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The meandering practitioner: When research emerges in relational resistance and intentional ambiguity

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Abstract: This paper theorizes meandering as a dispositional heuristic in design research, foregrounding how researchers can encounter complexity through nuanced, situated journeying. Drawing on the case of SoilTrust nutrient-cycling praxis in Hong Kong, the study identifies four key dispositions – nimble resistance, contextual reasoning, temporal suppleness, and deliberate ambiguity – that enable practitioners to respond to structural challenges with humility, curiosity, and strategic indirection. Rather than pursuing fixed goals, meandering researchers cultivate relational awareness, embrace uncertainty, and reconfigure material and social systems through iterative, practice-led inquiry. Anchored in agential realism and indirect action, *meanderability* reframes design as a life-embedded mode of inquiry that honors entanglement, resistance, and unpredictability. *Meanderability* as a situated heuristic is the practitioner’s capacity to meander and be meandered simultaneously: as we shape our milieu – organismically, materially, socially, customarily, and deliberately – the milieu reshapes our relational constitution, movement, habit, and potentiality.

Keywords: practitioner disposition, agential realism, soil practices, Hong Kong.

1. Introduction

This paper theorizes and enacts meandering as movement-encountering, myriad reframing in worldmaking—an underexamined mode of inquiry within design research. Experimenting materially in the societal context often involves taking unexpected turns and leaps that demand resilience and reinvention from researchers, which is rarely addressed. Meandering is an unhurried, intermittent, and multirotational movement in which researchers linger with emerging questions and treat obstacles as invitations to delve deeper. The meandering researcher learns to engage with existing relations, practices, and oppositions, reassessing them toward unintended uses. Instead of rushing to conclusions, meandering destabilizes entrenched positions, well-meaning intentions, and aspirational goals in design research. Academic reporting often glosses over digressions, interruptions, dead ends, detours, frustrations, and sideways moves, replacing them with frictionless narratives of linear progress and inevitable success. Yet, in practice-led implementation, the researcher



cultivates curiosity that oscillates among fascination, restraint, and detachment (Chia & Holt, 2009, p.xi). Directionality here emerges through entangled patterns—flows and boundaries that contour design terrains and resonate with Karen Barad’s (2007, p. 71-96) concept of phenomena co-constituted through “intra-action.” Meandering is relevant to design researchers who want to engage beyond complexity in circuitous reconfigurations of legacies and milieus in the lived context.

Contemporary life, including design, often takes soil for granted as a passive backdrop in mining, building, or farming. It ignores how the fates of humans and soils are intricately tied to shared climate futures. Since depleting one element intensifies pressure on the other elements, unprecedented design responses are required (Handelsman & Cohen, 2021, p.68). Shaped over millennia by gravity, water, and atmosphere, the topmost layer of the Earth’s crust nurtures a host of (a)biotic activity. Healthy soils cleanse pollutants, replenish water supplies, generate food, and capture excess carbon. Such renewal processes depend on symbiosis across minerals, microorganisms, flora, fauna, and social practices (Scharlemann et al., 2014; Keesstra et al., 2012). Recovering organic waste to replenish soil ecologies and carbon pools can be a means of engaging communities in climate responses locally, while closing resource flows. It also eases pressure on food and water scarcity elsewhere beyond the immediate place of intervention (Schmid & Topalovic, 2023; Law & Mol, 2008). Increasingly, design research explores how material ecologies and social practices can reintegrate material flows within given ecological boundaries (Lokko, 2025; Viljoen & Bohn, 2009). Researching grassroots soil-building capabilities is critical as current market and state measures are insufficient to keep pace with ecological decline (Grunwald, 2025). Still, fragmentation, vested interests, and short-term agendas often stall the momentum needed to advance collectivized soil and bioregional regeneration (Berg & Raymond, 2014, p.35-76).

Practitioners who work with the entangled, structural dimensions of design in eco-societal contexts face a double challenge. On the one hand, target-focused practitioners may easily succumb to conformity and inadvertently replicate past norms or preferences, thereby reinforcing detrimental systemic conditions (Lima, 2023, p.96). On the other hand, solutionist practitioners may find themselves ill-equipped to tackle deep-seated issues and to embrace the long-term, implementation-heavy work that eludes quick fixes (Gram, 2025). To move beyond reductive methods, we ask how practitioners can thrive amid the tensions that arise when their positions and relationships shift. We explore how encountering tensions fosters redistributive, restructuring change that meets radical differences with attentiveness, coping responses, and essential unfolding rather than preformulated commitments. In contrast to emergence, where researchers adapt post-hoc to what is inevitably occurring (Gaver et al., 2022), meandering researchers purposefully seek to inhabit the entangled conditions in humble yet relationally resistant ways to enact change from within.

