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Article in *Families Relationships and Societies* · March 2021

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What does Rachel Carson have to do with family sociology and family policies? Ecological imaginaries, relational ontologies, and crossing social imaginaries

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In the past decade, multiple compounding crises – ecological, racial injustices, 'care crises' and multiple recent crises related to the COVID-19 pandemic – have reinforced the powerful role of critical and social policy researchers to push back against 'fake news', 'alternative facts', and a post-truth era that denigrates science and evidence-based research. These new realities can pose challenges for social scientists who work within relational, ontological, non-representational, new materialist, performative, decolonising, or ecological 'turns' in social theory and epistemologies. This article's overarching question is: *How does one work within non-representational research paradigms while also attempting to hold onto representational, authoritative and convincing versions of truth, evidence, facts and data?* Informed by my research on feminist philosopher and epistemologist Lorraine Code's 40-year trajectory of writing about knowledge making and ecological social imaginaries, I navigate these dilemmas by calling on an unexpected ally to family sociology and family policy: the late American environmentalist Rachel Carson. Extending Code's case study of Carson, I argue for an approach that combines (1) ecological relational ontologies, (2) the ethics and politics of knowledge making, (3) crossing social imaginaries of knowledge making and (4) a reconfigured view of knowledge makers as working towards just and cohabitable worlds.

Key words ecological social imaginaries • relational sociology • ethico-onto-epistemologies • Rachel Carson • mixed methods

To cite this article: Doucet, A. (2021) What does Rachel Carson have to do with family sociology and family policies? Ecological imaginaries, relational ontologies, and crossing social imaginaries, *Families, Relationships and Societies*, vol 10, no 1, 11–31,
DOI: 10.1332/204674321X16111320274832

Introduction

Today, at the beginning of the 2020s, social scientists who work within relational, ontological (and relational ontological), non-representational, performative, new materialist, decolonising or ecological 'turns' in social theory and epistemologies face several important challenges. I take up two of these key interrelated issues in

this article. The first, critical to both social justice and policy-focused scholars, asks ‘Where do we go after we have taken the ontological turn? What does this turn mean for public scholarship, for public engagement?’ (Denzin and Lincoln, 2017: 22). More broadly, the concern is about how to use evidence, data and facts to simultaneously challenge and negotiate knowledge without universalising empirical evidence. Can we have ‘representation without representationalism’ (Neimanis, 2015: 135)?

A second issue is how researchers who are working on a terrain of ‘posts, post-posts and neo-posts’ (Lather, 2013: 634) or ethico-onto-epistemologies (Barad, 2007), and who are developing innovative methods to apply ethico-onto-epistemologies (for example, postqualitative, posthumanist, decolonising, Deleuzian or diffractive methods), can combine their approaches with large-scale quantitative data (for example, national surveys, longitudinal panel studies, census data, administrative data and time use surveys) and with qualitative research that is underpinned by representational assumptions about methods and data (for critique, see St Pierre, 2015; Mauthner, 2016). These representational assumptions include, for example, the view that data is ‘given’, ‘waiting to be found’, ‘inert in and unaffected by the knowing process’ (Code, 2006: 41), or ‘independently existing things [that] exist frozen in time like little statues positioned in the world’ (Barad, 2007: 90). Non-representational approaches to knowledge making, on the other hand, challenge representationalism and its ‘view that the world is composed of individual entities with separately determinate properties’ (Barad, 2007: 55) and that ‘words, concepts, ideas [...] accurately reflect or mirror the things to which they refer’ (Barad, 2007: 86; Thrift, 2008).¹

The problem of simultaneously challenging and holding onto representation is timely. In the past decade, multiple compounding crises – ecological crises, racial injustices, and ‘care crises’ (Fraser, 2016) – have unearthed a powerful need for critical and social policy researchers to push back against ‘fake news’, ‘alternative facts’ and a post-truth era that denigrates science and evidence-based research. The COVID-19 pandemic has brought urgency and speed to research and knowledge-making practices – including research on families’ paid and unpaid work. The pandemic has also brought renewed attention to the crucial importance of hard facts and evidence, especially as conspiracy theories and populist movements are undermining efforts to control the virus (Law, 2020). These new realities foreground the urgency of this article’s overarching question: *How does one work within non-representational research paradigms while also attempting to hold onto representational, authoritative, and convincing versions of truth, evidence, facts, and data?*

My thinking in this article stems from three sites. The first is my bifurcated scholarly work, which attends to family lives and family policies and also to the knowledge-making practices that produce data about those lives and policies. I work as a narrative, qualitative and postqualitative family and gender researcher guided by feminist and ecological social imaginaries of knowledge making, and I do so with and alongside community and policy researchers who aim to enact social change while still relying (somewhat or largely) on foundational, representational and ‘spectator epistemologies’ (Code, 2006: 26).

The second and related site is my decade-long research programme on knowledge-making practices, based on my diffractive² reading of feminist philosopher Lorraine Code and her 40-year trajectory of writing about the political, ethical, epistemological and ontological dimensions of knowledge making and epistemic responsibilities, as

well as her recent iterations on ‘ecological thinking’ or ecological imaginaries (for example, [Code, 1995; 2006; 2011](#)).

The third site that influences this article is my role as project director and principal investigator of a large seven-year (2020–2027), multi-sectoral, team-based, multi-methodological project on family policies and family practices.³ The scope and range of this project has compelled me to attempt to develop a way to move between two ‘social imaginaries’ of knowledge making: on the one hand, broadly positivist-informed epistemologies and, on the other hand, ecological and relational social imaginaries of knowledge making.

In this article, I demonstrate how I attempt to make this move between two social imaginaries of knowledge making. I do so by calling on an unexpected ally to epistemology and to the fields of family sociology and family policy: the late American environmentalist Rachel Carson.

