

Diverse methodologies of care: Thinking with and practising (soil) in situated, affective and enactive ways

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Abstract: *This research article outlines a provocation for diverse and experimentally open, situated approaches to exploring care and caring. The diversely positioned authors discuss this idea using the subject of soil, in the place and context of Aotearoa New Zealand. Little is known about the diversity of ways that everyday people value, or, have caring relationships for/with soil, among a plethora of research that positions soil ‘care’ around, for example, commercial food production, waste-sinking, or property land value. To study diverse care in relation to soil, as with many relational subjects, requires equivalent diversity in the ways in which we might explore it. Here we outline the basis for diverse, situated methodologies that necessarily lead to a diversity of methods. This paper looks at the methodological imperatives that lead to exploring care, and discusses a variety of methods that generate different forms of ‘data’ with different forms of representation of that care. We observe that to holistically observe care relations with soil requires a diversity of methodologies, inherently ontological and epistemological – worldmaking. We discuss situated and enactive, affective approaches of Kaupapa Māori enquiry, monitoring and arts-based approaches to ‘measure’ soil care taking place, in place, and contextualise this with our own author positionality. We discuss this suite of experimental, reflexive, affective and responsive ways to measure soil care that are contingent on that being cared about, for, with and by, and which reciprocally give care.*

Keywords: *care, diversity, methodologies, place-based, situated, soil*

Introduction

This paper presents and advocates for diversity in methodologies for knowing and performing care as explored here through the subject of soil. While ‘care’ has often been contextualised in health research as healthcare/care related to well-being, here we explore care as defined by a diversity of different values – that which is cared about and for, with and by, and between which care might be reciprocally given. Borrowing from insights of feminist scholars Fisher and Tronto (1990: 40), care is both practical and political, ‘a species activity that includes everything that we do to maintain, continue, and repair our “world” so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environments (conceived of as around and part of us), all of which we seek to interweave in a complex, life sustaining web’.

To holistically observe and comprehend the caring about, caring for, care-giving, care receiving and caring with a subject like soil, requires a diversity of methodologies and methods.

Given that any methodology must be situated in order that it is attentive to place and context, we locate our observations of soil’s relations in Aotearoa New Zealand (Aotearoa NZ), a settler-colonial nation with bi-cultural foundations and a multicultural contemporary society. Indigenous Māori constantly evoke relational ontologies, recognising that the nonhuman world has agency, and understanding nature – land, water, animals, wind – as kin, with genealogical links (e.g. Harmsworth and Awatere, 2013). This knowing of the world has been subject to the violent, deliberate and pervasive erosion of such worldviews with the introduction of colonial, scientific framings which underpin legal and regulatory infrastructure – decision-making

and policy. Conventional scientific methodologies of care for soil have included instrumentalised, positivist and largely scientised practices and tools for understanding particular qualities of soil. There has been significant national investment in Aotearoa NZ, for example, into developing research approaches, creating tools, framing measurements and collecting data on, commercial food production, topsoil loss and erosion, and property land values. These methods of governing soil are all ways of care/ing for it that are oriented around economic capital value, constructed to protect and conserve particular soils for particular purposes, as well as territorialise and privatise others. These (connected) ontologies and associated methods of measuring the world enable the performance of a particular kind of care, in particular domains of ‘caring’. But much less effort has been invested into everyday care/ing practice in relation to soil, such as in Indigenous, community and public domains of practice, and we argue that methodological diversity is imperative to demonstrate a diversity of care.

In this paper we explore methodologies (and thus, ontologies and epistemologies) and methods of how we might get to this lesser examined, and reported, care. We contribute to this literature by examining soil in its diversity and care as complex. The paper begins by outlining the concept of care in theory and practice. Following this is a brief review of a range of geographical literature on methodology and its construction, the importance of situatedness and multiplicity in capturing (care in its) diversity, and the value of enactive, affective research for care. We follow with a section on our context of Aotearoa NZ, and our positionality, and the relevance of Kaupapa Māori¹ enquiry, monitoring and arts-based approaches to ‘measure’ soil care taking place, in place. The paper then gives examples of methods used in our experience, and of soil ‘data’ collected, that reflect lesser researched, everyday care/ing practice in relation to soil, in community and public domains.

