Bioregioning: Composing a politics of place for living well together

Ella Hubbard

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The University of Sheffield
Faculty of Social Sciences
Department of Geography

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Abstract

There is an urgent need to find more just and sustainable ways to inhabit the Earth. Postcapitalist literature has called for new ways of living well together that are beyond capitalist relationships and practices. This has included a strategy of 'starting where we are' to build on already-existing diverse economic practices and foster more just and sustainable livelihoods. I use bioregioning to turn attention to the question of 'where are we?', and to ask what bioregioning might contribute to understanding place and the composition of ecological livelihoods.

Bioregionalism is an eco-philosophy that advocates for living according to natural landscape and ecology as a strategy for sustainability (the 'reinhabitation' of bioregions). Bioregionalism has been critiqued in geography because for its neglect of the spatiality of power and the economy, and the risk of environmental determinism. This thesis examines how this ecological thought has been reinvigorated through the verb 'bioregioning'. It is based on qualitative research of two groups, Bioregioning Tayside (Scotland, UK) and the Casco Bay bioregion (Maine, USA), including interviews and 160+ hours of participant observation.

I mobilise Gibson-Graham's politics of language, politics of the subject, and politics of collective action. I find that bioregioning unsettles narratives of place, showing that the relationship between humans and ecology is contingent and changing. This opens up the possibility of place-based politics. Secondly, bioregioning generates new, more collective forms of subjectivity based on exposing interconnectedness for ethical negotiation. Finally, through bioregioning, forms of collective action are emerging that offer tentative experiments in moving forward together, rather than a single theory of change. This thesis not only offers empirical examples of how community groups are mobilising relational understandings of place in their projects, contributing both to geographical spatial concepts, and community economies literature.

Acknowledgements

This thesis is dedicated to Clare, Marian and Russell in Bioregioning Tayside, and Glenn and the COBALT team. Their generosity and support have shaped my research from the outset. All of them, along with the UK Bioregional Community of Practice, have welcomed me, given me a space to test my ideas, and offered generous feedback. It's an honour to be able to work with each of them and to be trusted to conceptualise bioregioning alongside them. Tayside and Casco Bay are two places that will always be close to my heart, and I can only hope that I have done them justice.

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Outside of the Department of Geography, many academics have made my work stronger. This includes the participants of the Community Economies Summer School 2023; all their contributions challenged me and shaped my thinking in numerous ways. It also includes Samuel Wearne, Maria Wilke, Jonny Norton and Krisztina Jónás, my co-authors on two papers that we published together during this PhD programme. The work that we did together is referenced throughout this thesis and included as appendices. These papers lay much of the foundation for this thesis, so it is no understatement to say that their ideas and effort were invaluable to this research. A special thanks to Samuel Wearne in particular, for 'scary shares' of early drafts, phone calls on the opposite time zones in which a huge amount of my thinking took place, and the confidence to navigate the academic world. Sam's influence can be felt throughout this thesis and stretches far beyond the two papers.

My greatest thanks go to my partner Billy. Without your encouragement, I would not have even applied for a PhD, and without your support (in all its forms), I would not have been able to complete one. Four years is a lot to ask for, and I am grateful beyond words.

Declaration

I, the author, confirm that the Thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means (www.sheffield.ac.uk/ssid/unfair-means). This work has not previously been presented for an award at this, or any other, university.

Two publications have arisen from this research. These are included as appendices A and B, and cited appropriately throughout this thesis as:

> Hubbard, E., Wearne, S., Jónás, K., Norton, J., and Wilke, M. (2023) **Where are you at? Re-engaging bioregional ideas and what they offer geography.** *Geography Compass* 17(10). e12722. doi:10.1111/gec3.12722
>
> Wearne, S., Hubbard, E., Jónás, K., and Wilke, M. (2023) **A learning journey into contemporary bioregionalism.** *People and Nature*. 2124–2140. doi:10.1002/pan3.10548.

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Contents

Table of Figures

Chapter 1. Introduction

> "When the rug is pulled out from under your feet,
> you understand at once that you are going to have to be
> concerned with the floor…" (Latour, 2018, p. 8)

The concept of the Anthropocene has had a profound impact on questions of how humans relate to the Earth, each other, and non-human Others. Regardless of whether or not it should be considered a geological epoch (Castree, 2014a), or whether the *Anthropos* in question is humanity as a whole (Malm and Hornborg, 2014; Jørgensen and Ginn, 2020), the Anthropocene has challenged us to examine our ways of thinking and conceiving of the Earth (Castree, 2014b).

On the one hand, the Anthropocene centres humans "as a species ascending to power over the rest of the Earth System" (Malm and Hornborg, 2014, p. 62). On the other, it unsettles such mastery to show the world as co-produced by humans and non-human Others, with the capacity to make a difference in the world as no longer "solely a human characteristic, but…spread across the liveliness of the nonhuman world" (Arnall, 2023, p. 1). The Anthropocene operates as a globalised concept which can be abstract from day-to-day lives (Arnall, 2023), and yet it simultaneously turns our attention to the material places that we live.

