, much less provide consolation to others. In the following section, building on geographer Dr. Petra Tschakert's work, I probe how the self-other might become recontextualized to bridge binaries while maintaining degrees of separation.

From 'the other' to the constituted other: re-constituting systems

Geographer and anthropologist Petra Tschakert has written extensively about human and more-than-human relationships, developing a rich, multifaceted framework for building relational spaces (Tschakert, 2022). Tschakert offers a heuristic of 'four types of encounters—visual, embodied, ethical, and political—to engage with Distant and Unknown Others' (Tschakert, 2022, p. 279). Tschakert's heuristic for multispecies justice is additive and non-linear; it does not necessitate a visual encounter to lead into an ethical one. Her work builds on Dr. Nino Antadze's exploration of humans' ethical and 'moral engagement with the Unknown Other.' Antadze's work, in turn, draws on philosopher Dr. Emmanuel Levinas's work, who wrote about humans' ethical obligation to the Other as they are face to face (Antadze, 2019, p. 42). In this physical encounter with the defenceless other, people become aware of others' suffering and cannot turn away. In Antadze's view, climate change effects are distributed in such a way that it is difficult to identify and account for all impacted beings; they are the Unknown Other, beings with vulnerabilities and the ability to experience suffering (Antadze, 2019, p. 43). To effectively empathise with these Unknown Others, Antadze argues they must have a face or a 'representation of an experience of otherness' (Antadze, 2019, p. 42). These frameworks are critical for designers who often represent fictions and future spaces, which then become the lived experience. While designers typically draw fictions with positivist messaging, they can also engage in more speculative worldbuilding that envisions more-than-humans shaping those spaces. To do so, designers must represent what entails the 'face, or identity, experience, and voice of the Unknown Other' in ways that also foster multispecies empathy (Antadze, 2019, p. 38).

Tschakert's walking journeys and conversations with rural Australian inhabitants reveal the diverse narratives surrounding climate impacts. These narratives range from 'future-oriented optimism' to 'apocalyptic discourse balanced by anticipatory acts of hope' and 'postapocalypse,' where the assumption is that 'catastrophe is already upon us' (Tschakert et al., 2024, p. 2). Whether humans stand on the brink of collapse or have already crossed it, climate change narratives must navigate the emotional complexity of loss, mourning, and hope (Tschakert et al., 2024). While acknowledging differences is crucial, the act of 'otherizing' risks further marginalising beings, perpetuating inequities, and minimising accountability and opportunities for becoming-with. However, ignoring differences and failing to confront the supremacist legacies of destruction and harm carries its own set of risks. As philosopher Sylvia Wynter observes, 'only certain people are given the privilege of entertaining humanity' (Tsing et al., 2024, p. 31). Black, Indigenous, and melanin-rich peoples have historically been otherized and stripped of their voices and political power through nation-state building projects (Scott, 1998). Creating an empathetic and just world requires confronting several existing mental models:

1. Human beings feel exceptional to other beings, obscuring how human and more-than-humans are intricately connected (Gagliano, 2018; Tschakert, 2022; Tsing et al., 2024).
2. Humans implicitly favour beings with human-like features and tendencies, perpetuating anthropocentric belief systems (Gagliano, 2018; Miralles et al., 2019).

3. Humans contain, simplify, commodify, and erase 'the Other' in pursuit of individualistic agendas, accelerating climate impacts and disproportionately burdening vulnerable populations (Celermajer et al., 2021, p. 6; TallBear, 2019; Tuana, 2019).

Designers must go beyond these mental models by considering the Distant and Unknown Other, listening to and staying attuned to the stories reverberating beneath the surface, beyond their immediate grasp.