We write this paper based on our layered experiences as activist designers who work closely with communities and as participatory co-researchers engage in long-term soil health implementations rather than one-off interventions. Our study is rooted in the case of SoilTrust, a research enterprise in rural Hong Kong that exemplifies meandering design to encounter past, present, and future propensities. Teaming up with a farm, hotel, retailer, and welfare center, SoilTrust reclaimed organic waste across industries to revitalize unused land and dormant possibilities. In Hong Kong, outsourced food production, conflicted waste

policy, and rapid urbanization limit the use of biodegradable residues to restore soil health (Leung, 2025). SoilTrust, initiated and facilitated by the authors in 2021, constitutes a participatory design inquiry characterized by continual reconfiguration and evolving reverberations.

The meandering approach was called for as SoilTrust faced unexpected pushback and diversions that redirected its trajectory – from educational proposal to field survey; from eco-social farm trial to community/industry partnership; from public advocacy to social impact case – without abandoning its activist stance. Meandering through environments, infrastructures, and communities revealed indeterminacies that unlocked latent functions. We argue that design enhances its local relevance and responsiveness when it uncovers opportunities within resistance, revaluation, and grappling with action. By contrast, external investments frequently entail concealed costs, hinder cohesive integration, and generate disjunctions between social and material systems.

2. Material practice as research within society

Scholarship on participatory, socioecological design emphasizes the importance of the practitioner’s nuanced relation-making with existing or emerging constituents (Hansson et al., 2018; Huybrechts et al., 2017). It foregrounds biocultural commons such as tangible landscapes and equipment, and intangible contributions such as heritage, customs, and capabilities, interwoven within their material context (Vega et al., 2023; Valle-Noronha & Chun, 2021; Hector & Botero, 2022). Scholars also indicate how the facilitation of relational processes and contextual specificity are foundational to collective identity and personhood in regional development (Petrella & Yee, 2023; Valle-Noronha & Puppert, 2024; Mamidipudi, 2018).

Some studies describe practice-led design researchers intervening reflectively in collaborative arrangements (Vaughan, 2017, p.9-17) to foster local deliberation and resilience in the face of external pressures (Dixon et al., 2021; Hernández Ibinarriaga, 2025, p.127-152; Gaete-Cruz, 2025). Literature also points to pitfalls of practice-led interventions when they remain fixated on the identities of locality (Hjorth & Johannison, 2003) or positionalities of designers (Akama et al., 2023, p.124-141). Moreover, fixed notions of utility can fall short in accounting for how contextually appropriate transformations frequently arise from deliberate engagement with everyday limitations and disengaged intuition (Wernli et al., 2025). In other words, strict goal-orientation can leave research practitioners ill-equipped to engage with resistance or unexpected challenges. While concepts like uncertainty, ambiguity, and unknowing are part and parcel in the research process, those moments are often considered annoyances rather than features. In response, we explore practice-led meandering as a lens for fostering multifaceted affordances and strategic emergence in the uncertainty of complex contexts that escape swift, predetermined research approaches.

3. The meandering praxis

We introduce meandering as a design research concept that involves practice without goal obsession. Meandering in research is an undulating, curiosity-led exploration that reveals evolutionary directions that deliberative reasoning might overlook. In geophysical systems, meandering reshapes landscapes as currents traverse oceans, rivers, glaciers, and magma by shifting streams laterally. Rivers and their tributaries are constantly remade assemblages in meandering movements, shaping entire watersheds of entangled water, floods, rock, sand, sediments, fauna, and flora (Scott, 2025; McLeod et al., 2024). We embrace this mutually generative movement of unpredictability and nimbleness as a reorientation in design research, challenging creation paradigms revolving around reflexivity, functionality, efficiency, or technology. Meandering design practice entails category-defying immersion, pursuing detours, reading across disciplines, and fostering unconventional collaborations by accepting ambiguity and investing it forward into unexpected reconfigurations (Wernli & Chan, 2023a).