As Latour (2018) writes in the opening quote of this thesis, the Anthropocene has truly pulled the rug out from under us. The existing ways of making sense of the Earth and our place within it no longer seem to be adequate or to offer productive ground for politics. And, as Latour's (2018) quote also contends, it makes sense that questions of the Earth itself, the

floor below us that we inhabit, should be of concern. As the very title of the book, '*Down to Earth*', that this quote comes from suggests, there is a need to come back to place and reshape our relationship with the land and ecosystems in which we live. The intersecting crises demand new ways of living that recognise the needs not only of ourselves, but of the Earth.

Alongside this, there is a pragmatic concern. If we know about environmental, ecological, and social challenges posed by the Anthropocene and the myriad other crises unfolding, what is stopping us from acting? The most recent IPCC report (Calvin *et al.*, 2023) emphasises the need to for urgent action to prevent further ecological damage, and to begin repairing damage already caused by human activities. What would motivate the forms of care, responsibility and stewardship that are required? What ways of acting in the world are large enough to have a tangible impact on such crises, yet small enough to be viable? Plumwood (2002) writes over twenty years ago,

> "We are seemingly immobilised, even though it is clear that at the technological level we already have the means to accomplish the changes needed to live sustainably on and with the earth. So, the problem is not primarily about more knowledge or technology; it is about developing an environmental culture that values and fully acknowledges the non-human sphere, and is able to make good decisions about how we live and impact on the non-human world" (p.3).

Creating what Plumwood (2002) calls an 'environmental culture' requires creating alternative concepts of nature, ecology, or environment, and how this relates to our human lives and economies[1].

Postcapitalist thinkers have also sought to develop new ways of thinking and acting. They have critiqued the way that capitalism has organised relationships and become a way of thinking that performatively recentres such practices (Gibson-Graham, 1996, 2006). There has been an intellectual commitment to documenting diverse economic practices (Roelvink, St. Martin and Gibson-Graham, 2015), on building alternatives through engaged research (Gibson-Graham, 2008) and examining how current alternative projects point us away from capitalism (Chatterton, 2016). Increasingly, in response to the Anthropocene, postcapitalist literature has paid attention to how our ecological as well as economic relationships are

[1] Castree (2003) points out that such signifiers exist in non-Western ontologies and in the thought of Val Plumwood, Donna Haraway, Bruno Latour, Eduardo Viveiros de Castro and more. Many of these signifiers involve a return to the Earth and place, and more-than-human agency. An example might include the concept of Country (Bawaka Country *et al.*, 2015).

unsustainable. Our interconnectedness with human and non-human Others needs to be renegotiated along new ethical and sustainable lines (Barron, 2015).

What allows us to make sense of such a complex interdependence? Diverse and community economy approaches have advocated for '*starting from where we are*' (Gibson-Graham, 2006). Through practices of inventorying and reading for difference (Gibson-Graham, 2020), this leads us back to the specificity of the places that we inhabit and the livelihood practices that shape them. In this thesis, I extend this by examining how such an approach can incorporate more-than-human place. As hooks (2009) argues, place is always physical as well as social. Land itself has agency in place-making, as does nonhuman life (Roelvink, 2015). What does 'starting from where we are' look like when we first ask, 'where are we?'

As a geographer, place is a key concept that orients my thought and research. Yet, the questions posed by the Anthropocene and postcapitalist thought invite me to "rethink [this] key conceptual device, looking for entry points to reframe human-nature relationships with the expressed aim of living in a flourishing world" (Weber and Barron, 2023, p. 133). Beyond the discipline of geography, this is already happening. Sense of place is being advocated for as a way of motivating stewardship (Cockburn *et al.*, 2018), and as part of adaptation to ecosystems changes (Masterson *et al.*, 2019). Place is becoming a source of inspiration and site of transformation in intellectual thought, policy and social action.

At the same time, a recentring of place surfaces another set of questions. The desire for a return to place has also manifested through "defensive and reactionary responses - certain forms of nationalism, sentimentalized recovering of sanitized 'heritages', and outright antagonism to newcomers and 'outsiders'" (Massey, 1991, p. 24). Latour (2018), for example, points to the election of Donald Trump; Escobar (2001) to attempts to keep Latinos out of Mexico and the idea of 'fortress Europe'; and Plumwood (2008) to the ways in which love for place can become attached to the national-cultural home, at the exclusion of all "aliens… and 'less civilised' Indigenous others" (p.144). How can a return to land and place be approached in ways that foster ethical and just postcapitalisms, and as part of a progressive politics? This thesis does not offer an answer to these questions *per se*. Instead, I examine those who are trying to figure out an answer in their own lives and my research centres around those who are using the concept and practice of *bioregioning* to do so.