This article has three parts. First, I lay out my reading of Code’s writing on instituted and instituting social imaginaries of knowledge making. I highlight how, although her approach, ecological social imaginaries of knowledge making,⁴ is just one of many emergent ethico-onto-epistemological and broadly non-representational approaches, it has several unique features that are instructive for the problematic I address here. Second, building on and extending Code’s case study of Rachel Carson, I argue that Carson’s writing helps to metaphorically and literally ground ecological imaginaries. I detail four unique features of ecological imaginaries related to: (1) ecological relational ontologies; (2) the ethics and politics of knowledge making and how epistemic communities are not ‘benign’ ([Code, 2006: v](#)); (3) methodological pluralism, philosophical pragmatism, and crossing social imaginaries of knowledge making; and (4) a reconfigured view of knowledge making as working towards just, cohabitable and sustainable worlds. Finally, I weave these four dimensions through my research on families and family policies.

Instituted and instituting social imaginaries

I borrow the concept of social imaginaries from Code, who emphasises that social imaginaries are social in the broadest sense: they are higher-level narratives that make possible other stories and narratives, including conceptual narratives and policy narratives. [Code \(2006: 30\)](#) writes that more than ‘principles of conduct’, social imaginaries are ‘about how such principles claim and maintain salience’. Although social imaginaries are similar to paradigms ([Kuhn, 1970](#)) and meta-narratives ([Somers, 1994; 2008](#)), I am drawn to [Code’s \(2006\)](#) idea (borrowed from Cornelius [Castoriadis \[1998\]](#)), that social imaginaries are both *instituted* and *instituting* because new social imaginaries are always unfolding from within instituted ones.

As Code writes ([2006: 9](#)), *instituted* social imaginaries of knowledge making are the ‘social imaginary of the affluent liberal western world’ and ‘the epistemic imaginary inherited from analytic philosophy’ ([Code, 2006: 213](#)); they include ‘empiricist, positivist and rationalist theories of knowledge’ ([Code, 1995: 190](#)) and ‘dominant epistemologies of modernity, with their Enlightenment legacy and later infusion with positivist-empiricist principles’ (p.24). This is also knowledge making premised on enduring binaries: nature/culture, nature/social, subject/object, and ‘matters of fact and matters of concern’ ([Latour, 2004: 231](#)), where there is ‘a separation between

knowers and known, [and] a spectatorial conception of knowing' (Rouse, 2009: 24; see also Verran, 2001).

Instituted social imaginaries of knowledge making hold a fairly consistent view of the researcher's role: researchers are scientists who let 'the facts speak for themselves' (Law, 2004: 120). All the while, these researchers often proclaim "'the surveys show" and "experts have proved"' (Code, 2006: 97) or 'science has proved' (p.244), while maintaining that knowers 'bring no affective, personal historical, or idiosyncratic baggage to "the epistemological project"' (Code, 2006: 17).

In spite of the weight, hegemony, and longevity of the dominant social imaginary of knowledge making, Code (2006: 32) argues that other 'instituting' social imaginaries of knowledge making are always possible and, indeed, are continually emerging. Code (2011: 218) uses the terms 'ecological thinking' and 'ecological imaginaries' interchangeably to describe one such instituting social imaginary. Her approach to knowledge making, which she develops through a 'scavenger approach' uses an incredibly wide array of epistemological and theoretical resources, including feminist epistemologies, naturalised epistemologies, social epistemologies, virtue epistemologies, epistemologies of ignorance, philosophical pragmatism, postcolonial and anti-racist epistemologies and hermeneutic-phenomenological resources. Each resource brings different influences and foci to this evolving approach to knowledge making and epistemic subjectivities (for overview, see Code, 2006; 2020b; Doucet, 2018a; 2021). What is unique, however, is the inclusion of a broad range of *ecological* theories (from the natural and social sciences) and philosophies, especially Rachel Carson's work (see Code, 2006; 2008).

What, then, does Code mean by ecological social imaginaries? Briefly put, this is a knowledge-making approach that 'generates revised modes of engagement with knowledge, subjectivity, politics, ethics, science, citizenship, and agency, which [...] carries with it a large measure of responsibility (and) is about imagining, crafting, articulating, endeavoring to enact principles of ideal cohabitation' (Code, 2006: 24).

Ecological imaginaries are just one form of the many radical instituting social imaginaries of knowledge making and subjectivities that are unfolding across the Global North and Global South from a highly diverse array of thinkers.⁵ Despite some similar and distinct scholarly roots, these approaches share several features, including attention to the following: (1) *historical epistemologies*, which approach knowledge-making 'practices in a performative rather than a representational mode' (Barad, 2007: 88); (2) *relational ontologies* with a radically different understanding of relationality partly encapsulated in a move from *inter-action* to *intra-action*, which 'entails the very disruption of the metaphysics of individualism' and which challenges the 'inherent boundary between observer and observed, knower and known' (Barad, 2007: 154); (3) different articulations of *multiple ontologies*, including ontological multiplicity, ontological alterity, 'enactments of worlds' (Blaser, 2010: 3), and the view that there are multiple worlds rather than a 'one-world world' (Verran, 2001; Blaser, 2014; Law, 2015; de la Cadena and Blaser, 2018); and (4) a reconfigured view of what *we are actually doing* as researchers and as knowledge makers. This last feature implies a shift in our actions, from data gathering – 'collecting stories' (see Code, 2011: 217) – and representing data to 'intervening' in (Verran, 2001; Hacking, 2002) and 'intra-act[ing]' (Barad, 2007) with data and with research subjects and their worlds. Consequently, ethico-onto-epistemological approaches to knowledge making instill a more urgent sense of *responsibility* for what we choose to focus on, attend to, enact or bring into

being (see Code, 2020a; Code et al, 2021). Beyond these four key dimensions, I build on and extend Code's case study of Rachel Carson to highlight four additional dimensions that are unique and central to ecological social imaginaries.