We are anchoring meandering conceptually by putting Karen Barad's (2007) agential realism in dialogue with Robert Chia's and Robin Holt's (2009) strategic indirection. Barad's feminist-informed, theoretical physics elaborates how human/world relations emerge through entangled, continually reworked intra-actions, thereby entangling the designer as co-constitutive of what unfolds (Sauzet, 2018). Chia and Holt implement intra-action through their notion of praxis: a mode of material relating, knowing, and doing that arises from continuous engagement with the mundane, lived experience and is conducive to practical, locally attuned coping responses (Chia, 2013). For Barad and Chia, difference and otherness are not concerns of tolerance or inclusion but the wellspring for rethinking how we as practitioners know, act, and exist in a world that is always already relational. Barad welcomes difference as patterns of generative interference ("diffraction") rather than division, while Chia engages ambiguity, unknowability, and paradox as opportunities for mutual transformation ("foregrounded other"). Meandering thus becomes a life-embedded, humbling mode of inquiry that honors complexity and unpredictability through concurrent knowledge-making in relation to material responsibility that is rooted in preconditioned locality.

Previous research discusses contingent movement patterns as expressions of repositioning the practitioner within complexity through approaches like decentring (Nicenboim et al., 2025), nomadizing (Wakkary, 2020), or drifting (Krogh & Koskinen, 2020). Such movement patterns are often applied in the context of adapting tooling, visualization, products, technology, or speculations, which may not be viable in resource-constrained and rural settings (Campbell, 2017). Meandering praxis is a repurposing response to what is locally encountered, available, and workable. It also thrusts research into the protracted or structural, demanding radically durational, deeply participatory approaches that escape project timeframes, goal confinement, and shared norms (Willis, 2006). Our inquiry into the SoilTrust case explores how research-informed practice can engage predefined conditions over the long haul when ready solutions are unattainable, and how meandering reconfigures people/world relations through dialectically nuanced designing.

4. Methods, context, data, analysis

From 2021 to 2025, the authors partnered with an experienced organic farmer and a permaculture expert to establish the SoilTrust social enterprise in Hong Kong. We explored how collective fermentation practices, combined with social formats that support them, can regenerate soil nutrients from local organic waste. In doing so, we also pursued exchange relations that make such practices viable. Our team comprises a social designer and a long-time Hong Kong resident native to Europe, as well as an urban anthropologist, a media expert, and a community artist, all native to Hong Kong and Cantonese speakers. Through prior research, personal networks, and residing in the countryside, our team maintains close relationships with diverse groups of local agriculturists. Our research enterprise addressed the territory's 3,000 tons of food waste that are landfilled daily, low recycling rates in the absence of a waste-charging scheme, and marginalized agriculture. Loss of nutrient cycling traditions, fragmented governance, speculative land banking with lax zoning, and urbanization-driven planning have depleted landscapes and prospects across the territories' countryside (Chow, 2019). Since farming populations are rapidly aging and understaffed, we experimented with collective soil-care formats that engage younger and diverse groups. The implementation of SoilTrust triggered resistance, pushbacks, detours, and opportunities that iteratively redefined the research undertaking, its material practices, and alliances. In 2021, our original intention was to launch the Soil Passion Academy at our design school to promote soil-amending fermentation skills among producers and users of organic waste. During the initial field survey, we met a farmer who unexpectedly offered an abandoned plot for testing agricultural uses of food waste. Among the farm's customers were a food retailer and 20 families who agreed to join a trial to recover food waste for use as fertilizer. After one year, the demand for farm labor and compostables outpaced what the retailer was willing to enable. Without public funding available for agricultural practice innovation, we turned to the hospitality industry in 2022 for support. It led to a research contract with a hotel, under which SoilTrust committed to upcycle kitchen scraps into soil amendments to cultivate crops and support biodiversity. To sustain cultivation practices, we needed to bolster our farm team and establish a regenerative farming program for ethnic minority women living nearby, who received access to cropland, upskilling, and harvest in exchange for their work. In 2023, the farm/hotel/welfare alliance ended abruptly when our borrowed plot was sold to a developer and turned into a rubble dump. Ever since, we have expanded SoilTrust's legacy through continued advocacy, education, and dissemination. Figure 1 traces the multitudinous research over five years whereby iterative implementation stages triggered partnering, resourcing, and justifying needs during which SoilTrust launched, halted, relaunched, and crab-walked forward by turning obstacles and countercurrents into fresh possibilities.