Care and caring

Tronto, a pioneering theorist of care since the early 1990s has more recently conceptualised

care in five phases: caring about, caring for, care-giving, care receiving and caring with (Tronto, 2013), all referring to physical and material aspects of car(ing), but also a ‘mental disposition of concern’ (Tronto, 1998). Firstly, she conceives of caring about as attentive to or recognising the needs of others. This might amount to having a concern for something/someone but not necessarily acting on it. Caring for, acknowledges caring needs and taking responsibility to ensure that needs are met, translating that attentiveness into ‘doing’ to meet the caring needs. The third phase, care-giving, constitutes ‘hands on labour’ of caring work. In this phase, despite caring about, there can be limitations to caring that can be provided, affecting how caring about is enacted. Care-receiving is the ‘response to caregiving by those toward whom care is directed’ (Fisher and Tronto, 1990: 44). Here, conflict between caregiver and care-receiver is also unavoidable, due to the challenge of competent caregiving to meet a care-receivers need. To be sure, ‘finding a definition of “needs” that satisfies the care-receiver and caregiver is no easy matter’ (Fisher and Tronto, 1990: 45) and caring with is thought of as the relationality of actors ‘shaped by cultural practices, knowledge, meanings and expectations’ which can determine the ontologies of material things, processes and relationships (Williams and Sharp, 2022).

This theorisation of care has been widely adopted by researchers across disciplinary boundaries. Feminist scholar, Maria Puig de la Bellacasa (2011), describes care in similar terms in her work with soil. She describes the notion of care as ‘an affective state, a material vital doing, and an ethico-political obligation’. In the application of care theory to the more-than-human subject of soil she reminds us that caring is not only a way of thinking and living with non-human others, but also requires us to enact this notion of care by engaging with ‘neglected’ things. Here the material doings and hands-on practices are key constituents of a praxis of care (Sharp, 2020). Other scholars have connected notions of care-receiving with responsiveness, where caring *with* has been associated with trust and solidarity (Collett et al., 2018). While not framed explicitly as ‘care’ kaupapa Māori research, an Indigenous science practised in Aotearoa NZ, centres on

thinking *with* and *being with* and *doing with* and *for*, where Māori cosmological ways of knowing place them always in relation with the nonhuman world which has agency. Any interaction is framed and informed by genealogical links to atua (gods), values and protocols and processes (Harmsworth and Awatere, 2013; Mead, 2016).

Care, in its many expressions, is not without its incongruities. Care scholars have highlighted that care is not always positive nor beneficial, and can, in some instances, cause greater harm and suffering for the care givers and receivers (Bartos and Ives, 2019). Martin *et al.* (2015) and Murphy (2015) echo this; care is not something that is inherently positive, nor should we conflate it with affection and happiness in the ways in which care has been historically entangled in hegemonic structures. In the ways it is practised, care is essential to the biophysical world, and can also be deeply problematic when we seek to define, measure and evaluate it, and set legal parameters on these bases due to care's necessary contextuality (Martin *et al.*, 2015). Anna Krzywoszynska's (2019, 2020) work shows that when we care for something, it brings other entities into our fold of care, potentially revealing tensions. The 'care' work, the emotional 'labour' of care, be it through attentive and responsive farming, restoring and protecting whenua introduces elements of reciprocity with the act and thought of care, as interpreted in Makey (2022) in her observations of the inextricable reciprocal care between land and person (see Bawaka Country *et al.*, 2016). But when care is framed through an anthropocentric or even capitalist context/worldview, the value of care labour is not measured as holding equivalent value to non-care labour, so the context of care/ing must be made explicit.

In reviewing more-than-human methodologies in praxis, Dowling *et al.* (2017) observe that noticing, or paying attention, is one of the 'messy' techniques enacted by researchers who are interested in caring to give voice to more-than-humans. Cultivating attentiveness is a key methodological tool harnessed by multispecies researchers. For instance, in *Arts of Inclusion: How to Love a Mushroom*, Tsing (2010: 191) writes, 'Next time you look through a forest, look down ... reach down and smell a clod of forest earth; it smells like the underground city

of fungi'. Here, attentiveness is demonstrated through attuning the body's visceral and affective senses (i.e. seeing, smelling, feeling, hearing, tasting) to fungi microcosms that are present – co-inhabited by other lively entities such as worms, sugars, rocks, rhizomes. Yet, as she argues, we only come to know these worlds if we are paying attention. And attentiveness to the multiple situations and contexts of our enquiry is a tool for studying care for our world, 'how attentiveness may arise, and what work attentiveness may be able to do as a catalyst for and conduit of more-than-human ethics, has not been sufficiently explored' (Krzywoszynska, 2019: 662, authors' emphasis). So, how do we propose that researchers or practitioners of other kinds 'do' attentiveness; that is, care?

Methodology as ontology and epistemology: Theory of diverse approaches

Stepping back to consider the construction of knowledge provides an opportunity to think through Saskia Sassen's 'before method' or the situated analytic tactics that bring social realities into knowledge frames, and in turn into existence (Sassen, 2013a, 2013b). It is not just 'before the method', that this needs consideration. The process of knowledge construction in research is perpetual, and all encompassing, occurring before research design, in theory, during empirical data gathering, in analysis and post 'findings' when ideas are taken up and interpreted elsewhere. As summarised by Michael Carolan:

... it can be a bit unnerving for scholars to learn that knowledge exchange does not start only after research stops. Doing research presupposes doing knowledge exchange. To acknowledge this is to acknowledge our active involvement in the altering of networks we claim to be innocently studying (Carolan, 2016: 13).