Case study 1: Rachel Carson

A 2012 biography of Rachel Carson notes that 'Rachel Carson is unknown to almost anyone under the age of fifty. But in 1962, no elaboration was needed' (Souder, 2012: 4). Why was Carson so well known half a century ago? Why does she still matter today, more than half a century later? And what does she have to do with family sociology and research on family policies?

Briefly, Carson (1907–1964) was an American scientist and author of three bestselling books about the sea: *Under the Sea Wind* (1941), *The Sea Around Us* (1951) and *The Edge of the Sea* ([1955]1998). These beautifully crafted and 'poetic' books (Lear, 1997: 134; Souder, 2012: 19) made her 'one of America's most respected and beloved writers' (Souder, 2012: 5). Her fourth book, *Silent Spring* (1962), changed that perception.

Silent Spring focuses especially on the widespread use and the devastating effects of dichlorodiphenyltrichloroethane (DDT), which was sprayed across forests and agricultural fields in the US throughout the 1950s. Although DDT was successful at exterminating a wide range of disease-transmitting insects, there was growing scientific concern about the toxic effects of the crop spray on local communities and wildlife. Drawing on her science background, Carson conducted research on DDT, assessed scientific reports, observed changing local landscapes, collected media reports and drew on research interviews with people who complained of illnesses or of feeling unwell after DDT sprayings (Lear, 1997; Souder, 2012). *Silent Spring*, which was based on this research, was blunt in its assessment of the long-term effects of widespread pesticide use. The book received considerable praise, raised citizen awareness, and generated public alarm, 'horror and amazement' (Souder, 2012: 13) about how the US Department of Agriculture was permitting the use of these deadly poisons; it was also the target of attacks and significant critique because it was perceived to vilify pesticide, chemical and pharmaceutical companies for their use of synthetic pesticides in crop spraying.

Silent Spring has had a lasting influence. As a recent article about Carson in *The New Yorker* claims it was 'no slouch of a book' – 'it launched the environmental movement' (Lepore, 2018). Yet Carson's work offers much more than this. Code (2006: 36–8, emphasis added) describes Carson 'as exemplary for ecological knowing' and as a 'pathbreaking practitioner of twentieth-century ecological thinking and practice'. Four literal and metaphorical points Carson makes in her writing support Code's assertion.

1. Ecological relational ontologies: 'To understand the life of the shore, it is not enough to pick up an empty shell ...'

Ecological imaginaries bring a specifically *ecological* tenor to relational ontologies and they exhibit two key characteristics that appear in varied ways across Carson's writing on the sea and in her polemic, *Silent Spring*. The first is that ecological relational ontologies posit that what something *is*, and *what it becomes*, depends on a wide array

of constitutive contexts, relationalities, histories and habitats – actual socioeconomic and physical contexts, theoretical and conceptual locations, epistemic communities, and political contexts of knowledge making.

How is this point exemplified in Carson's writing? According to Code (2006), as well as two of Carson's biographers, it was with her third book, *The Edge of the Sea* ([1955]1998), that Carson's work became distinctly ecological (Lear, 1997; 1998; Souder, 2012). This was vividly apparent in the book's preface, where Carson made it clear that an object can only be known in its temporal, spatial, relational, historical and unfolding habitats. She wrote:

To understand the shore, it is not enough to catalogue its life. Understanding comes only when, standing on a beach, we can sense the long rhythms of earth and sea that sculptured its land forms and produced the rock and sand of which it is composed; when we can sense with the eye and ear of the mind the surge of life beating always at its shores – blindly, inexorably pressing for a foothold. To understand the life of the shore, it is not enough to pick up an empty shell and say 'This is a murex', or 'That is an angel wing.' True understanding demands intuitive comprehension of the whole life of the creature that once inhabited this empty shell: how it survived amid surf and storms, what were its enemies, how it found food and reproduced its kind, what were its relations to the particular sea world in which it lived. (Carson [1955]1998: 3, emphasis added)

Code draws from Carson's example, using the relation between empty shells (murexes and angel wings) and their wider shorelines to discuss how we come to know and classify objects. Code (2006: 50) explains that 'entities, organisms, and events do not fall naturally into categories and kinds'; rather, 'classifications are multiply contestable' partly because *what something is* – including a story or a narrative, a piece of data, a concept, or an observable everyday practice – depends on 'the habitats, patterns, or processes in which seemingly distinct organisms and entities interact'. She argues that instead of working to 'achieve, create, or impose a certain order,' an ecological approach 'maps it differently' (Code, 2006: 50). This mapping 'requires understanding how those *specificities work together*' and addressing 'the explanatory power of an attentive concentration on local particulars [and] specificities', while also seeking to 'generate responsible remappings across wider, heterogeneous epistemic terrains' (Code, 2006: 50, emphasis added).

Code takes this point even further, however, noting that these mappings and remappings are not neutral; we see from where we are and in accordance with how we believe the world *is* and *should be* constituted. In this way, Code's work resonates with that of Joseph Rouse (2016, emphasis added), who reminds us that 'conceptual understanding and ethical accountability are always entangled' and that our wider responsibility as researchers 'also establishes an accountability for *what we become and how we live*' (see also Haraway, 1997; Rouse, 2015; Barad, 2007).