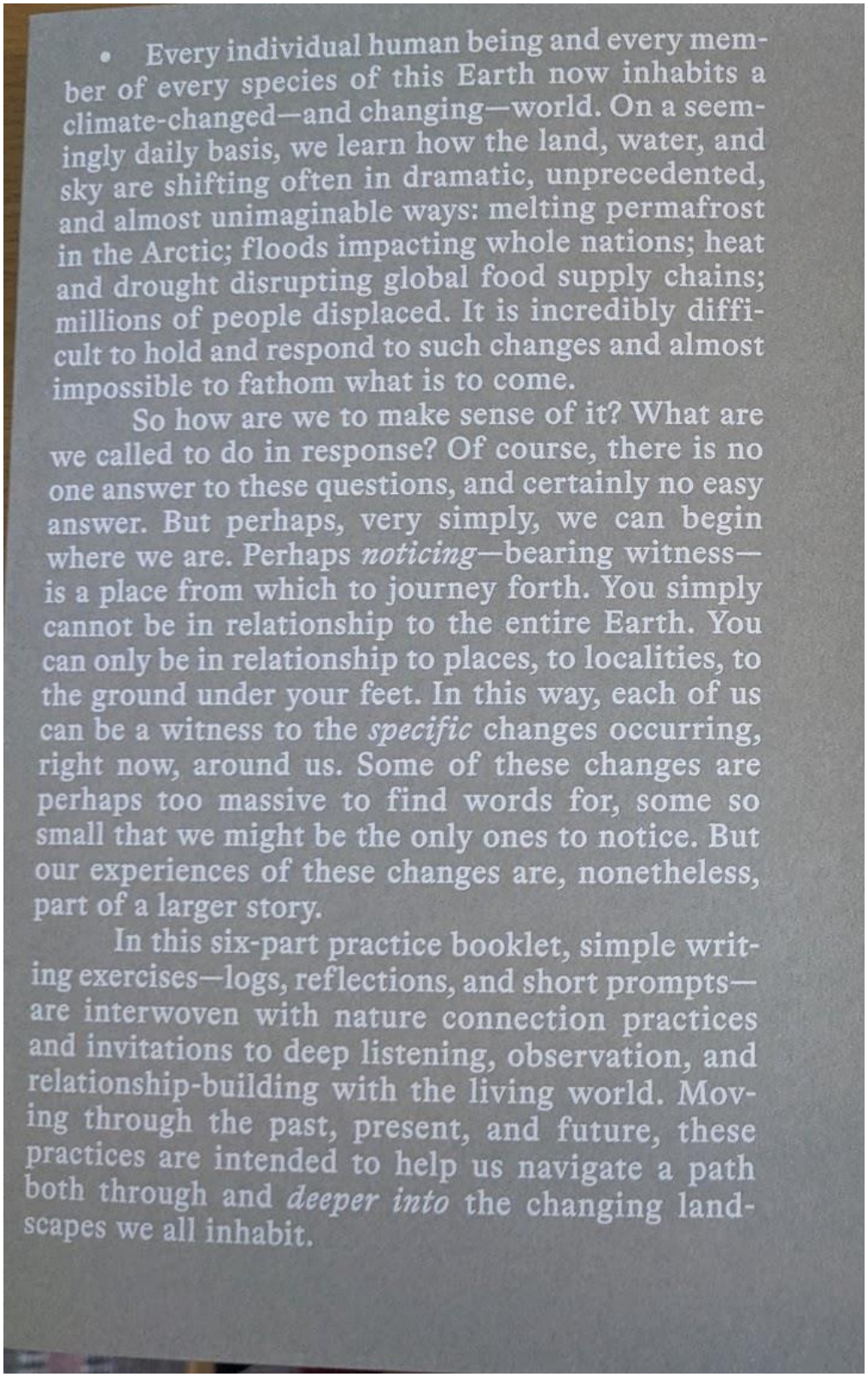
Bioregioning is a contemporary rearticulation of bioregionalism, an eco-philosophy that calls for human communities to reinhabit the places, or bioregions that they live (Hubbard *et al.*, 2023). I examine bioregioning by looking at two case studies using a qualitative and participatory research approach. In doing so, this research offers a range of tools for

thinking about the role of place in postcapitalism, as well as provocations for more-than-human and relational concepts of place. Moving between relational and essentialist concepts of place, bioregioning reveals some of the complexities of place-based transformation.

My own introduction to bioregioning came through Bioregioning Tayside. I was interested in postcapitalism and democratic alternatives. After being excited by postcapitalist literature in my Masters research, I wanted to examine the ways that these ideas were being enacted on the ground. During a conversation with the group in 2019, as I was scoping out case studies to work with, their communal and democratic approaches attracted me. Equally, the idea of bioregioning, a verb, had similarities to 'commoning', a concept that captured the relationship between postcapitalism and democracy (Linebaugh, 2008). By turning the commons into a verb, commoning focuses on the social relations that bring the commons to life and make them durable (Chatterton, 2016). How does conceiving of it as a verb shift the ways of thinking and practicing bioregionalism?

At the time, the concept of the bioregion was not something I was familiar with. Yet after this initial conversation, suddenly I saw bioregioning everywhere: mirrored in other environmental movements (Lockyer and Veteto, 2013; Findhorn Foundation, no date), articles about 'ecological civilizations' (Lent, 2021), and socio-ecological systems research (Folke, 2006; Folke *et al.*, 2007, 2011). A magazine issue titled *Shifting Landscapes* instructed me to map the water systems that I live in, in ways that were remarkably similar to the bioregional texts I was reading (see Figure 1). These examples did not always use the term 'bioregioning specifically but shared similar critiques and solutions. This idea that had captured my imagination seemed to stretch and mould to fit into a wide range of texts and social movements.

In this thesis I explore bioregioning through a postcapitalist lens, as a way of understanding "*spatial struggles and negotiations over just and sustainable forms of (more-than-) human co-existence*" (Schmid, 2020, p. 11, original emphasis). What was it about bioregioning that was so sticky? What different ways of thinking and being does it mobilise, and how did these ideas translate into collective action? And what does it offer to a postcapitalist politics of place? The remainder of this introduction explains my rationale, aims and research questions, and offers an outline of the work.