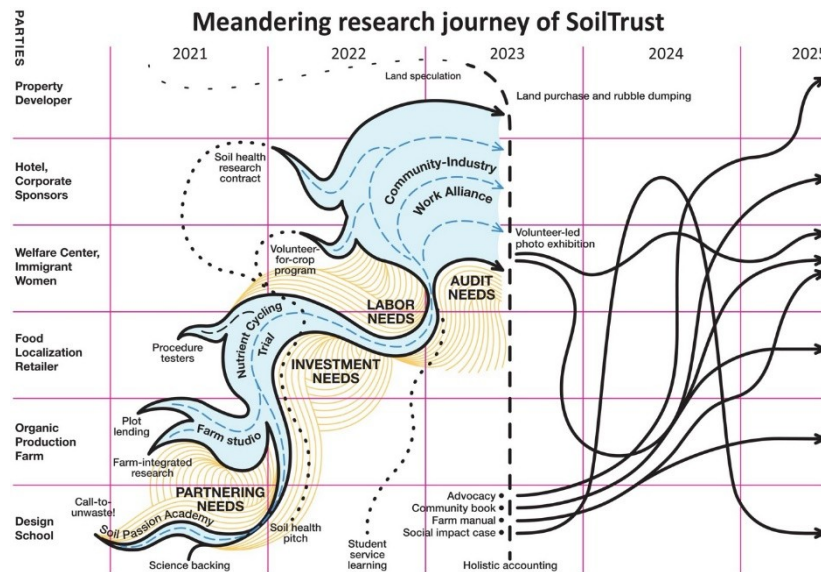


Figure 1 SoilTrust was a practice-led research undertaking requiring facilitators to adopt meandering dispositions, whereby obstacles became indicative of societal needs (capitalized text), prompting adaptive interventions as opportunity-openers for advancing across phases and engaging parties.

Data collection for this paper began in 2024, when the research-endorsing university asked the authors to create an impact showcase for SoilTrust to highlight the social cohesion underpinning the research (Yu & Wernli, 2024). This occasion prompted us to review the pragmatics and transpositions of running the soil-to-soil community fermentation program. In summer 2025, the authors held four hour-long review meetings over two months to assess the research dynamics, record observations, and respond to transcripts of previous meetings, thereby sharpening focus and validating findings through qualitative narrative inquiry (Clandinin, 2007, p.5). We reviewed 80 site engagements across the farm, hotel, retailer, and households; 60 interviews; three digital communication logs; and extended participant observations, situating activities and field responses within the regional context. During and after the review meetings, we recorded and transcribed our conversations, notes, and ongoing responses, resulting in a 35-page tabulated text with 20,500 words.

In our analysis, we aim to account for the attitudes, changes, and approaches of our research journey as we ‘rafted’ the currents of chance, obstacles, and opportunity, or what we call *meanderability*. Using analytical induction (Koskinen 2003, p.51-57), we began with an unmotivated search for reconfigurations, discerning scholarly, collective, and imaginary aspects. We then compared activities and transitions across these aspects, specifying topics into three finer categories (analytical units) that were conducive to reinventive research dispositions across practical domains and phases: (a) implementations that redefined context through operational specificity and semiotic signification; (b) technologies that re-engaged parties through deliberation and transmission; and (c) strategies linked to propensities from interventions and technology. We revisited the data and populated findings in the following section with quotations originating from our review meetings as a reality check, detailing the variables involved in practice-led research vis-à-vis contextual crosscurrents and nimbleness.

5. Meandering in relational resistance and intentional ambiguity

SoilTrust’s researchers followed changing realities and alliances through friction-led reinvention at the level of person, practice, household, and group (Wernli & Chan, 2023b). Our analysis reveals how given constraints, enablers, and motivators have shaped our research approach across four meandering dispositions and the transitions between them: (i) nimble resistance in unwasting and handmaking, (ii) contextual reasoning in sensory-led paradigm shifting, (iii) temporal suppleness in ritualized caretaking, and (iv) deliberate ambiguity in polyphonic liaising. The meandering dispositions took place along three analytical units describing their transition dynamic: (a) implementations that recontextualize the circumstances with operational specificity or semiotic signification; (b) technologies that enable the engagement and transmission of difference; and (c) design strategies that redirect the value proposition of the above implementations and technologies.

Table 1 Dispositional dynamics in the meandering design praxis.