For the second dimension of ecological relational ontologies, Code draws on both Carson and Deleuze's ethologies. From the latter, she borrows the view that 'the capacities for affecting and being affected that characterize each thing' (Deleuze, 1988: 125–6) mean that we do not study individual entities, objects or stories; rather, we study 'the compositions of relations or capacities between different things' as 'a matter of sociabilities and communities' where neither "'worlds", "beings", nor "relations" can

be presumed before the fact to be static, unchanging' (Code, 2008: 3). From Carson, we also find a different conception of causality and whole-part relations. In the first pages of *Silent Spring*, for example, Carson (1962: 15) wrote about the affecting-affected toxicity of 'synthetic pesticides', which are 'so thoroughly distributed throughout the animate and inanimate world that they occur virtually everywhere', so that there is 'an ecology of the world within our bodies' (p.189).

This alternative perspective resonates with and extends the insights of many relational theories, including the growing field of relational sociologies, which maintains that social realities are not static 'things', but 'dynamic, continuous, and processual [...] unfolding relations' (Emirbayer, 1997: 281; see also Somers, 1994; 2008). This is an approach that treats 'relations as constitutive of objects' (Powell, 2013: 190) such that 'one can never know objects independently of the relations through which one encounters them' (p.203).

What does this mean for an ecological approach to knowledge making? If relations are primary and co-constitutive, then we are not studying individual objects but, always, objects-in-relation – including *concepts, narratives and family practices* – and we are attending to the constitutive and intra-active quality of these relationships.

2. *The ethics and politics of knowledge making and how epistemic communities are 'not benign'*

An ecological imaginaries approach, rooted in the contributions of feminist epistemologists on issues of power and exclusions in knowledge-making practices, attends to what Code (2006: 52) calls the 'ethico-political' dimensions of knowledge making. Code's (2006; 2020b) attention to the explicitly political character of knowledge making and to the possible political role played by epistemic communities has increased over time. In her book *Ecological Thinking*, she acknowledges that she previously relied on an 'excessively *benign* conception of community', but that now 'epistemic responsibilities have to be negotiated, *much more arduously than [she] had assumed* [emphasis added]' in order to 'counter the excesses of demonstrably unjust social- political-epistemic orders' (Code, 2006: vii–viii). Extending the insights of feminist empiricism (for example, Nelson, 1993), wherein knowers are not individuals but rather 'individuals-in-communities' (Grasswick, 2004: 98), Code contends that many communities are implicated in knowledge making and its reception and effects.

Code's case study of Carson draws explicit connections between knowledge-making practices and the politics of knowledge making. She writes that Carson was 'deeply critical of chemical and biological interventions that are insufficiently grounded in knowledge of their implications for specific living beings and their habitats' (Code, 2006: 39). As Code puts it, Carson argued that these interventions were 'articulated within a conceptual frame constructed around convictions that damage is inevitable: the only pertinent question is how much is, or can be represented as, acceptable'. For Carson, there were 'alternative, much less damaging, more environmentally respectful solutions', but these were ignored and hidden because making them visible would necessitate 'the political and financial commitments required to know them well enough to act otherwise' (Code, 2006: 38–9; see also Foster and Clark, 2008).

In the face of the 'often-covert implications and agendas' of science, industry and government conglomerates, and what a growing number of scholars refer to as the need to contest any 'apolitical purity to scientific inquiry', Code (2006: ix–x)

highlights Carson again to argue that we need to view evidence as ‘rarely self-announcing’ and that ‘establishing its status as evidence commonly requires careful deliberation, intricate negotiation’.

3. Methodological pluralism, pragmatism, and crossing social imaginaries

The pragmatism required to strike a balance between representationalism and non-representationalism and to *negotiate* with evidence and data was a trademark of how Carson worked, and it led Code (2006: 19), who built on Carson, to make a plea for ‘*methodological pluralism*’. Specifically, Code argues that it was in the writing and reception of *Silent Spring*, that Carson effectively, pragmatically and strategically worked between and across instituted and instituting social imaginaries of knowledge making in order to have her work taken seriously by diverse epistemic communities and audiences. This was especially critical because she was unexpectedly caught up in a battle for public legitimacy as the pesticides industries mounted a massive campaign to discredit her work. Indeed, her publisher was sued by chemical, pesticide and pharmaceutical companies, who depicted Carson as a ‘hysterical female’ and a ‘communist’ (Code, 2006: 58).

In response to all of this negative attention, Carson (1962: 98) remained pragmatic, not denouncing pesticides outright, but arguing that they needed to be more thoroughly studied and more prudently used, advocating sometimes ‘waiting an extra season or two’ to study crop and pesticide patterns and effects rather than relying on a ‘quick (chemical) fix’ (Code, 2006: 46).

Carson applied this same pragmatism and methodological pluralism to her research process, using multiple methodologies to obtain and analyse her data. As Code (2006: 40) describes it, Carson mapped out diverse readings of different kinds of evidence, ‘charting, bringing together, and moving back and forth between/among quite different subject areas’ and ‘various kinds of knowledge with widely differing histories, methods, and assumptions’. For Code (2006: 44, emphasis added), Carson needed to be

multilingual and multiply literate: to speak the language of laboratory science, wildlife organizations, government agencies, chemical-producing companies, secular nature lovers, and many others; to understand the detail of scientific documents and the force of experiential reports; to work back and forth between an *imaginary of mastery and of ecology*.

Carson’s epistemic practices, Code (2006: 43) maintains, were situated on ‘a middle path, working back and forth’ between instituted social imaginaries (mainly varied statistical evidence) and instituting ecological social imaginaries through which she studied each object as manifold, knowable only in its complex habitats, and as intra-connected with other neighbouring objects.

4. Knowledge making towards just, cohabitable and sustainable worlds

A final point about ecological social imaginaries, derived from literal and metaphorical dimensions of ecology, is that the aims of research should not be knowledge per se, but a guiding ecological principle of *cohabitability*. Code (2006: 24) argues that ecological imaginaries aim to inspire ‘innovative, revisionary knowledge projects

with the social-political transformations, renewals, and disruptions they may animate' (2011: 209). The overarching idea is that we are not just making knowledges, but 'reconfiguring' or 'articulating' worlds (Code, 2006: 48; see also Rouse 2009; 2015) or 'worldlings' (for example, Ingold, 2011; see also Heidegger, 1971).