• Every individual human being and every member of every species of this Earth now inhabits a climate-changed—and changing—world. On a seemingly daily basis, we learn how the land, water, and sky are shifting often in dramatic, unprecedented, and almost unimaginable ways: melting permafrost in the Arctic; floods impacting whole nations; heat and drought disrupting global food supply chains; millions of people displaced. It is incredibly difficult to hold and respond to such changes and almost impossible to fathom what is to come.

So how are we to make sense of it? What are we called to do in response? Of course, there is no one answer to these questions, and certainly no easy answer. But perhaps, very simply, we can begin where we are. Perhaps *noticing*—bearing witness—is a place from which to journey forth. You simply cannot be in relationship to the entire Earth. You can only be in relationship to places, to localities, to the ground under your feet. In this way, each of us can be a witness to the *specific* changes occurring, right now, around us. Some of these changes are perhaps too massive to find words for, some so small that we might be the only ones to notice. But our experiences of these changes are, nonetheless, part of a larger story.

In this six-part practice booklet, simple writing exercises—logs, reflections, and short prompts—are interwoven with nature connection practices and invitations to deep listening, observation, and relationship-building with the living world. Moving through the past, present, and future, these practices are intended to help us navigate a path both through and *deeper into* the changing landscapes we all inhabit.

Figure 1: A magazine insert with writing practices that aim to reconnect the reader to the place that they live, including following where your water comes from, and reconnecting with elders. Part of the opening paragraph reads: "You cannot be in relationship to the entire Earth. You can only be in relationship to places, to localities, to the ground under your feet… Moving through the past, present, and future, these practices are intended to help us navigate a path both through and deeper into the changing landscapes we all inhabit" (Emergence Magazine, 2023). This resonates with the practices of bioregioning that I will go on to describe in this thesis, particularly in Chapter 5.

1.1. Thesis rationale

As this thesis goes on to explore, bioregioning is concerned with how we live well with others in the places that we inhabit. In doing so, it raises questions of our relationship to nature and to landscape, our understandings of place and scale, and how to move forwards in sharing the place we live in just and sustainable ways. This research looks to those practising bioregioning in two parts of the world: Scotland and Maine, USA. The rationale for this research is twofold.

Firstly, bioregioning is a rearticulation of *bioregionalism*, an eco-philosophy that calls for 'reinhabitation' of the specific landscapes and ecosystems that humans inhabit as a strategy for more sustainable nature-society relations. Bioregionalism involves both a spatial ontology of the Earth as constituted by bioregional systems, and a normative understanding of how humans should live in it (Menser, 2013). However, bioregionalism has been widely problematised. Whatmore (2009) has described it as "analytically and politically misconceived in the context of global social and environmental problems and processes" (Whatmore, 2009, p.49). Plumwood (2008) has critiqued the lack of attention to power between places in bioregionalism. Wiebe (2021) has drawn attention to the cultural appropriation of Indigenous thought, and potential for colonialism, that underpins much bioregional philosophy.

The transformation of *bioregionalism* into the verb *bioregioning* seems to parallel concepts like commoning, as noted earlier in this chapter. The refocusing on practices and processes of becoming signals a productive and more critical tendency within bioregional thought (Hubbard *et al.*, 2023). This reflects a movement in intellectual thought that focuses on the social practices involved in enacting alternatives, as well as systems change (Folke, 2006) and emergence (Malpas, 2012). Bioregioning as a contemporary reinterpretation of bioregionalism, which responds to criticism, has not yet been adequately conceptualised in the literature (Hubbard *et al*., 2023).

Secondly, the growing use of bioregioning follows a movement in the social sciences, policy and the practice of social movements towards an attention to place, land and ecology (Wearne *et al.*, 2023). Despite the criticisms they have faced, bioregional ideas are being reinvigorated in environmental thought and action (Wearne *et al.*, 2023). Bioregional ideas are explored in texts such as *Braiding Sweetgrass* (Kimmerer, 2020), *Designing Regenerative Cultures* (Wahl, 2016) and *The Design Pathway for Regenerating Earth* (Brewer, 2021). Even academic conferences (such as the Transformations Conference 2023) and institutions

(including the University of the Arctic) have had thematic pathways relating directly to bioregioning. Not least, place-based practitioners are also drawing on bioregioning in their language and theory of change (see Wearne *et al.*, 2023).

The fact that these examples mobilise the language of the bioregion specifically suggests that this spatial imaginary is doing some theoretical work. Bioregional thought draws our concern back to place and the ways we are situated in more-than-human ecological systems. It is therefore timely to conduct research into how those that are involved in bioregioning are mobilising and critiquing this spatial concept. What does it offer beyond other ways of thinking about the world? How is it enabling people to respond to complex and intersecting crises? And how does it generate new forms of action?