Thus, there lies responsibility in methodological choice. The world is brought into existence through knowledge and practice, so studying it with a will to better represent the world's diversity demands a certain methodological openness of approach. It is important to recognise

that a methodological approach, therefore, provides a framework that, through its methods, constructs realities, objects and politics through ‘doing’. This doing – which might be the measurement of physical properties or analysis of ‘data’ of different kinds – works to select particular objects of interest, create at least fleeting boundaries around objects, or make sense of the world in other ways. What we do and how we do it produces particular knowledge; it ontologises aspects of our world to generate new epistemologies. In exploring diverse care we therefore cannot be methodologically dogmatic. To be so would neglect observation or data collection in varied ways – in which individuals and collectives care – thus bounding *out* ways of knowing.

Situated, multiple methodologies

Buckley and Strauss (2016) maintain that experimental, situated methodological toolkits can de-centre the types of naturalised binary logics that are pervasive in one-dimensional methodologies typically used: ‘good’ and ‘bad’, ‘natural’ and ‘unnatural’, ‘in-place’ and ‘out-of-place’, or ‘valid data’ and ‘non-valid data’, as some examples. A situated methodology requires attending to context of the space, place and time, to recognise diversity (Rose, 2016). Developing situated – and thus multiple, varied and specific – approaches to derive situated knowledges from a field of exploration might therefore be understood in the best sense of the aphorism: ‘creating geographies from doing geography’ as quintessentially geographic, and ‘methodology as ontology’ (Le Heron and Lewis, 2011; Le Heron et al., 2016) in the bounding of context, as a basis for caring, enactive research. Marcus’ (1995) multi-sited ethnography encouraged a stream of geographies focused on following ‘things’ through their assemblage of relations in the world. One such memorable research subject was Cook’s (2004) papaya, as a tracing of more than a material object. Theorisations and depictions of the fruit involved an attention to/care about the papaya’s relational socio-political agency at the site of the people who do the labour of harvest, the locations of market making, or the fetishisation of an exotic fruit consumed in a place far from where it was grown. Importantly this methodological

approach makes visible relationships that might not otherwise be apparent, in attentive care for the social life of the subject.

Multiple situated geographies of subjects have multiple meanings to multiple people in these multiple sites (Rose, 2016, 1258–1259). They even mean multiple simultaneous things to one person, and they are all in relation. Mol’s (2002) *body multiple* teaches us that diverse approaches recognise how pluralistic societies are made up of individuals holding reasonable but conflicting moral and ethical views (both within the society, and within the individual). These ‘bodies multiple’ might therefore perform their politics differently as dependent on their unique situations and the relations to themselves in that place. Practical approaches to the study and mobilisation of affective care, therefore, begin by recognising the situated nature of knowledge and action as described above, and the multiple ontological manifestations of subjects and their subjectivities.

Enactive, affective research methodologies

Enactive research approaches begin from the political potential of embodied over representational knowledge (see, e.g. Thrift and Dewsbury, 2000; FitzHerbert, 2016). They recognise that all knowledge and knowledge making, are situated and political. They embrace an embodied and affective (Anderson, 2009) and enactive politics of knowledge production that licences, even mandates, more open, experimental, practice-centred, co-productionist and activist methodologies. There have been multiple efforts in the soil-food politics arena to capture both academic framing and enactive perspectives as generated by practitioner-activists (e.g. Gottlieb and Fisher, 1996; Block et al., 2012). Many of these have used a focus on the ‘act’, and developing (that) practice as a material, political and intentional undertaking, producing active forms of knowledge that are care/ing.

Of its commitments, enactive research embraces a notion of sense-making that highlights ‘the capacity of all living systems to enact a meaningful world from a point of view’ (Colombetti, 2014: 15), which stresses both the subjectivity and the context-specific nature of the worldview. Enactive research also de-

centres the researcher as expert in sense-making. Rather, it situates them among others (practitioners and research participants) as co-producers of knowledge (Law and Urry, 2004). It allows marginalised voices to be heard, but as credible and authorised voices rather than just as calls from ‘the margins’, since enactive research validates what might be seen as small-scale, individual-level practice (Bobel, 2007). Lastly, in all of these performances of knowledge making, affect is engendered. Actual change is generated through practice and offers affective potential where participants can notice, sense and form relationships with subjects of study through sustained attention. This enables co-learning and co-participation and the space to take place.