For Carson, the idea of 'a middle path' between instituted and instituting social imaginaries also means simultaneously holding onto 'intellectual-moral humility' (Code, 2006: 16) that 'situates itself in opposition to the hegemony of an epistemic imaginary of mastery and control'. At the same time, Code (2008: 79) writes, for 'Carson and other ecological thinkers [...] mastery can be a worthwhile goal and achievement' when it prompts 'the questions "what for? why? how?"' and 'whose knowledge are we talking about?' (Code, 2006: 21).

In short, part of what is unique about ecological social imaginaries of knowledge making is how they contain, *within them*, the tools for crossing back and forth between representational and non-representational social imaginaries. This is in part because ecological social imaginaries are rooted in feminist epistemologies, a field that has always given sustained attention to enduring issues of power and knowledge, especially for marginalised or silenced groups. They also have roots in both Deleuze and John Dewey's philosophical pragmatism; this is not to signal the pragmatic 'what works' approach of some mixed methods research, which has already been well critiqued by others (see Fox and Alldred, 2018: 201), but rather a philosophically and ethically rooted pragmatism that draws creative synergies between 'Deleuzianisms and [...] pragmatisms' (Koopman, 2015: xv); here Code's work, and her case study of Carson, straddles Deleuzian ethology and broader influences from Dewey's relational 'transactionalism' (Code, 1995; see also McHugh, 2015).⁶ This pragmatism also connects with Code's (2006: 23) claim, which she admits is 'contentious', that 'advocacy is often what makes knowledge possible'. On this point, I read Code with Haraway (2000: 167), who writes that knowing 'is always an interpretive, engaged, contingent, fallible engagement'. Implicitly or explicitly, we make choices about what data and evidence we are holding to and how we are thereby 'casting our lot with some ways of life and not others' (Haraway 1997: 36). I explore these questions further in my second case study.

Case study 2: research on families, care and work, and family policies

In this section, I briefly weave the four dimensions of ecological social imaginaries laid out above through my own past and current research on families and family policies. I reflect on how to move between a non-representational social imaginary and representational data, whether one is using quantitative or qualitative data.

1. Ecological relational ontologies: constitutive habitats and 'affecting and being affected'

As I noted above in my case study of Rachel Carson, ecological relational ontologies posit that what something *is*, and *what it becomes*, depends on a wide array of constitutive contexts, relationalities, histories, and habitats. Working with ecological relational ontologies thus means attending to every form of evidence – stories, narratives, concepts, statistics or people's practices – as complex objects of investigation that

are and become within their wide contexts and habitats. These contexts and habitats include conceptual underpinnings, ‘narratives, networks and histories’ (Somers, 2008: 268), informing epistemic communities and, where it can be discerned, the political contexts that shape evidence.

One example of how ecological relational ontologies have mattered in my work comes from my research on Canadian stay-at-home fathers and on the concept or category of the stay-at-home father. In my early research on fathering, I identified three categories of stay-at-home fathers based on how I assessed their approaches to paid work: fathers in transition; fathers working flexibly, at home, self-employed, freelance or in part-time jobs; and fathers taking a break from paid work (Doucet, 2018b). I argued that most stay-at-home dads (SAHDs) retain a connection to paid work partly because, as others have shown, earning and breadwinning remain central to hegemonic masculinities and men’s identities (for example, Townsend, 2002). Ten years after my first phase of research with over 60 Canadian SAHDs and 14 mother/father couples, just as I was rethinking and revisiting my approach to knowledge making, I returned to reinterview six of those couples. Although the first stage of my study had relied on qualitative research, I had still worked within the terrain of representational thinking, believing that I was capturing stories that were largely separate from the conceptual repertoire that I (or others) were bringing to the research. Over time, I began to interrogate not only my three categories of SAHDs, but just what a SAHD *is*.

My engagement with ecological relational ontologies translated into a recognition that all concepts are involved in relations of intra-action (affecting and being affected) and that these concepts and practices come to be through their relationalities with neighbouring concepts. While my analysis drew on Margaret Somers’ (2008) genealogical work, specifically her ‘historical sociology of concept formation’, as well as Elizabeth Grosz’s (2011) Deleuzian-inspired approach to concepts, I also read these authors diffractively, with and through ecological social imaginaries. Turning to Carson’s ([1955]1998: 3) assertion that the shore cannot be reduced to a collection of individual elements (“this is a murex” or “that is an angel wing”) any more than these elements can be categorised without accounting for their relation to each other within a habitat, I now argue that stay-at-home fathering, conceptually and in practice, is a specific and complex cultural and historical construct that requires greater attention from feminists researching family relationships. On one hand, the slow increase in SAHDs in Canada and other Western countries potentially demonstrates a movement towards gender equality in the home and gendered social change in paid and unpaid work. On the other hand, household decisions to have fathers forgo full-time work or career development are responses to ongoing neoliberal restructuring, which has increasingly shifted childcare responsibilities onto households and away from more publicly framed solutions, including childcare services and inclusive parental leave policies. The increasing possibility of choosing to have a SAHD household is also invisibly entwined with growing class inequalities between households (for overview, see Doucet, 2016; 2020).