It seems that despite the dismissal of bioregional thought and practice from some quarters (for example, Whatmore, 2009), there may still be more at stake. Not least, it suggests that there is *something* that is once again attractive in the concept of the bioregion, something distinct from other place-based movements, which is worth paying attention to. Hubbard *et al.* (2023 see Appendix A) sets out why the bioregioning movement should be of interest to geographers, arguing that its inherent spatiality is "productive for geographers considering questions of (1) materiality, agency and place, (2) politics, ethics and place, and (3) acting in place for urgent and ethical change" (p.1). This thesis examines bioregioning in two geographical contexts, to explore the ways in which it is being used as a strategy for generating more ethical and sustainable ways of living in place.

1.2. Aim and research questions

The aim of this thesis is to develop an account of bioregioning as it is being applied in practice. Bioregional thought has been investigated from a range of perspectives such as a theological lens (Wiebe, 2021); an economic lens (Cato, 2012; James and Cato, 2014, 2017); through a design perspective (Thackara, 2019) and an urban planning perspective (Fanfani and Duží, 2018). I approach its contemporary articulation (bioregioning as a verb) through a postcapitalist lens to understand how it might contribute to the construction of more just and sustainable livelihoods. The thesis centres around four interconnected research questions:

> ***RQ1:*** *What is bioregioning and to what extent does it challenge the spatial critique of bioregionalism?*

RQ2: *How does bioregioning problematise discourses of place and the economy, and what new narratives does it offer?*
RQ3: *How does bioregioning produce new subjectivities for ecological livelihoods?*
RQ4: *What forms of collective action are being realised through bioregioning?*

These research questions are expanded on in Chapter 2, where I explain their theoretical grounding and highlight where in the thesis they are answered. To critically explore these questions, I draw on empirical research of two case studies: the Casco Bay bioregion in Maine, USA, and Bioregioning Tayside, Scotland.

Overall, this thesis aims to contribute to geographical thought by examining this explicitly spatial approach to postcapitalist economic and ecological change. Specifically, I address community economies research, and those who have highlighted the need for a more ecological emphasis within postcapitalist literature (Barron, 2015; Roelvink, 2015; Miller, 2019; Barron and Hess, 2020).

I also aim to contribute to bioregioning as a social movement. I do this by working with existing projects and working with them to learn what bioregioning can offer, and where it can learn. I take a hopeful and affirmative approach (Gibson-Graham, 2008; Schmid, 2020) that performatively adds political possibility to the world rather than dismissing place-based projects, like bioregioning, as marginal. I aim to render bioregioning a legitimate and credible object of research and collective action (in line with Gibson-Graham, 2008). I build on the conceptualisation of bioregioning by those involved in Bioregioning Tayside and Casco Bay bioregion, as well as other bioregioning practitioners and thinkers (for example Wahl, 2016; Thackara, 2019). These are introduced in Chapter 3, and I have attempted to make clear in this thesis where my arguments build on ideas conceptualised by those people. My research adds to their work by bringing them in conversation with geographical and postcapitalist debates.

1.3. Thesis outline

This thesis is set out through the following structure. It begins with a literature review and methodology chapter, followed by empirical chapters that address the research questions, and a conclusion. In this section, I briefly describe each chapter and explain the overall narrative of the thesis.

Chapter 2 forms the literature review and begins by situating this my research within postcapitalist literature. I argue that bioregioning is concerned with living well in place,

sharing an emphasis with many postcapitalist projects, but with a particular orientation towards place. It also establishes my hopeful and affirmative approach to research, in which critique is accompanied by imagination (Gibson-Graham, 2008; Gibson-Graham and Dombroski, 2020b) and is oriented towards supporting bioregioning. I further position my work within debates on diverse and community economies (Gibson-Graham, 2006; Roelvink, St. Martin and Gibson-Graham, 2015; Miller, 2019; Gibson-Graham and Dombroski, 2020b).

The second and third sections of Chapter 2 highlights the areas of geographical literature that my research into bioregioning connects to and advances. The first is questions of the economy, environment and society. The second is spatial concepts of place, scale and community. Through these sections, I argue that bioregioning offers a useful context for exploring debates surrounding these concepts and understanding how such ideas are being applied in practice.

Chapter 2 closes by expanding upon the research questions, and my theoretical framework for answering them. This includes the concepts of a politics of language, a politics of the subject and politics of collective action that I use as the main framework for answering my research questions (Gibson-Graham, 2006). I also highlight the concept of remoteness offered by Plumwood (2002), as a way of analysing bioregioning and making sense of its spatial strategy.

In Chapter 3, I turn my attention to bioregioning specifically. I trace the emergence of bioregioning as a contemporary reinterpretation of bioregionalism. I outline some of the contours of bioregional thought, including the bioregion as a concept, and the notion of reinhabitation as a strategy for sustainable communities (Berg and Dasmann, 2015[1977]). By working through this, I define bioregioning as a process of bringing the bioregion into existence (Tyler, no date) discursively, subjectively and through new forms of collective action. This is mirrored in the structure of the empirical chapters that follow.

Throughout the thesis, early forms of bioregional thought are described as ‘bioregionalism’, whereas the two case studies use the more contemporary ‘bioregioning’. I distinguish between bioregionalism and bioregioning throughout the thesis. At times, I use ‘bioregional thought’ to refer to the various versions of thought and practice that share the bioregion as their conceptual foundation.

In Chapter 3 I also introduce my case studies, Bioregioning Tayside and Casco Bay in detail, as well as some of the key participants that appear throughout this thesis. I explain how the groups formed, and key moments in their history up until the start of the research. Reflecting

on my own experience of the two bioregions, I describe their 'sense of place', and some of the central issues that the projects of bioregioning are responding to.