In their situatedness and subjectivity, enactive practices are both only partial and non-innocent constructions of the world. They are not designed to represent reality or universalise explanation. There is no easy politics of enacting change from this type of activist ethnography, and no simple translation from knowing to doing or knowing/doing to change in the world beyond the particular knowledge made or action taken. There is often, however, careful co-production of knowledge with research participants, and we discuss some of these methods of doing this below. There is always the possibility of learning to be affected, affective learning and the reproduction of practice, and of attunement to the projects of others. To be an enactive, affected, caring researcher, we suggest, is to reflexively consider one’s own politics in the production of knowledge, and we do this next in interrogating our case study of soil.

Praxis of soil care: Placing ourselves in methodologies and methods of care in Aotearoa NZ

At the core of the examples we provide is a methodological pluralism (Esbjörn-Hargens, 2010), framed by commitments to developing concepts, methods and analytic categories from the field (Hage, 2005; Das *et al.*, 2014). We describe ways that we and others have explored soil with the objective of documenting, understanding and highlighting different ways of

caring for soil, in Aotearoa NZ. We position ourselves as diversely Pākehā, diasporic settler women of colour, and Māori scholars thinking in this space. Recognising positionality and its dynamic nature is an essential aspect of methodology, as is an ongoing reflexive engagement with it. Like others who have placed themselves into motion with enactive intent, a researcher can use ‘[one]self as a means of gathering evidence in a particular place’ (Einagel, 2002: 223). Indeed, Longhurst *et al.* (2008: 208) argue that ‘the body is a primary tool through which all interactions and emotions filter in accessing research subjects and their geographies’, and, we would add, oneself. But, there can be no central point of authority or knowledge. As geographers, cultivators, rehabilitators, contaminators and co-habitants (among other things), we as author-researchers might mobilise any number of these subjectivities in a soil encounter, demonstrating that soil relations are complex and that there are multiple ways that we can perform them.

Kaupapa Māori ways of knowing and caring for soil

As discussed, any research requires a commitment to context and place. Our work is in Aotearoa NZ, a settler-colonial nation with contemporary bi-cultural foundations. Kaupapa Māori research is relational, situated and embodied – an Indigenous science that has been practised by Māori for centuries. This methodology privileges Māori mātauranga (Māori knowledge and philosophy), ontologies, practices of seeing, learning, planning, hauora (health) and reo (language), the use of which perpetuates these knowledges.²

Kaupapa Māori research is led by whakapapa (genealogical relationships): it sits within a framing of whānau-whenua-mokopuna (family-land-descendant) or kinship relations between all things, human, nonhuman and other (Mead, 2016; McLellan, 2024). Atua (gods) inform and shape relations and living within nature, including the necessary protocols and processes that sustain culture. Therefore, thinking care for soil within a whakapapa framework (McLellan, 2024) knows the experience and practice of care – in thought or labour – as relational and as not belonging to the participant or

carer alone but as situated within networks of relationships, the interwoven cosmos, cultural values and societal expectations. Care seems implicit and explicit in this relational and embodied theory and praxis, which centres on thinking *with* and *being with* and *doing with* and *for*: Kaitiakitanga, a value of guardianship, stewardship and protection, a notion of practicing with future generations in mind, is just one value and practice in which the notion of ‘care’ might be read into.

Grennell-Hawke and Tudor (2018) discuss four tests applied to Kaupapa Māori research. ‘The first is the praxis test: Are both practical and theoretical elements present? Second, the positionality test: What is the record of the researcher/commentator that lends legitimacy to their work in this area? Third, the criticality test: Does the commentary or analysis adequately take account of culturalist and structuralist aspirations and political analysis? And fourth, the transformability test: What positively changes for Māori as a result of your engagement or your application of Kaupapa Māori?’ (Smith, 1997, cited in Grennell-Hawke and Tudor, 2018: 1532). Answering these questions requires reflexivity and attention to the quality of relationships among subjects.

Kaupapa Māori theories, methodologies and practices (Cram and Kennedy, 2010; Durie et al., 2017; Smith, 2015; Pihama et al., 2002) have contributed significantly to the understanding of kinship with nature including soil. The many different words that Māori use to describe relations to landscape and soil, like *whenua* (placenta, land), *Papatūānuku* (Earth mother) and *oneone* (as a connection to *Hineahuoneone*, the *te ao Māori* soil deity) are relational terms captured through ancestral links, kept alive through traditional stories, that encompass traditional environmental values, concepts and knowledges (Harmsworth and Roskrige, 2014; Hutchings et al., 2018). Nature (of a place) is not an objective thing, rather, it is yourself, an identity and a source of life. This relational arrangement might be understood through the *whakatauki whatungarongaro te tangata toi tū te whenua*, which can be described as ‘when people perish, the land remains’.