Nimble resistance	Contextual reasoning	Temporal suppleness	Deliberate ambiguity
IMPLEMENTATIONS—RECONTEXTUALIZING (a)			
Reclaim waste as imperative	Redirect design paradigms	Ritualize land care	Proliferate community alliances
Endorse versatile land use	Activate in-situ sensory engagement	Savour whole-life cycles	Account for generativity
Uphold manual practices		Distribute collective legacy	Realize polyphonic identity
TECHNOLOGIES—ENTANGLING DIFFERENCE (b)			
Spaces for emancipatory, sensemaking	Protocols for curiosity, transpiring communications	Continuum of Internal and external knowledge	Attribution of multi-layered, organizational evolution
STRATEGIES—REDIRECTING PROPOSITIONS (c)			
Resist erasure, refusing dominant logics	Prioritize relationality over abstraction	Unfold through ritual, memory, seasonal cycles	Value power of not being fully legible
Sidestep confrontation with subtleness	Emerge through mundane, embodied intuition	Work unpredictably, slowly to reject linearity	Use vagueness to avoid capture

5.1 Nimble Resistance

Rather than confronting dominant systems head-on, as a research and author team including Markus, Kam-Fai, Jonathan, and Joshua, we learned to notice hidden possibilities and reuse what was already available to engage with opposition. As Kam-Fai puts it, “we were not fixated on predefined plans but recognized those inherent, not yet realized potentials from

emergent, weak signals.” This nimble resistance led us to focus on reclaiming waste, cultivating land for multiple purposes, and upholding manual practices, as shown in Figure 2.



Figure 2 SoilTrust’s crew consisted of immigrant women who brought agricultural knowhow from their home regions and regularly advised farm manager Shing (second from right); they debate how to plant potatoes while minimizing soil disturbance and mechanical footprint, thereby implementing manual practices that promote biodiversity using recovered organic materials, not just productivity.

Treating waste as a resource meant resisting linear consumption and dependence on costly infrastructure such as landfills. “We simply upcycled waste with waste,” Markus remarks, describing how one discarded material activated another instead of relying on new, virgin inputs. SoilTrust recovered fruit peels as microbial starter, rice bran as fermentation catalyst, plastic containers as collection bins, and cardboard as mulch. Together, these materials supported nutrient cycling and reduced uncontrolled waste. Flexible land use depended on earning the trust of a veteran farmer who lent us his vacated plot for composting experiments, education, social events, and science communication. Jonathan captures this fragile arrangement: “we borrowed and reactivated this land, it was a gift, and then we had to give it back—we lost the gift to conventional progress.” As part of what we call slow diplomacy, we regularly presented SoilTrust at ‘zero waste’ and ‘carbon neutrality’ events organized by urban developers to keep farmland regeneration and the risks of speculation visible in public discussions.

Sticking with manual practices meant prioritizing low-tech, human-powered methods over tech-intensive approaches that often carry hidden eco-social costs. We revived folk techniques such as brewing enzymes from water-infused fruit peels and pickling kitchen scraps in inoculated rice-bran bedding that retains nutrients and curbs smells. Applying these ferments in land care is aimed at stimulating soil life and more. As Joshua notes, “the limitations imposed by labor-intensive communal methods for us carry no longer the negativity of inefficiency but keep us in tune with the reality of living on a shared planet.” Working within such constraints became a way to cultivate humility and collaborative creativity and to question narratives of automation, convenience, and efficiency.

Nimble resistance also relied on sensemaking practices that welcomed differences. We invited all involved to become co-researchers through mapping, waste diaries, tasting charts, citizen science, and instant messaging. SoilTrust people shared encounters with bubbling

bacteria, fungal outbreaks, unknown plants, slippery animals, and developers dumping rubble. Instead of hiding these differences, we used them to express what it meant to move between kitchens, the farm, and public life. As Kam-Fai observes, “here joy is how we relate, engage, and commit to joint purpose and obstacles, not just about feeling good.” This approach treated diversity as a strength and supported shared agency under constraint.

5.2 Contextual Reasoning

SoilTrust’s nutrient-cycling praxis coordinated consumption with production, acknowledged intergenerational relations by compensating (nonhuman) regenerative work, and asked what counts as ‘alive’ and worthy of care. Our reasoning emphasized relational sensemaking rather than isolated facts or cause-and-effect explanations. Markus explains, “since we cannot precede our relations, our existence and presence are conditioned on inhabiting the connections across people, institutions, cultures, and the natural world.” Outcomes were therefore shaped by local conditions rather than universal rules. We maintained this focus on relations by reworking design directives and by encouraging first-hand, sensory engagement.

Redirecting design paradigms meant questioning standard diagramming and design-thinking tools that abstract users and value. Kam-Fai thus asks, “how might we destabilize conventional consumer-driven thinking by challenging our visual language and factoring the mutuality between human and nature, for example, into the service blueprint?” This push led us to reconcile human needs with soil dispositions, subvert ecologically indifferent valuations, and shift toward ecosystem-centered webs of communication and practice, as shown in Figure 3.