Throughout the thesis, I have added images that sustain this sense of place. Often these are depicting beautiful scenery or that which stood out to me as distinctive and unique. This romanticises the two places, in ways that some of the thinkers in Chapter 2 would criticise. For example, Plumwood (2008) might argue that a sense of place that is uncritically centred around beautiful places that are already cared for does little more than evoke a 'false consciousness of place'. Massey (1991) might describe it as a reactionary sense of place, that uses specificity of place to sentimentalise and sanitise. Yet this speaks to the tensions at the heart of this thesis: What ways of thinking can foster love, care and connection for more sustainable livelihoods? What do essentialist understandings of place risk, and what opportunities do they provide? And how do those applying place-based practices like bioregioning navigate such tensions?

Chapter 4 outlines my methodology. I explain how my research draws on the ontological and epistemological interventions offered by the diverse and community economies approaches. This begins with a performative ontology that views research as a form of activism and an epistemology that doesn't only try to record and evaluate existing projects, but tries to bring new worlds into being (Gibson-Graham, 2008). I use participatory qualitative methods and apply them in co-productive ways by working with participants to interpret meaning. My data primarily comes from 160 hours of participant observation and interviews, alongside document analysis. I explain the ethical challenges of this research, and challenges related to delivering research on place-based projects from an outside place. In this chapter, I also reflect on the ways in which the COVID-19 pandemic shaped the research. The pandemic threw up obstacles, like an inability to travel, greater complexity in planning, and new ethical dilemmas. However, it also created unique opportunities. As Bioregioning Tayside and the Casco Bay bioregion project moved much of their work online, I could participate in unexpected ways.

There are three main empirical chapters that address research questions 2, 3, and 4. These follow the structure of my theoretical framework, focusing on the politics of language, politics of the subject and politics of collective action respectively. Each of these chapters follows a similar structure. They begin with an exploration of the empirical data that corresponds to the research question, followed by a discussion section informed by Miller's (2013a) ontological, ethical and political moments of community economies. Each chapter

closes with a brief conclusion which summarises my argument and links to the following chapter.

Chapter 5 uses the framework of politics of language to explore how bioregioning offers a critique of place. It begins by explaining the two key tools that Bioregioning Tayside and Casco Bay bioregion use: creating a 'Story of Place' and Learning Journeys respectively. Through these two approaches, the groups problematise how their bioregions are understood, and offer alternative narratives of how ecological relationships have formed. I then mobilise Miller's (2013a) description of the three moments of community economies to explain how this discursive politics can be understood as an ontological moment of bioregioning. By engaging in processes like Story of Place and Learning Journeys, the two groups rendered current ways of living in their bioregions as contingent, shaped by multiple forces and relationships. This works against remoteness produced by the ways we think about ourselves in relation to place, human and more-than-human Others. I compare this to the tools of genealogy and deconstruction used in community economies thought (Gibson-Graham, 2000) I argue that the politics of language used acts to open up multiple pathways for development, and multiply the possibility of politics.

Chapter 6 explores bioregioning as a process of resubjectivation, through the lens of a politics of the subject. In this chapter, I argue that bioregioning involves subjective transformation that occurs through noticing hegemonic subject positions and rejecting them. I unpack how participants experienced this, and then how bioregioning offered a space for building new subject positions. I also explore some of the things that stand in the way of resubjectivation, including things that are inherited (Alhojärvi, 2021), things that 'push back' (Gibson-Graham, 2006), and distances that are maintained. Drawing on Miller (2013a), I explore how this can be understood as an ethical moment of bioregioning, in which interdependence is exposed and the possibility of negotiating that interdependence is opened. I explain how a collective subjectivity is exposed, and agency realised. I also expand on the notion of ecological livelihood (Miller, 2019) as a way of conceptualising the form of subjectivity that is generated.

Chapter 7 builds on the previous chapters to make sense of how bioregioning engages in a politics of collective action. I define collective action as acting collectively in new ways, rather than as a mass movement with a single theory of change. The first half of the chapter describes the ways that Casco Bay bioregion and Bioregioning Tayside are producing collective action. Often this action is taken by others beyond the groups themselves. I return to Plumwood's (2002) notion of remoteness, and argue that bioregioning involves reducing a

range of different forms of remoteness. This enables collective action to take place beyond a strategy of spatial localisation. In Chapter 7, I also explore some of the risks and limitations of this collective action. This includes questions of who the collective subject is and how boundaries are drawn, the challenges of resources and leadership, and the ways that bioregioning can reproduce forms of remoteness. The second half of the chapter discusses this through the lens of Miller's (2013a) political moment. I argue that collective action requires some of the closure of the ethical and ontological moments of bioregioning, yet that the focus on co-becoming means that there is always some space for becoming otherwise. I do this by discussing how plurality and radical difference are navigated, and the particular spatial strategy of bioregioning.