Work in Kaupapa Māori domains has been generously shared in attempts to establish ‘a

pluralistic values-based framework of soil health’ in Aotearoa NZ (Stronge et al., 2023), where a Western-centric perspective of soil science has otherwise gained dominance as a framing in Aotearoa since colonisation of the Aotearoa, with a focus on instrumental values – particularly around productivity of soil. Stronge et al. (2023) use a bi-cultural model to demonstrate how multiple soil values might help develop shared goals towards soil ‘care’, with an eye to soil policy and management change. Considering Grennell-Hawke and Tudor’s (2018) fourth test of Kaupapa Māori research, the politics of care around soil and people for Māori would be bounded in *mana motuhake* (independence, self-determination) and *mana whakahaere* (authority and status to manage and set policy). This politics recognises a need for enactive methodologies, for transformability.

Monitoring (checking-in with) soil as care

While in this paper we attempt to elevate marginalised understandings of soil and its relations of care/ing in the qualitative, sensory or action-oriented ways of knowing it, biophysical measures of soil are not necessarily disabling of care for soil or for creating caring worlds. We provoke that these types of metrics are *typically* taken to optimise intensive productivism for profit to generate the greatest yield of food per land area, or for additive supplementation. Maria Puig de la Bellacasa is one scholar who challenges such dominant, productivist metrics of soil science. She discusses an example of harvest intervals, where soil is monitored with a goal to shortening them unsustainably in industrial agrifood systems, as a ‘form of exploitative and instrumentally regimented care, oriented by a one-way, anthropocentric [frame of reference]’ (Puig de la Bellacasa, 2015: 700). Monitoring and measuring environment in this way is undertaken most often because of the human condition to ‘manage’ it, *but* caring to measure it does not necessarily convert our caring *about* soil into a *caring for*, much less a *caring with* it (see Tronto, 2013). Vitaly, as Jessica Hutchings states: ‘We don’t have to get right on top of [nature], we just have to be alongside to co-create with her, and to give her all the space to express the power that she is’ (Evans, 2024).

We suggest monitoring is not a ‘surveillance over’, but rather, a ‘checking-in-with’ soil, as one does with a relation or friend, to understand what soil needs to thrive inherently rather than in the service of humans.

To make this transition to caring for, or with, we revisit Grennell-Hawke and Tudor’s (2018) transformability test and ask, ‘what positively changes, from a care perspective?’ to realise that it is what we do with this information – and how we use it – that is of consequence. Indeed, there are positivist approaches that are useful in demonstrating soil care that include science-informed proxies for soil health, such as pH, water content, organic carbon content (OC%), or biological diversity. Wright’s (2021) *Subtle Agroecologies* discusses farming with the ‘hidden half’ of nature that does not reject ‘mechanistic science’, but like other methodologies of soil care, such as regenerative, agroecological, organic, syntropic and biological farming, and the Hua Parakore approach specifically in Aotearoa (Hutchings *et al.*, 2018), it aims towards a more sensitive appreciation of the generative power of nature, where this ‘how’ is caring (Seymour and Connelly, 2023). When undertaken for the purpose of thinking through what we can give back, to care reciprocally with soil, we might re-orient our coordinates of care away from extractive methods of taking from soil to reciprocal methods of caring with soil. Again Wright (2021) discusses Goethe’s contributions to agroecology that utilise all human senses including intuition and imagination to holistically connect with – enter into a collaboration with – soil, the land and ourselves. This intuitive methodology informs kaupapa Māori methodologies (and most Indigenous praxis) when ‘sensing’ mauri ora ki te whenua³ and te taiao (environment) more broadly. In their contribution to thinking about reciprocal care demonstrated in the process of composting, Wing and Sharp (2023) document gifting between soil and humans, complementing te ao Māori (Māori world) thinking around tauutuutu,⁴ or ‘giving back what you take. It restores balance in the system, by giving human benefit back to the resource, soil or ecosystem (through a set of actions and practices)’ as summarised in Stronge *et al.*’s (2023) examples of Māori soil health values and principles.

Krzywoszynska (2019, 2020) has similar ideas, writing on thinking-with more-than-human others. She proposes the ‘care network model’ (Krzywoszynska, 2019), showing that when we care for something, it brings other entities into our fold of care too. Her examinations of care in monitoring soil illustrate conventional farmers in her work whose attention to soil emerged from ‘caring for the farm as a business’ where ‘caring for their farms meant caring for the crop growth; this in turn made them attend to soils, and specifically soil structure and soil organic matter’ (Krzywoszynska, 2019: 668). Moreover, her focus on soil as constituted with nonhuman labourers (Krzywoszynska, 2020) makes visible the role of nonhuman forms of labour in capital accumulation (see also Yee and Sharp, 2023); where we see soil as not just in relation to commodification, but as a ‘care’ producer or giver in its own right. Through this lens not only are we forced to consider the materiality of soil, but new opportunities become visible for multispecies solidarity under capitalism.