Working from Tschakert's heuristic (Tschakert, 2022) and Antadze's framework (Antadze, 2019), designers can bridge the imaginary but palpable gulf between Self and Other by a slight reconfiguration to recognise their connectedness and inseparability (Figure 1). The Self becomes a Constituted Self, a contextually aggregated and relational self. By recognising humans are made of and informed by their surroundings, humans can verbalise and manifest their obligation to the Other within them. The Constituted Other consumes the Other and Unknown Other to recognise an identifiable and distinguishable Other that is, in fact, a dispersed extension of the self. Vice versa, the Other disperses into the Self. Together, these two attractors work in concert to create Constituted Systems, a permutation of identifiable and unknown relational beings. Constituted Systems acknowledge that humans are *made whole* by others and vice versa, some of which are identifiable and some of which are, in Antadze's view, Unknown. Despite their unknowability, it does not make them less worthy of a relational understanding and practice. This construct assumes that the Self and Other function in relation to a cosmos of known and unknowable beings. While this working construct flattens or folds some of Tschakert's quadrant vertices, it does not flatten the criticality of a heuristic to thread the Self and Other. Perhaps through such a reconfiguration, humans might begin to feel *as Other* rather than *for or with Other*. Dr. Tynan notes how 'community members and scholars ... have reframed the notion of "Caring for Country" to become "Caring as Country"' (Tynan, 2021, p. 602). Building from a relational lens, the following case studies explore how designers might integrate representation tactics that engage with Tschakert's visual heuristic for enhanced more-than-human relationships.

Deploying representation tactics

While the possibility of multispecies empathy (engaging with the Distant Other) might revolve around Tschakert's four heuristics, I focus on the visual one as it is the predominant purview of designers, who must make a visually compelling design case to clients and stakeholders.

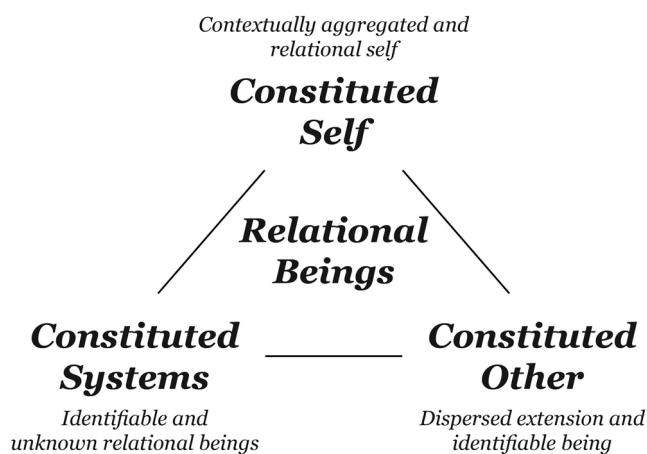


Figure 1. Diagramming constituted systems (inspired by Petra Tschakert's essay, 'More-than-human solidarity and multispecies justice in the climate crisis' (2022)).
Permission: Petra Tschakert.

One should note that the visual format can exclude people with vision impairment or who have colour-blindness. However, if combined with other multi-sensory stimuli, designers can create rich, complex stories that evoke more-than-human entanglements. For example, this might encompass illustrating how trees require continuous care by showcasing community residents pruning mature trees or watering saplings even while eating their fruit or climbing tree limbs. Although some might worry about tree climbing or fruit littering streets, embracing plural forms of interacting with the built environment moves people beyond the norms that have constrained human and more-than-human relationships. These visual encounters, through their medium and content, can lead people to contemplate how to better coexist with their more-than-human neighbours.

Socioculturist Vlad P. Glăveanu has discussed how ‘the possible is mediated’ and how this mediation can ‘transform the self’ (Glăveanu, 2023). Building on this thinking, anthropologist Arturo Escobar has speculated that the 1492 Columbian conquest expedition inadvertently colonised our concept of what is possible (Escobar, 2023). The European colonisation and ‘civilization’ project, with its complex hierarchical categories for subjugating the Other, ‘produced a very narrow notion of reality’ (Escobar, 2023, p. 57). Conceptualising linear spatio-temporal progress with modernity as its end goal, hegemonic powers espouse a ‘One-World View’ that purports one reality, rather than multiple realities or possibilities (Escobar, 2017, p. 86). Therefore, to imagine the possible demands a great ontological lift. And while the possible might encompass the future, it should also encompass all ripples of time. To imagine the future and remove the past is to reduce history to a singular lens. Geographer Doreen Massey posits that ‘in the case of relational space-time, phenomena, relations, and space-time are mutually constitutive’ (Massey, 2001, p. 260). While we humans may imagine ourselves as bounded spatial beings in a particular point of unidirectional time, matter and energy transverse and surround us at multiple spatio-temporal scales. And space-time cannot be imagined as bounded sites in bounded time. They must be relational. Thus, the first representation tactic can be characterised as ‘relational space-time’ (Massey, 2001; Tschakert, 2022). Temporal and spatial together evoke the necessity of representing a space *becoming-with*, as Donna Haraway espouses in her work (Haraway, 2016). Space is not static or changing according to a singular construct of time; rather, it is overlapping worlds and dynamics, necessitating representation of a landscape’s transformation alongside other beings, both abiotic and biotic.