Finally, Chapter 8 concludes the thesis by summarising my findings for each research question, drawing out wider themes that were generated and the contributions the thesis makes. My analysis of bioregioning makes contributions to the social movement itself by making it a credible object of research, and by offering some points of learning. It makes contributions to community economies research by taking influences from the environmental humanities, building on Miller's (2019) concept of ecological livelihoods, and by developing the role of place in community economies research. Furthermore, my research makes contributions to geographers more broadly by responding to the questions surrounding the spatiality of transformation using the case study of bioregioning. It also invites trouble to the growing relational understandings of place and scale within geographical thought. Bioregioning mobilises similarly relational understandings, yet maintains the central provocation of early bioregional thought: that our lives shape, and are shaped by, the material places that inhabit.

I recognise that this thesis can only scratch the surface of this emerging movement, and only attends to two examples of bioregioning. Therefore, the conclusion maps out some of the avenues for further research, both with bioregioning specifically and wider place-based projects and outlines the theoretical and conceptual contributions that this thesis offers.

Chapter 2. Literature review

Bioregioning could be approached from many different angles. Indeed, fields of social-ecological systems research (Cockburn *et al.*, 2018; Masterson *et al.*, 2019), urban design (Fanfani and Duží, 2018; Thackara, 2019; Davidová, 2020), food systems (Fanfani and Rovai, 2022) and even marine spatial planning (Wilke, 2022) have each shown an interest the bioregion as a concept and how it might be mobilised for social, economic and environmental transformation. While Chapter 3 offers a detailed history of bioregional thought, suggesting some reasons as to why and how bioregionalism has been reinvigorated, this chapter outlines the main bodies of work that converge in this thesis. It sets out why bioregioning should be of interest to geographers, and the questions that an empirical investigation of bioregioning could address.

2.1. Starting from where we are

As I will go on to explore, bioregioning is concerned with learning how to inhabit the Earth in more sustainable ways, starting with the place in which we live. At its most fundamental level, this speaks to two key questions in geography. First is the question of how we live well with others. How can the economy, understood as all of the ways that we make a living and care for the Earth (The Community Economies Institute, no date), be reimagined and reworked in more sustainable and just ways? How do we encounter human and non-human Others in such a transformation?

The second is a spatial question. What spatial configurations enable social transformation? How can thinking through concepts like place, scale and community help us to see both the diverse sources of alternative pathways for transformation rooted in locations (Escobar, 2001), as well as the responsibilities attached to them (Massey, 2004)? How can we understand place as both socially constructed *and* the outcome of non-human world-building?

These are inherently geographical concerns. As well as the differences between places being, for some, the very stuff of the discipline (Henderson, 2009), how social change occurs in place, across scales and through community have long been of interest to geographers. Equally, making sense of the relationship between humans, nature and the planet has been geography's raison d'être (Whatmore, 2002).

The questions above are also inherently postcapitalist concerns. These questions point to the heart of postcapitalist praxis: how to rethink the economy in order to live well together, within natural limits. Postcapitalist perspectives are characterised by "a desire to reinvent and reinvigorate the revolutionary process away from older top-down, elite-led models of change" (Chatterton, 2016, p.404). Compared to other Marxist approaches, postcapitalism stresses prefiguration or 'being the change you want to see in the world' (Jeffrey and Dyson, 2021) rather than waiting for a revolutionary moment (Schmid, 2020).

This literature review therefore makes two key arguments: 1) that bioregioning is a social movement that can contribute to geographical thought on the spatiality of transformation, and 2) that bioregioning can be analysed through a postcapitalist lens. I draw particular attention to the work of Gibson-Graham and community economies research network[2]. Their provocation to 'start where we are' in building (and researching) different ways to live (Gibson-Graham, 2008) takes on particular resonance in the context of bioregioning. Starting where we are means looking for "glimmers of the future, existing economic forms and practices that can be enrolled in constructing a new economy here and now" (Gibson-Graham, 2011, p.2) This postcapitalist work is profoundly place-based, with economy always being contingent on specific practices in places (see for example, Gibson *et al.*, 2018).

[2] In this thesis, I use the term 'community economies' rather than 'diverse economies' to situate my research within the literature concerned with navigating ethical coordinates to build community economies (Gibson-Graham, 2006). 'Diverse economies' refers to the body of research using analytical tools to make visible existing economic diversity as a political intervention (see McKinnon, Dombroski and Morrow, 2018a for further distinction between community economies and diverse economies) Although I refer to diverse economies, this is not the primary intervention I am making.

For bioregioning, which is not explicitly about new forms of enterprise or financing, nor a labour movement (although all of these things could be part of bioregioning), postcapitalist literature may seem to take on an overly economic register. However, this thesis draws on an anti-essentialist understanding of the economy as all of the ways that we sustain ourselves and the Earth. As Gibson-Graham and Miller (2021) write, “Let us try to think “economy” not as a unified system or a domain of being but as diverse processes and interrelations through which we (human and more-than-human) constitute livelihoods” (2021, p. 12). From this perspective bioregioning, as a way of negotiating more ethical and sustainable livelihoods in the place that they are located, is an economic project.

In this chapter, I attempt to articulate where bioregioning can offer points of intervention in postcapitalist debates. I do so by drawing together ideas about how we enact more just and sustainable livelihoods with human and non-human Others, with an understanding of how spatial concepts can be used in critical and productive ways. I begin by reflecting on the questions of what is at stake, and what are we up against in postcapitalist research, situating bioregioning within these challenges.