There are, too, scientised soil-related methodologies that are generative of care, performing care in creative modes of attentiveness, of noticing. An example is the community-science programme Soilsafe Aotearoa – www.soilsafe.auckland.ac.nz/soil-testing/ (Sharp *et al.*, 2024) – which measures and records metal and metalloid concentrations (like lead or arsenic) in parts per million of domestic backyard soils to inform householders of contaminant levels in their gardens. The impetus for this is around awareness of a legacy of persistent contamination of soils, to enable better caring relationships for soil in identifying sources of contamination to stop this previously uncared-for soil being ingested by people. The care network here is thus in the metricisation of soil’s metals, the communication of this information to gardener and the remediation of that soil to care for soil and human, in order that people may safely, carefully garden for food or recreation, care for nonhuman invertebrates and microbes, or compost with reciprocal care in the future. This care is intergenerational too, with soil care knowledge being exchanged with tamariki (children) (Tsang *et al.*, 2023; Sharp *et al.*, 2024). While measurement of care can be seen to be problematic (Martin *et al.*, 2015), this measurement

of values of soil might be seen as an act of care/ing.

Caring for soil through and with the arts

Arts-based knowledge making as a methodology is defined in part by a creative messiness that is difficult to describe or formalise as method in a conventional, positivist sense, and instead might present as ‘ethereal’ (Hayes-Conroy and Hayes-Conroy, 2013: 81) or ‘fuzzy’ (Law and Urry, 2004: 392). Thinking affectively about ‘performance, pedagogies and their inherent activist, embodied and collective natures ... works across multiple spheres to deploy affective approaches rather than to simply think with affect theory about traditional methods’ (Harris and Jones, 2021: n.p.). In these affective spaces, novel and ‘emergent affective qualitative and post-qualitative methods [offer] new ways of considering the value of different kinds of data “lives,” as well as the differing ways in which data performs itself (Kahl, 2019)’ (Holman Jones and Harris, 2021: 1).

This type of open-ended research, which is exploratory in nature and might be described as ‘projectless’ (FitzHerbert, 2016) by some interpretations, destabilises established and predictive methodologies, thus inviting diverse audiences to take part in the process of knowledge production through their own reflexive sense-making (Heyman, 2000). It should be noted that these performances are not necessarily binary, that is, a splitting of ‘theory’/‘practice’, or academic/‘art’ (Holman Jones and Harris, 2021). As per Mol’s (2002) illustration of ‘the object multiple’ and Erin Manning’s *Against Method* diverse subjectivities of research and subject are simultaneously present; ‘making multiple sense is research-creation at work’ (Manning, 2015: 27). Here, ‘method’ and ‘ology’ work together for attentive, affective, and we argue, potentially *caring* relationships between and among subjects and researchers, ‘taking us to new places, and ... asking what happens when we refuse to foreclose meaning as a form of play’ (Holman Jones and Harris, 2021: 2).

Methods

In bringing together the above research sensibilities and methodologies, we have already

mentioned in brief some methods and examples of how these approaches might be deployed. Studying more-than-human actors, such as soil – ontologised for its physical, cultural, spiritual, social, environmental, economic, political and other dimensions – allows one to theorise ‘weakly’ (Sedgwick, 2003; Gibson-Graham, 2006, 2008) away from one-dimensional conventional presentations of ‘the field’ for soil studies. Understanding how soil care is practised, experienced and lived cannot be reduced to rational and objective ‘truths’ or codes (Carolan, 2016).

Care-full methods, the kind aligned with the methodologies like Indigenous kaupapa, which enable qualitative data collection to gather a rich description of the world, sensory approaches, care-full monitoring and enactive research, are explored here as ones that are less commonly used in studies of soil – that would enable a diversity of soil knowledge production. A commitment to acknowledge many types of ‘data’ is central to enactive research practices; practitioners take on a holistic view of research methodology that does not jettison the possibilities of different practices working together, making this a powerful methodological approach applicable to many partners in knowledge making.