A second way my work now expresses ecological relational ontologies is through my treatment of data as ‘affecting and being affected’. I approach both qualitative and quantitative evidence, including statistics, as a ‘relationality of parts’ (Somers, 1994: 616), interpreting all data as narratives told with a purpose (see also Elliott,

2005). This means, in part, that researchers need to question how data come *to be* by situating them within their *historical, sociocultural and geopolitical narratives* and by exploring their informing *conceptual narratives*. For my research on SAHDs, I began to interrogate the categories used by national statistical agencies, including Statistics Canada and the US Census Bureau, which, with some variation, define and measure the SAHD as a married father with children who is neither employed nor looking for work (but who is able to work) nor going to school for more than one year because he is taking care of his home and family (see overview in [Doucet, 2016](#)). Although my research on SAHDs had been initially instigated by statistics based on this definition, when I looked more closely at its 'relationality of parts', it was clear that this concept of SAHD was underpinned by a view of paid work and care work as binary opposites. Statistical data that relies on this definition thus *excludes* many other fathers who are caring for children on a regular basis: fathers who have a connection to paid work, including those who work part time, in irregular or flexible work, or are underemployed; fathers who work at home; unemployed job-seeking fathers and student fathers (see [Latshaw, 2011](#)). Moreover, these government statistics, which fuel many research projects in both Canada and the US, are heteronormative and nuclear family-centric – they exclude LGBTQ (lesbian, gay, bisexual, transgender and queer) families, as well as men who are single, divorced or living in a cohabiting union. It is also important to add that in a post-COVID-19 world, the metaphorical wider shores of paid work and unpaid work are shifting again. As more parents may have reconfigured job patterns, such as working more from home, researchers will need to again revisit how the SAHD is conceptualised, including its normative underpinnings and how it is mapped as part of wider relational patterns of practices and concepts.

In summary, working with relational ontologies requires that we start not only with a key problematic, but with the concepts and constitutive habitats (relational, historical, temporal, spatial and always moving and unfolding) that make and potentially unmake or remake that problematic and its terrains of inquiry (see [Somers, 2008](#); [Grosz, 2011](#); [St Pierre, 2015](#)).

2. The ethics and politics of knowledge making and how epistemic communities are 'not benign'

To consider the ethics and politics of knowledge making is to recognise that all 'data and measurement are not neutral processes [...] and involve not only technical decisions but also political ones' ([Elson and Seth, 2019](#): 41; see also [D'Ignazio and Klein, 2020](#)). One example of inclusions and exclusions in measurement and data comes from my collaborative research on parental leave policies and intra-national social class inequalities in Canada's parental leave policy architecture ([McKay et al, 2016](#); [Mathieu et al, 2020](#)). In our analysis of an annual national survey conducted by Statistics Canada, my collaborators and I realised, by reading the fine print of government statistics, that an allegedly national survey excluded residents of Canada's three territories (each of which has a significant Indigenous population) as well as Indigenous people living on First Nations reserves.⁷ This critical exclusion highlights an implicitly settler colonial understanding of what 'the surveys show' ([Code, 2006](#): 97) and *which* infants matter in how statistics on parental leave benefits in Canada have been recorded and communicated.

3. Methodological pluralism, pragmatism, and crossing social imaginaries

Code's (2006: 19) ecological social imaginaries and her case study of Carson are premised on advocating for 'methodological pluralism', which means that researchers must sometimes 'move back and forth between different ways of organizing knowledge that may appear mutually incompatible' (pp.284–5). A field that has burgeoned since the early 1990s and that has put the problem and challenge of 'integration' front and centre for at least two decades, that of 'mixed methods research' (for example, Brannen, 1992; 2005; 2019; Teddlie and Tashakkori, 2009), offers one avenue for thinking about this moving 'back and forth'. Mixed method researchers routinely navigate multiple theoretical and practical approaches. Yet, many researchers still lament that 'integration is not a well-defined process and its role in mixed methods requires more exploration' (Sligo et al, 2018: 65), especially in regard to integrating divergent philosophical underpinnings (but see Lather, 2013; Johnson, 2017; Davidson et al, 2018; Fox and Alldred, 2018; Schadler, 2019).

One approach that attempts to address this problem is Johnson's (2017) 'dialectal pluralism', which builds on several pragmatic traditions. Embracing both epistemology and ontology, the *dialecticism* of dialectical pluralism 'asks all of us to appropriately listen to what needs to be listened to for each research question, purpose, stakeholder interest, and practical activity' (Johnson, 2017: 158) and its *pluralism* 'refers to the acceptance and expectancy of difference in virtually every realm of meaning, including reality' (p.156). Like Carson's crossing of social imaginaries, this is a 'pragmatism of the middle' (Johnson et al, 2007: 125). That is, one recognises, as ecological social imaginaries do, that this is research in which 'social justice is an overarching issue' (Code, 2020b: 3) and where 'epistemic and ethico-political practices' aim to 'produce habitats where people can live well together' (Code, 2006: 19).

An example of how I have worked with this 'pragmatism of the middle', or the crossing of instituted and instituting social imaginaries of knowledge making, is in my approach to stories, narratives and narrative analysis. Much of this work has centred on further developing the 'Listening Guide' method, a dynamic and multilayered approach to narrative analysis that was first developed by Carol Gilligan and colleagues at the Harvard Graduate School of Education (for example, Brown and Gilligan, 1992) that has since seen many new iterations. One such iteration is the approach that I codeveloped with Natasha Mauthner across a decade (Mauthner and Doucet, 1998; 2003; Doucet and Mauthner, 2008; 2012), which centered on broadening the Listening Guide to incorporate key methodological debates, especially regarding epistemic reflexivity, feminist theories on subjectivities, and feminist methodologies and epistemologies. Mauthner has since developed a posthumanist performative and narrative approach to the Listening Guide (see Mauthner, 2016; 2017), while I have developed a feminist ecological version rooted in my reading of Code, Somers, and narrative resources (see Doucet, 2018a; 2018b; 2021).