When examining visual renderings, most landscapes are visualised as mature; trees have grown to their full stature, planting is lush, and cultural programming is at high capacity. These representations provide a sense of instant gratification and relief for developers and stakeholders, who, understandably, want their communities to feel *complete*. However, such drawings also release developers, planners, stakeholders, etc. from their obligation to care for their landscapes’ wellbeing. If designers could capture multiple temporalities, or relational space-time, in one image, it might look something like Figure 2. This image illustrates a creek erosion-stabilisation project where coir logs are being installed and aggressive plants are removed to allow diverse plants to flourish throughout the expanse of the image. Granted, this visual still maintains a sense of linear time progression, but it attempts to show how the creek evolves over time. During a spring 2024 University of Tennessee Knoxville landscape studio, students combined plan and perspective, as well as different temporalities of the American Bumblebee, as they relate to the different functions and operations of an agricultural landscape (Figure 3). From the bumblebees building their nest directly on top of soil, in a tall grassy patch interspersed with winter’s woody debris, they then move throughout the farm in search of pollen for their colony. During this quest, they help pollinate the tomato crop through their fervent movement. Such images attempt to show spaces morphing through different timescales, in relation with each other and other beings.

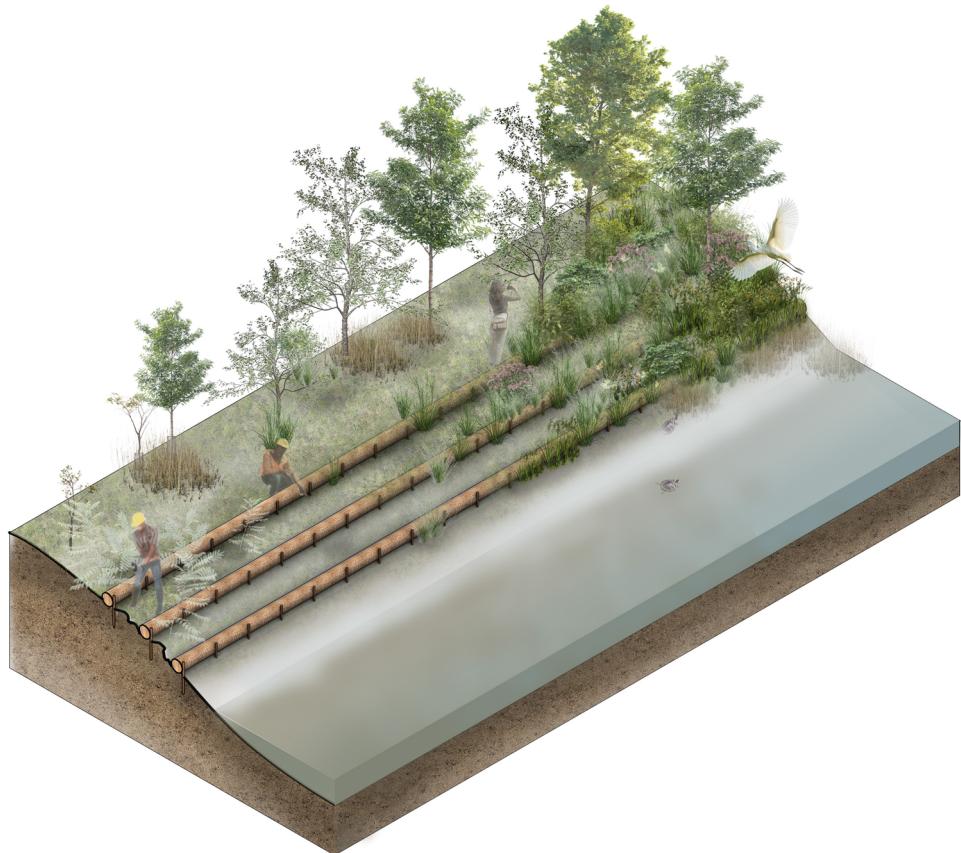


Figure 2. Shoreline transformation, drawn by Kelsey Shockley and Amlan Kumar Dey.
Permission: Kelsey Shockley and Amlan Kumar Dey.

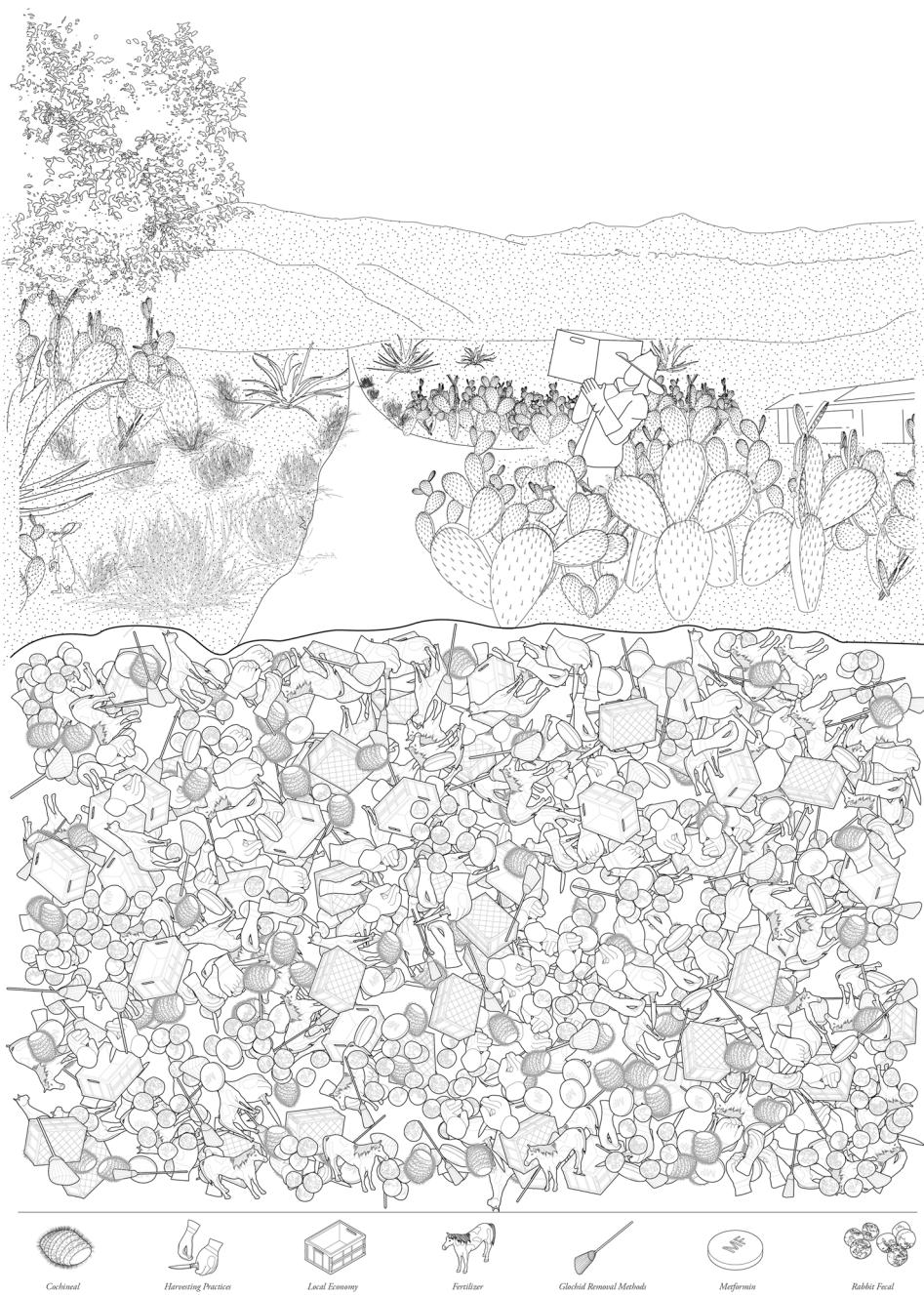
The second representation tactic can be described as recognising ‘more-than-human agency,’ or honouring the ability of more-than-human beings to occupy spaces, move, or behave in ways that suit them best. For example, representations generally feature humans and more-than-human worlds as separate entities, with the more-than-human world subservient to humans. Scholar Lauren Tynan writes, ‘Relationality with Country and relationality as an ethos means being prepared to listen to messages we may not want or expect to hear’ (Tynan, 2021, p. 69). Our more-than-human neighbours, the waterways, soils, or winds, might seem to revolt one day, and how humans respond characterise their empathetic capacity. When humans respond with suppression, smothering, or extinguishment methods, this is not, according to ‘Dakota understanding of existence ... “being in good relation”’ (TallBear, 2019, p. 25). Rather, these methods of control and domination lean closer to settler colonialism and undermine the constant and intentional practice required of ‘caretaking relations’ (TallBear, 2019, p. 25). If we consider projects related to futuring, possibility studies, or any spatio-temporality that is aspirational, we humans must also consider those relations we have irrevocably harmed or continue to harm before any fabrication of the ‘future’ can take place.