Ethnography is one such method:

Consider the kindly ethnographer, the friendly ethnographer, the honest ethnographer, the precise ethnographer, the observant ethnographer, the unobtrusive ethnographer, the candid ethnographer, the chaste ethnographer, the fair ethnographer, the literary ethnographer. These are not the only images that one could examine, but in each case they are common images to which ethical and competent field researchers wish to hold. (Fine, 1993: 269)

The images that Gary Fine conjures above point to the inevitable performance of a multiplicity of ‘here-making’, ethnographies with a body multiple of ethnographers – but the same stands for other methods we have used, like: interviews in reciprocal conversation with a subject; wānanga (place and process of learning about te ao Māori, according to tikanga Māori [correct procedure]); as well as Kaupapa Māori informed mixed-methodologies (Wright, 2024); photo

elicitation that appeals to sensory visual representations (e.g. Alam *et al.*, 2018); body mapping that enables subjects to draw their relations (e.g. Cregan, 2006); auto- or duo-ethnography, which are typically evocative personal accounts of experiences to gain insights into broader contexts, with duo-ethnography involving two or more narrators engaging in dialogue to examine these experiences (c.f. Hintz's (2015) *Soil in My Blood*⁵), for example. One research endeavour might comprise a number of these approaches, generate different understandings and co-produce different knowledges as a result of just *being* in the field. Mol's (2002) work reminds us that there are multiple subjectivities and diverse interests in any (researching) body, and that any body can be mobilised at any time.

For the second author, their research undertaking ethnographies of insect care involved speaking with carers of insects (such as houseflies (*Musca domestica*) and black soldier flies (*Hermetia illucens*)), which in turn showed reciprocal care for soil: the flies feed on organic matter and leave behind in it larvae exoskeletons (exuviae) which contains chitin and insect faeces (frass), the latter of which is useful as an organic fertiliser providing easily absorbed nutrients to the soil, additional plant-growing biomolecules and microorganisms, and increased resilience to stresses, pathogens and pests (Yee and Sharp, 2023). The researcher's observation, and relationship building with these soil makers led to an affect through appreciation of their insect labour and value – of the network of care offered by insects, animal manure, soil and water quality and humans, of *caring with*.

For the first author, developing art-based methods involved collating quantitative and qualitative data from research: questionnaire responses, interviews, photo elicitation images and children's soil pigment painting from school workshops. All of the data responded to a prompt that asked respondents' how they care for and about soil. Anonymised/non-identifiable data and scientific imagery from Soilsafe Aotearoa's domestic garden soil metal testing was also included in the exhibits to display what 'contamination' or 'uncaring' relations with soil might look like, and elicited community responses on what they thought about this. The art installations exhibited assembled data together in the form of digital slide reels of respondent photographs and quotes of soil care

and concern, graphed data of soil trace elements, video interviews of team members, along with community photographer's and artists' depictions of soil, and community member's own soil painting among the school children's soil artwork, as a co-production of the exhibits. The interactive, bodily immersed and sensory practices of painting with soil pigments were in some ways relation-building and worldmaking in the ways that new imaginaries were explored. Storytelling at the exhibits – through art and through Māori oral histories – was compelling for participants; as Anna Tsing provokes, 'to listen to and tell a rush of stories is a method' (Tsing, 2015: 37). All of these enactions and constructions were intended to highlight a diversity of soil values, encourage a curiosity about, and awareness of the need for its protection as a grateful and caring response to respondents' participation. The responsibility of giving back to participants and wider public reflections of their own knowledge is part of researcher care.

For the third author, the inseparability of soil, seas, rivers and people was evident in her kaupapa Māori work on 'Thinking with Kaipara' (Makey, 2022). Essential to this exploration was auto-ethnographic methods among others, to 'evoke the variety of emotional and material places making up the intimate cultural (colonial) geographies of ecosystem restoration' (Makey, 2022: 108). In particular, it paid political attention to the dearth of women's auto-ethnographic writings in this space that provide critical spaces for women's silenced experiences, voices and stories to be told, mapped and shared to make knowledge about the world and our senses of place in it (Makey, 2022: 111). Referents of care in her exploration here include that of Bawaka Country *et al.* (2016)⁶ and their understandings of care as relationalities of co-being, co-belonging and co-becoming, connected to 'knowing and appreciating' soil life, and immersion in soil as a practitioner to develop a 'feeling for the soil' (see Donovan, 2014).

What it means to be a care methodologist: The soilworlds we create through caring enactive research

The different 'method-making-knowledge-and-realities' (Law and Urry, 2004: 405) advocated

in this paper not only perform different points of view on one single ‘reality’, but also enact multiple overlapping realities in revealing multiple worlds. As Mol (2002) might reflect, what ontological ethics, or care, do we wish to proliferate in our own vision of the world? The research subject of soil, like others, are bodies multiple; thus, there is no singular approach as to how we might measure their value or assess their presence or absence. Nor is there any one, central soil ‘expertise’.