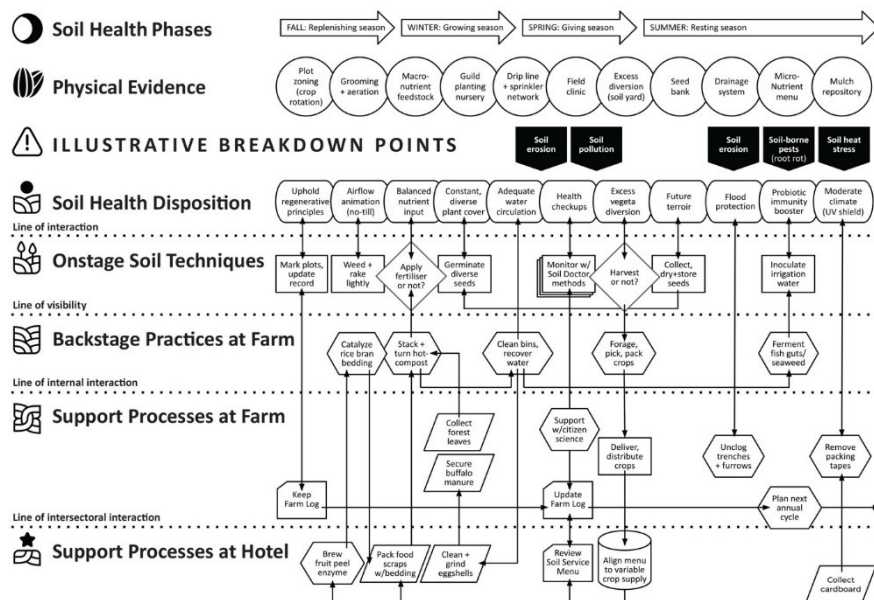


Figure 3 We reappropriated the service blueprint for soil practices and presented the provocative framework at the DRS2024 conference to business design colleagues. By proposing soil health as a ‘customer journey’ that subordinates all human practices, we questioned current indifferent practices and recoded the service blueprint, foregrounding the backstage processes at the farm and hotel (Wernli & Chan, 2024).

In situ sensory engagement invited participants into shared eco-social norms. We spread bacterial cultivation across households, coordinated farm tasks among volunteer groups, hosted reflection sessions with service-learning students, and organized blind-tastings of harvested crops. Jonathan notes: “[SoilTrust] people are meeting, moving, touching, smelling, sensing, turning with human and nonhuman others.” These multisensory encounters with soil and peers coproduce knowledge, deepen practices across social settings, and foster embodied intuition rather than relying solely on externally imposed metrics.

We also turned to digital media to spark interest in SoilTrust’s relational logic. It connected volunteers who lived far apart through shared experiences of awe, change, obligation, and complexity. As Kam-Fai explains, “we’ve been analyzing the exchanges on the instant messaging groups, how volunteers talked about the tasks on hand, insects, or incidents at the farm and in kitchens; people were moved by each other.” Digital connectivity allowed us to follow what happened on the farm and in kitchens, even when no researchers were present. The shared responsibility to keep the practices going meant that people learned from one another – through both playful and urgent exchanges – helping volunteers become more attuned and ready to act (Wernli & Koskinen, 2025).

5.3 Temporal Suppleness

Through SoilTrust, we insisted that materials, interventions, and learning take on an *afterlife*, countering design cultures obsessed with novelty, speed, or set-and-forget solutions. Time in this endeavor was open-ended and layered, with future possibilities emerging from everyday rhythms of practice. Kam-Fai reflects, “our process is a strategy constantly informed by encounters—the impact is not apparent unless its entirety is lived through, which has to be accounted for from the very beginning.” We practiced temporal suppleness by ritualizing land care, savouring whole life cycles, and distributing communal legacy.

Ritualizing land care involved establishing recurrent practices across distance: households remade microbial starters every three months; hotel kitchens pickled scraps monthly; volunteers gathered for farm work weekly; and researchers checked in daily. Markus notes, “despite social and geographic separation, we stayed connected metabolically and periodically with the farmplot and each other.” This commitment continued even after the formal research ended. Once developers had dumped construction rubble onto the SoilTrust field, we kept visiting ‘our’ partner farm to see how the smallholder team fared.