It has mainly been through my research with populations that are socially disadvantaged or marginalised, including research on the care and work lives of young Black Canadian mothers (see Goddard-Durant et al, 2021) and Indigenous Canadians (mainly urban First Nations people in one community in the province of Ontario) (see Jewell et al, 2020), that I have found myself simultaneously holding onto some of the *representational* dimensions of stories and working with non-representational (or more-than-representational) ways of knowing. It is Code and Carson and this idea of 'crossing social imaginaries' that have assisted my thinking on this issue.

Briefly put, my approach is one whereby, as mentioned earlier, I work with narratives as ecological relational ontologies, which includes intra-acting relationalities of many different narrative dimensions and forms. At the same time, although non-representational approaches to narrative entail a shift from the noun ‘plot’ to the verb ‘emplot’, taking into account how emplotments occur within specific sets of resources and relationships and through processes of ‘selective appropriation’ (Somers, 1994: 617, emphasis in original), I do not completely dispense with plot – whether thematic plots or particular storylines. Working with the Listening Guide in my collaborative research, for example, has led to a revalidation of ‘I-poems’ as a way to give space to the stories (the generative ‘ontological narratives’ [Somers, 1994]) that people tell and that need to be heard (for an overview of I-poems, see Gilligan and Eddy, 2017). As Code (2006: 52) maintains, an ecological approach ‘repositions and revalorizes experiential evidence’ from a strategic ‘ethico-political’ and pragmatic position. Moreover, ‘experiential, testimonial reports claim *an enhanced, if not uncontested, credibility and authority in this approach to knowledge*’ (p.23, emphasis added). Code (2006: 17–18, emphasis added) states that an ecological approach to narratives

require[s] sensitivity to detail, to minutiae, to what precisely – however apparently small – distinguishes *this* woman, *this* contestable practice, *this* social intervention, *this* place, *this* problem of knowledge, *this* injustice, *this* locality from *that* – just as biologically based ecologists distinguish *this* plant, *this* species, *this* rock pool from that one.

In my own work, this attention to specificity and to representational moments while working with non-representational narrative theory and epistemologies has led me to cross social imaginaries, holding with Code (2006: 49) that there are no ‘simple either/or choices: thinking well about them produces more questions than answers’.

4. Knowledge making towards just, cohabitable and sustainable worlds

The overall goal of all my qualitative and quantitative research is to change the way that policy makers and wider publics think about family practices and equitable and inclusive family policies. As I move forward with my new large multi-method project, I am constantly aware that our research team brings different disciplinary, epistemological, ontological and methodological approaches. As I see it now, at the beginning of a seven-year project journey, my approach as principal investigator will entail following and further developing the ecological, relational, philosophically pragmatic and politico-ethical approach of Code and Carson’s ecological social imaginaries; in collaboration with others, I aim to craft an ethico-onto-epistemological and more-than-representational approach that allows for moments and sites of strategic representation, especially when working with and developing policy recommendations for vulnerable, marginalised or socially disadvantaged families. This means that our researchers will need to be methodologically ‘multilingual and multiply literate’ (Code, 2006: 44), to work between a social imaginary that emphasises clear findings and mastery and another that emphasises process, relationalities, and a sense of ‘following’ rather than capturing data. I remain cognisant that for ecological thinkers, an overarching knowledge-making aim is to contribute to the creation of more just,

cohabitable and sustainable social worlds, even where that means doing research in a way that ‘deliberately holds together necessary incompatibilities’ (Lather, 2006: 36).

Conclusions: crossing social imaginaries, ‘speaking softly’ and ‘what we can make happen ... together’

Representational issues in research – and the ‘crisis in representation’ (Marcus and Fisher, 1986; Denzin and Lincoln, 2017) – are long-standing issues that hover at the edges of all social science research. Questions of what is true and real are more urgent than ever in a historical time of ‘fake news’, ‘alternative facts’, post-truth and the denigration of science and evidence, all of which are unfolding in contexts of multiple crises – pandemic, political, ecological, racial injustices and care. The question that I began this article with is: *How does one work within non-representational research paradigms while also attempting to hold onto representational, authoritative, and convincing versions of truth, evidence, facts, and data?*

To grapple with this question, this article works with an unusual epistemological ally, the late American ecological thinker, Rachel Carson. I build on and extend Code’s case study of Carson, weaving four key dimensions of her ecological approach with my own research programme on families and family policies, and I demonstrate how I move between representational and more-than-representational thinking. Specifically, I argue for an approach that embraces four unique features of ecological social imaginaries. The first is ecological relational ontologies, which situates every knowledge endeavour and object within its socioeconomic and physical contexts, theoretical and conceptual locations and epistemic communities, as well as its ethico-political contexts. Second, I draw attention to the ethics and politics of knowledge making and how epistemic communities are not ‘benign’ (Code, 2006: v) and are, indeed, becoming increasingly ‘credentialed epistemic communit(ies)’ (Code, 2020b: 76) with ‘opaque structures of vested interest’ (p.66). Third, working from both Code and Carson, I argued for methodological pluralism, philosophical pragmatism, and the crossing of instituted and instituting social imaginaries of knowledge making; while the latter may entail crossing seemingly contradictory positions, ecological social imaginaries contain *within them* the tools for these crossings. Finally, I argue for a reconfigured view of knowledge making where the aims of research are not knowledge per se, but rather, research is guided by the ecological principle of *cohabitability* and working towards just, cohabitable and sustainable worlds. Overall, the sociopolitical contexts in which we now live, with COVID-19 exposing and exacerbating more and more inequities, have increased the urgency for researchers to recognise that our responsibilities are epistemological, ethical and political. As Code maintains, while we face the ‘the impossibility of an innocent positioning’, we can still strive ‘to achieve a politically-epistemically responsible one’ (Code, 2006: 219).