Examples of what is marginalised in dominant observations of the world include representations and knowledges that are not always visible in numeric, measurable or mappable forms which in governance of any ‘resource’ is used for comparison and decision making. Guides on geographic methodology for the physical world are ordinarily devoid of approaches to harnessing sensory ‘data’, for example. Rarely do bodily understandings of soil converge with methodological frameworks. While not advocating empiricism, which argues that *all* knowledge is derived from experiences of the senses, value can be seen in under-represented disciplinary methods of building the world. Methods that are more receptive and sensitive to affective moments, sites and objects that we research are of interest here. These include methods that make space for that which is sensed and felt, and with which we might form an attunement to – care for – a situated truth in moment, site or object form. This might be an attunement to a soil’s legacies, a place-based story, or the way it feels under your fingernails.

Therefore, sustained, enactive, multi-sited reflexive research allows researchers to engage in making new worlds because it is political. By noticing and attuning to soil as a researcher, or community-scientist, practitioner or observer, we work with human and more-than-human participants to build affective political potential. These politics are based in researcher positionality, subjectivity and the situation of self, relative to the object of inquiry – here, soil. The multitude of constructors and constructions of soil knowledge reveals soil as ontologically complex. There is a diversity of cultivator, user and co-existor practices, performed by human and more-than-human soil assemblers, each of which brings different worlds into being. We

have discussed methodologies and methods that feature dialogue, collaboration and co-production in their praxis; for instance, Kaupapa Māori (embodied through reciprocal ‘doing’ of wānanga), karakia (prayer), wairua (the spiritual dimension to life, spiritual practice, soul), auto-ethnography, art-based and creative practices, or other intuitive methodologies and practices that by design and by circumstance care-with others in their happening. Positionality and subjectivity are always pivotal axes of the researcher-participant relationship, and that the co-production of knowledge and space is inevitable, including its potential antagonisms. Epistemological reflexivity is necessary both to think through power, ethical and representational relations of researchers and their subjects.

Our own learnings through the process of practicing care-full methodologies in studying soil have led to affective personal practices. These include growing food in a domestic garden, redirecting kitchen waste to the family’s worm farm and compost heap, interacting with insect bodies as soil-creators/co-dependents/co-embodiments, and having soil tested for contaminants. In this way, as we have changed through knowing soil differently, we have actively cultivated our own new soilworlds through care-full affective noticing of the soil and its agents, and ‘doing’, that at some junctures tangibly creates soil.

Final thoughts

Methodology shapes methods and makes realities. As a result, by thinking about how research is done – how we reveal and perform things, and how we come to know the world – as researchers we can take care in our approach to knowledge production and necessitate a reflexivity around why and how we use particular methods, in a non-dogmatic approach to knowledge production. We have illustrated how attention to a diversity of methods, that include lesser recognised bodily engagement ‘with the field’, also involves an attuning of our senses. This attunement involves a following of a sort; a deep respect for physical, economic, environmental, cultural, political and affective relations of subjects, here soil. We can *feel*

practices domineering or exploitative that are ruinous, or that close down possibilities. And in attunement and attentiveness recognised through a diversity of methodological approaches we also know care and caring thinking and doing when we part of it. Beyond theorising, the way this different knowledge is *performed* is a practice of a different politics. The combination of methods that both engage with human subjects directly as well as ‘observing’ from a distance, enable valuable and diverse insights about the world.

While conventional research practice conditions particular methods and truths that purport to be universal, an approach of methodological diversity enables a disposition to experiment, to do differently and to animate new worlds. There is value in proliferating methodological diversity to make visible already present alternative research ethics and activism. This performative ontological work constructs a different kind of academic practice: it celebrates and invests in difference, in care and care-work, and performs a different academic subjectivity. Making knowledge otherwise, to generate diverse knowledge with other ethics and politics, is a critical step to care-full world making.

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Conflict of interest

The authors have no conflict of interest to declare.

Notes

- ¹ Māori led, Māori purpose, Māori methods, Māori led research for Māori by Māori.
- ² Pihama *et al.* (2002: 32) discuss the importance of language use and revitalisation in this work, ‘te reo Māori me ōna tīkanga [are] critical elements in any discussion of Kaupapa Māori and [are] in line with the assertions

that Māori language must be viewed as essential in the reproduction of Kaupapa Māori’.

- ³ Giving energy, life, vitality, health to the land, reinstating energy.
- ⁴ Tauutuutu is also defined – in a white paper of the same name – as ‘an indigenous concept that places an ethical obligation on communities and enterprises to emphasise balance, reciprocity and symbiosis in their social and environmental relationships’ (Reid *et al.*, 2019).
- ⁵ Hintz (2015) presents an intimate examination of personal and shared experiences with the environment, agriculture and identity, through soil.
- ⁶ The term ‘country’ in this context of Yolŋu people of the Northern Territory of Australia goes beyond the Western notion of a geographical area, embodying a profound connection to the land, sea and all living beings within it, intertwined with spirituality, law and identity. Bawaka Country is progressively a nonhuman co-author in literature that describes its relations (Bawaka Country *et al.*, 2016).

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