Attending to whole lifecycles meant tracking how materials emerged, grew, changed, decayed, and reproduced in fermentation bins, compost piles, and crops. Jonathan reflects, “we witnessed many plants going all the way to seed; you see its beginning, and you see its end; it’s complete.” This focus brought unexpected discoveries and rewards. Celery, for example, became a full-plant ingredient: we brewed seed tea, churned pesto from leaves, and boiled roots into soup. We also used the heat released by week-old compost stacks for passive cooking, turning microbial activity into an off-grid utility.

Distributing communal legacy was our way of enabling diverse groups to continue SoilTrust beyond its active phase. Joshua explains that “fond memories spread through networked sharing from one point to another.” From the beginning, we welcomed villagers, hoteliers, students, and underprivileged groups. Despite or because of the demanding farm work in

subtropical heat, SoilTrust offered relief from daily pressures and an alternative to rural decline, attracting relatives, passersby, visitors, artists, and media. These entanglements form an impact that now exceeds the original enterprise, carried through shared relationships, practices, and stories. Digital platforms helped us keep this temporal suppleness. Internally, instant messaging, online workspaces, and repositories supported task coordination, agrowaste tracking, crop planning, and citizen science over time. Externally, social media, pitch decks (Figure 4), and publications made our work visible to partners and wider audiences, keeping knowledge in circulation.

	Landfill	Biogas (O-Park)	Flow Composter	Black Soldier Flies (BSF)	SoilFeeders techniques
Toxin prevention					✓
Malodour suppression				✓	✓
Waste input versatility	✓	✓	✓		✓
Zero-electric process	✓				✓
Repairless operation	✓			✓	✓
Food-grade output			✓	✓	✓
Soil health benefits			✓	✓	✓
Carbon sequestration				✓	✓
Regional development			✓	✓	✓
Community capabilities					✓

Kitchen scraps interfold with microbial catalyst for storing nutrients and curbing smells without refrigeration.

Figure 4 To realize SoilTrust's full potential and attract external investment, our research team created a pitch deck for corporate funders that successfully advocated for collective fermentation practices to recover hotel food waste, highlighting both the immediate and durational ecosystemic benefits compared to conventional food waste scenarios.

5.4 Deliberate Ambiguity

Throughout the enterprise, we stayed intentionally ambivalent about how to frame, justify, and communicate the research. This deliberate ambiguity was a design strategy, not an accident. It allowed us to adapt as conditions changed. Markus recalls: “our initial intention was to convene various groups to a fermentation-led training program for upcycling biowastes; then, unforeseeable, not to be missed opportunities carried us off track.” Collaboration thus became a way to bridge experiences and translate learning rather than achieve predefined goals. We practiced this ambiguity by building varied alliances, valuing generativity, and fostering polyphonic identities.

Proliferating alliances meant creating hybrid spaces that crossed boundaries between academia and practice, commons and commerce, indoors and outdoors. We brought villagers, ecologists, entrepreneurs, and consumers into a shared effort with unclear ownership, which even puzzled our farm manager, Shing: “isn’t it confusing to run SoilTrust with four parallel initiatives under different names? Growers Without Borders, SoilFeeders, Return-to-the-Field, and The Farm Studio.” We argue that this diversity opened space for practical dialogue across differences and for novel functions. By keeping SoilTrust structurally open-ended, we shifted agency from individual assumptions to collective reinterpretations that turned waste into resources and competition into collaboration.

Accounting for generativity required stepping away from simple impact metrics and instead gauging success by what people and ecosystems became able to do. Kam-Fai acknowledges the challenge: “how could we measure the quality of exchanges among people and nonpeople in the whole process of learning? Any standard assessment would be reductive of the process and context.” Generative potential emerged through accessing specific situations, responsibilities, and opportunities that shaped trajectories and capabilities. Our farm work highlighted that soil health and productivity are also relational: some crops prefer sandy soils, others loamy, always in situ rather than by universal standards.

Realizing polyphonic identity was our way of strengthening SoilTrust’s aesthetic and social appeal. Turning low-threshold manual farm work into an invitation for both novices and experts helped equalize status, blur roles, flatten hierarchies, and (temporarily) reshape collective agency. Joshua observes that “the farm is not just a backdrop: depending on the person who enters, it takes on different significance—design students turned it into a studio, TV directors into a scenery, night owls into a campground, dancers into a stage, visitors into a destination.” As described above, immigrant women shared agricultural knowledge from their home countries, blurring lines between local and nonlocal, observer, and protagonist. This distributed, practice-led research questioned fixed ideas of identity and belonging. As facilitators of this ambiguity, we also extended our multiple identities into digital spaces. SoilTrust communicated with local communities through its websites and social channels; SoilFeeders addressed hospitality professionals; The Farm Studio worked with design students; and Growers Without Borders mobilized biophilic volunteers from many backgrounds. This wide range of organizational labels kept identities open and adaptable, helping us avoid being captured by a single narrative or institutional category (Figure 5).