In addition to the insights gleaned from Code and Carson, Donna Haraway, who coined and initially developed the central feminist epistemological concept of ‘situated knowledges’, recently articulated an apt description of what I am trying to do here. She is a key influence in feminist epistemologies and several ethico-onto-epistemological approaches, including Code’s ecological imaginaries, Barad’s (2007) agential realism, and Helen Verran’s (2001) relational empiricism approach. Haraway expresses how the politics of knowledge making in our contemporary context is more critical than ever. On my reading, Haraway illustrates how Carson, and Code’s interpretation of

Carson's work, challenge the representational thinking of instituted social imaginaries while also being wary of the subtle dangers of using non-representational approaches and language when working on policy and political matters. According to Haraway (cited in Weigel, 2019; emphasis added):

And there are good reasons why scientists remain very wary of this kind of [non-representational] language. I belong to the Defend Science movement and in most public circumstances I will *speak softly* about my own ontological and epistemological commitments. *I will use representational language*. I will defend less-than-strong objectivity because I think we have to, situationally [...] There is a strategic use to speaking the same idiom as the people that you are sharing the room with. You craft a good-enough idiom so you can work on something together. I go with what we can make happen in the room together. And then we go further tomorrow [...] *We have not shut up, or given up on the apparatus that we developed*. But one can foreground and background *what is most salient* depending on the historical conjuncture.

Notes

¹ Non-representational theories are a wide, deep and very heterogenous field, and many cite the work of British geographer Nigel Thrift as critical to its rise. It is a field that is 'tricky to pin down' partly because it crosses such diverse fields, including 'poststructuralism, performance studies, science and technology studies, feminist theory, anthropology, phenomenology and ethno-inquiries in search of ideas' (Lorimer, 2005, p. 84). These fields, which challenge representational thinking, build on and extend, for example, the work of Karen Barad, Judith Butler, Michel Foucault, Donna Haraway, Gilles Deleuze, Félix Guattari, Elizabeth Grosz and Bruno Latour, to mention only a few. There is also a growing field of 'more-than-representational' thinking, which is an 'umbrella term for diverse work that seeks better to cope with our self-evidently more-than-human, more-than-textual, multisensual worlds' (Lorimer, 2005, p. 83; see also Colls, 2012; Vannini, 2015). While I refer mainly to non-representational work in this paper as a way of referring to the larger field, the approach that I take leans towards a more-than-representational approach.

² Diffractive reading is rooted in Haraway's concept of diffraction, which is about 'heterogeneous history, not about originals' (Haraway, 1997: 273), and embodies the relational and non-representational approach I articulate in this article. To use Code's words, I move away from 'a top-down, aloof, and interchangeable spectator model' (Code 2006: 285) towards an intra-active, relational, engaged and constantly unfolding approach to reading (see also Taguchi 2012, Mauthner 2015; Doucet 2018a; 2018b). As Barad (2007: 30) notes: 'Diffraction does not fix what is the object and what is the subject in advance, and so, unlike methods of reading one text or set of ideas against another where one serves as a fixed frame of reference, diffraction involves reading insights through one another in ways that help illuminate differences as they emerge [...]'

³ This is the Reimagining Care/Work Policies Project funded by a Partnership Grant by the Social Sciences and Humanities Council of Canada (SSHRC).

⁴ Ecological imaginaries have a distant 'family resemblance' to ecological approaches that are widely used in family studies, especially the ecological theoretical approach of Bronfenbrenner (1979; 1986). As I argue elsewhere (see Doucet, 2018a; 2018b; 2018c;

2021), the approach I describe in this article is not only a relational theoretical approach, but it extends to epistemology, ontology, ethics and methodologies. It is also important to note that although Code does not specifically refer to her work as either non-representational or feminist materialist, my diffractive reading finds synergies between her work and these approaches. This affinity likely stems from the historical and disciplinary contexts of Code's work and the key thinkers who influenced her, including leading non-representational thinkers such as Haraway, Barad, Foucault and Deleuze.

⁵ Some of these instituting social imaginaries include, for example, new materialist feminisms (Coole and Frost, 2010), agential realism (Barad, 2007), relational empiricism and 'ecologies of emergence' (Verran, 2001), and decolonising and Indigenous epistemologies and ontologies (Tuhiwai Smith, 2012; Watts, 2013; Savransky, 2017).

⁶ Methodological, epistemological, ontological and philosophical connections between pragmatism (especially John Dewey's approach) and mixed methods now constitutes a growing sub-field that exceeds the scope of this article (for overviews, see Biesta, 2010; Johnson, 2017). For scholarship that draws attention to the compatibilities between Deleuzian thought and philosophical pragmatism, see Bowden et al (2015) and Colebrook (2015).

⁷ Since 2018, Statistics Canada has focused on intersectional data collection and analysis, mainly through its Centre for Gender, Diversity and Inclusion Statistics.

Funding

This work was supported by the Social Sciences and Humanities Council of Canada and its Canada Research Chairs program [file number 231901-2018] and its Partnership Grant program [file number 895-2020-1011].

Acknowledgements

Thanks to: Lorraine Code for encouragement and conversation on ecological social imaginaries; Natasha Mauthner for her insights on Karen Barad's work; Karen Foster and Janna Klostermann for their thoughtful comments on an earlier version of this paper; two anonymous referees for excellent critique; and Elizabeth Paradis for editing assistance and Kate Paterson for bibliographic assistance. I also acknowledge and thank my co-authors on research that informs this article's case study on families and family policies: Lindsey McKay, Sophie Mathieu, Eva Jewell, Sadie Goddard-Durant, Jessica Falk, Jane Ann Sieunarine, Sue Fyke, and Karen Hilston.

Conflict of interest

The author declares that there is no conflict of interest.

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