In the article, *The Desert we Eat*, professors Montserrat Bonvehi Rosich and Seth Denizen, along with their students, Samantha Correia Pires and Michelle Chen, produced a series of relational plans and sections, where audiences can better understand how soils are constructed of labour, material, and time in the Mezquital Valley of Hidalgo, Mexico (Bonvehi Rosich & Denizen, 2023) (Figures 4 and 5). These drawings showcase an accumulation of



Figure 3. Transformation collage by Kaitlyn Knight and Cole Thornton.
Permission: Kaitlyn Knight and Cole Thornton.

embedded and embodied processes. Confronting viewers with the manual labour required to harvest plants, such as corn and prickly pear, the viewer is invited into a range of ethical-political conversations. Latino farmhands work daily in the fields, so that North Americans may consume expediently, conveniently, and comfortably. Envisioning a multispecies world, where humans and more-than-human live more reciprocally, intentionally, and in kinship with each other does not imply an absence of tension. Rather, kinship implies an intense commitment to caretaking relations for generations to come (TallBear, 2019). Designers can be more intentional in depicting the complexity of relational frameworks. Design firm,



Nopal, Prickly Pear

Drawn by Samantha Correia Pires

Figure 4. Nopal, prickly pear, drawn by Samantha Correia Pires.
Permission: Seth Denizen and Montserrat Bonvehi Rosich.

SCAPE, through the Launch School at Floyd Bennet Field, explores how students can learn from and alongside other beings (Figure 6). In this image, birds exhibit migratory behaviour, which is attuned to behavioural, physiological, climactic, and seasonal changes. People are working with oysters and helping the threatened Atlantic horseshoe crab. It is a multispecies extravaganza that does not shy away from the potential, albeit delightful, strangeness of such interactions.