Figure 5 To establish the aesthetic of SoilTrust, we translated the manual, sociomaterial practices of waste-powered soil regeneration into directives that catered to our specific audiences with relatable semiotic cues: Soil Service Techniques as an upcycling menu for hoteliers, Growers Without Borders upskilling program for immigrants without land access, and Return-to-the-Field community action for urban families.

Taken together, our meandering praxis worked against dominant systems and long-standing structural problems by engaging materially in everyday life. The activist dimension of the research also continued after the project’s formal end. Meandering, understood as ongoing coping within constraints, supported personal and collective reinvention and revealed practices, materials, and relationships rooted in communities that actively shape their locality.

6. Discussion: meanderability

This paper described how meandering between localized exploration and enabling constraints reconfigured, all at once, practice, practitioner, and praxis—reinitializing identities, relations, and capacities. *Meanderability*, then, is the practitioner’s capacity to meander *and* be meandered simultaneously. As we shape our milieu – in organisms, materials, societies, customs, and deliberations – the milieu reshapes our relational constitution, movement, and habit. It endorses Barad’s (2007) notion of agential realism, in which there is no absolute subject/object divide but only intra-action: the mutual entangledness between agents.

In *meanderability*, the situationally entangled disposition, practitioners continually grow awareness and acceptance of coexisting realities and paradoxes. To meander and being meandered expands Barad’s nonlinear, difference-embracing method of “reading diffractively” from concepts and disciplines to practice-led design. We contend that as *meanderable* researchers we straddled (i) ambition with humility, (ii) accountability with courage, and (iii) alertness with bewilderment:

First, our research journey has committed us for over four years to pair mundane, material practices with coping tactics that reconfigured social arrangements and lent them purpose. The crossover between daily life and activism also invited external actors to play a role alongside locals and nonlocals, thereby bringing collective robustness to SoilTrust (Vega et al., 2021). Humility was critical to the longevity of the collaborative research, which relied on continually renewing memberships, embracing unlikely allies, and reaffirming trust. Ambition underpinned the skilled, *less-violent* use of old and new technologies within social routines that fostered evolutionary opportunities in person and undertaking (von Bush, 2020).

Second, our study gained traction by balancing external demands arising from the given challenges with the internal delight or impulse to explore appropriate responses (Dixon et al., 2021). Accountability was demanded here because we engaged the unknown, overlooked, or stagnant (Hill, 2017). Courage meant to go into unpredictable territory by pursuing overarching propositions (‘designing with soil health’) through small, iterative, or oblique actions that create focus, momentum, and confidence in a person or group and crossovers across disciplinary silos (Wernli & Chan, 2023). We become accountable not only for our interventions but also for prior relations and decisions (DuPuis 2015, p.147). Understanding these legacies helps reveal functional fixations. Waste, for example, is poorly recognized, limiting reimagined uses. The meandering disposition affirmed that historical sociotechnical patterns need not determine future paths.

Third, our case also created a holding space that balanced mindful orienting with surprise disorienting (bewilderment). Alertness was asked for when, as in-migrating researchers, we needed to be aware of our status, declare limits, and clarify our choices. Bewilderment meant letting go of habits, beliefs, and loyalties when they no longer served the purpose of revealing instructive insights or expanding functionally. As researchers, we needed to make virtuous use of uncertainty (Boehner et al., 2012) not only by wayfaring but also by ‘way-losing’ in confidence. In this learning-by-unlearning, impact is not a score to chase but a web of reciprocal connections and vibrancy, measured by the realization potentials in material, person, and community (Murriss, 2022). *Meanderability* is about practice-led trust and continuity for discerning when to remember, when to defer, when to ask for help, when to

carry on, and when to explain—essentially about growing robustness together in relational resistance.

Meanderability offers heuristic relevance for design because it embodies multiplanar worldmaking movements from a place of nuanced intersubjectivity that extends post-structuralist debates on designing from within (Lenskjold et al., 2015; Whyte, 2007). As crosscurrents strengthen and interest in geomorphology increases, so does understanding the practice-led researcher as circuitous reinventer and builder of meanderable movement reservoirs.

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