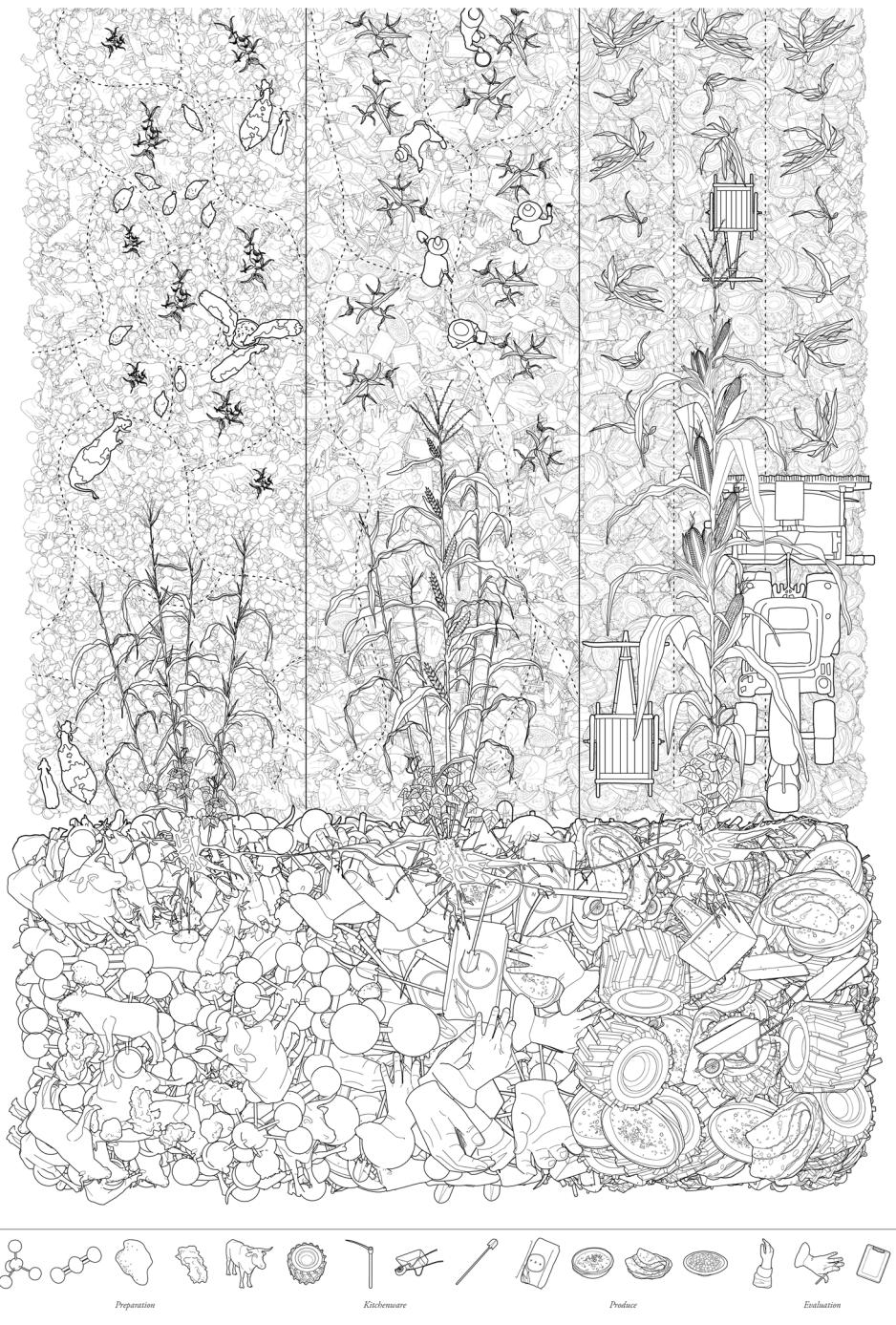


Figure 5. *Zea diploperennis* drawn by Michele Chen.
Permission: Seth Denizen and Montserrat Bonvehí Rosich.



Figure 6. The Launch School at Floyd Bennet Field perspective by SCAPE Studio.
Permission: SCAPE Studio.

Building on relational space-time and more-than-human agency, the third tactic specifically targets human and more-than-human interactions through ‘co-labour = co-flourishing’, meaning that humans must better understand the needs of their more-than-human counterparts so as to care for and accommodate them. For this example, I turn again to SCAPE and their oyster-tecture proposal, where the oyster, an invertebrate creature, becomes a catalyst for reimaging human relationships with coastal dynamics (Figure 7). Through a fuzzy reef lattice seeded with oyster larvae, oysters grow and accrete to form complex spatial breakwaters that breed multispecies life, filter water pollutants, and protect the harbour from strong wave currents. This relational section demands that people recognise how land forms and accretes or merges into other beings, how people care for this tiny creature with palpable large-scale effects on their homes, and how this multispecies relationship survives in the heart of a city that is constantly remaking itself. In labouring with other critters, labour is recognised as emotionally, physically, and mentally exhausting, and yet, potentially fruitful in inexplicable ways. Holding space for joy, mourning, and emotional ranges in-between acknowledges that relationality requires practice and patience. We humans can and must transcend a human-centric way of thinking and doing to one that honours multiple ways of being.

In viewing our human selves as constituted selves, we acknowledge that we are incomplete without the constituted other. Such an orientation opens possibilities for how humans might view their own existence as mutually *bound to* more-than-human beings’ lifeways (Todd, 2017). And through this reframing, designers can explore representation tactics that speak to and inevitably shape multispecies interactions. While the aforementioned tactics are not exhaustive, easily intuited, or defining of a singular approach to multispecies representation, they ask designers to continuously probe and speculate on multispecies possibilities. Representations depicting more-than-human beings as fellow protagonists might then lead audiences to emotionally and cognitively *feel as* other beings (Tynan, 2021). How we humans move through the world, in light of species loss and suffering, is dependent upon the stories we tell, as are ‘the stories we use to tell those stories’ (Haraway, 2016, p. 12). These stories can become catalysts for crafting spatio-temporal worlds that lead into Tschakert’s ethical, political, and embodied encounters to engage with the Distant and Unknown Other (Tschakert, 2022). While biodiversity loss and climate change science can seem enigmatic and paralysing, professionals shaping the built environment can help build visions that speak to multispecies co-existence and co-flourishing.

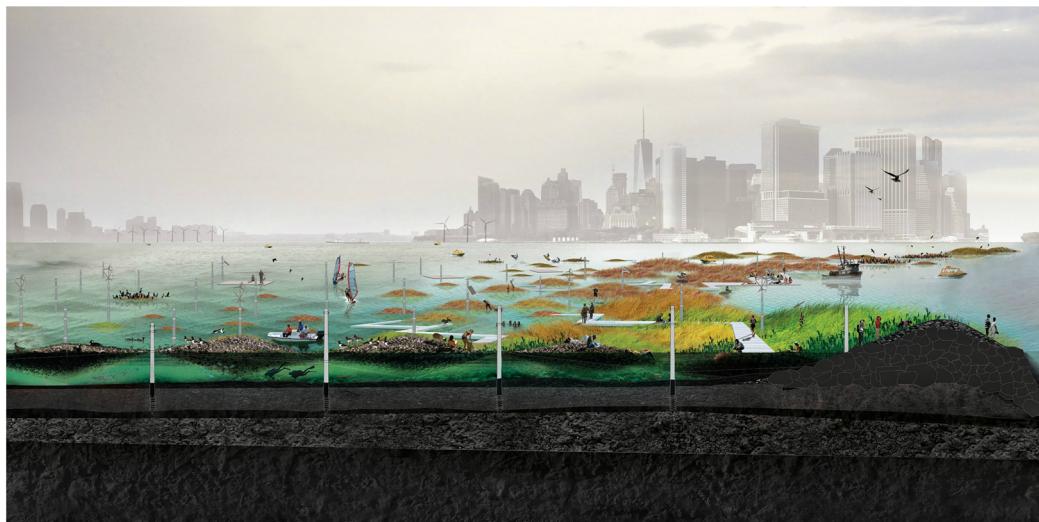


Figure 7. Oyster-tecture section perspective by SCAPE Studio.
Permission: SCAPE Studio.

Note

1. This is an attempt to capture multiple beings, while acknowledging the limitations of bounded scientific taxonomies. 'Multispecies' is often used as it is becoming a more widely understood concept, but this also has taxonomic limitations, and therefore, philosophical, political, and spatial boundaries for relating to beings, such as soils and waterbodies.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

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