The following section, Section 2.2, then moves through the literature on environment, society and economy relations. It shows how the lines between these categories has been blurred, but also how the categories themselves continue to shape postcapitalist thought and action. Section 2.3 outlines the spatial concepts that geographers have used to think about social movements and raises the question of how we might understand place-based projects as sources of alternatives, and as critiques of power themselves. The closing section, Section 2.4, introduces my theoretical framework. This builds on the diverse economies trio of the politics of language, politics of the subject and politics of collective action, by introducing the concept of remoteness (Plumwood, 2002). This framework underpins the structure of this thesis and supports my central argument: that bioregioning involves reducing various forms of remoteness through a politics of language, the subject and collective action.

2.1.1. What is at stake?

What is at stake in this thesis? I argue that it is not just creating an account of bioregioning, but an orientation towards valuing other ways of imagining the world and our relationship to the Earth. As Val Plumwood (2007) states:

> “If our species does not survive the ecological crisis, it will probably be due to our failure to imagine and work out new ways to live with the earth, to rework ourselves and our high energy, high consumption, and hyper-instrumental societies adaptively…

> We will go onwards in a different mode of humanity or not at all." (Plumwood, 2007, p. 1)

Plumwood's words offer a powerful challenge for postcapitalist researchers: the need to create imaginative space for radical alternatives. For Plumwood (2002, 2007), a failure to imagine other ways of being in the world is as much a threat as the ecological crisis itself. Projects, like bioregioning, that are attempting to imagine and enact alternative social, environmental and economic ways of living are therefore something that researchers should take seriously[3].

It's worth lingering on this point because it highlights a central concern in the literature. There is somewhat a divergence between approaches that offer critiques of capitalism, and other structures that generate inequality and environmental destruction, and approaches that centre on imagining and affirming alternatives. Some have characterised this as two opposing modes of antagonism and imagination (Zanoni *et al.*, 2017) or critique and creation (Miller, 2019). As Miller (2015) writes,

> "We are asked, it seems, to choose: be an anticapitalist revolutionary, building organized political power by marching arm in arm with the unified force of the new Communist party; or be a postcapitalist ethical subject, eschewing critique, disavowing capitalism, and strengthening emerging communal practices through engaged research" (p. 364).

Drawing on a rich lineage of critical thinkers in the Marxist tradition, antagonistic approaches centre around what they are against, such as capitalism or neoliberalism (Schmid, 2020). From this perspective focusing on alternative economies, or the prefiguration of different ways of living, does not achieve enough (Bailey, 2021) and risks losing the power of stating what we are against (North *et al.*, 2020). At worst, it does not critically analyse how our postcapitalisms are born from the capitalist practices we find troublesome (Alhojärvi, 2020, 2021).

Researching bioregioning from such a perspective would lead us to ask if bioregioning, and its focus on place, can do enough to work against a global capitalist system. It would evaluate its risk of being co-opted or reproducing the hegemony of capitalism. Although these are useful questions to ask, it also risks closing down the imaginative space for

[3] This is not only in relation to the practices themselves, but also as a means of reclaiming the economy (as our ways of living on Earth) itself as a contested terrain (Roelvink, 2015).

projects like bioregioning by writing them off as marginal or doomed to fail (Gibson-Graham, 2008).

In contrast, responding to calls to 'start from where we are' (Gibson-Graham, 2008) imaginative approaches to postcapitalism see greater value in fostering already existing alternatives, or 'real utopias' (Wright, 2010). This body of thought argues that centring analysis on the dominance of structures like capitalism performatively closes down possibility by positioning anything other than capitalism as marginal (Gibson-Graham, 2008). Instead, we can choose to participate in the building of new forms of economy as an ontopolitical strategy (Miller, 2019) by 'taking back the economy' as a space of politics and a site of resistance (Gibson-Graham, Cameron and Healy, 2013). While keeping critiques of what alternatives achieve in view, this approach resists dismissing them as 'not enough'. From this standpoint, we can ask what can be learnt from bioregioning? What does bioregioning offer that is different from the hegemony and is more ethical or sustainable?

It is important to highlight that these two positions are not necessarily in opposition (Miller, 2015; Zanoni *et al.*, 2017; Miller, 2019). Despite being characterised as two different modes of analysis, critique and creation usually work together. In both perspectives, what is at stake is the possibility of living in ways that are more socially just and more sustainable. Antagonistic anti-capitalist approaches do not only critique capitalism, but also seek to build collective responses to it (Miller, 2015), which always involves imagining other ways of being. Postcapitalist approaches build on critical perspectives such as Marxian analysis of class, but instead assert that *capitalism is not all that there is* (Healy, 2015), and what is at stake is also the imaginative space of the economy as a site of difference (Roelvink, St. Martin and Gibson-Graham, 2015). Rather than an overarching capitalism, there are only capitalist *practices* that exist amongst other economic practices (Gibson-Graham, 1996; Healy, 2015).

What is at stake, then, is not just bioregioning itself. While this thesis aims to understand what bioregioning offers, it also contributes to a performative stance that capitalism need not also capture the possibilities of imagination.

2.1.2. What are we up against?

Where the two positions do diverge then, is in the question of *what are we up against?* In anticapitalist literature, it is clear that capitalism and its mode of organising relationships is

the fundamental problem to contend with[4]. This analysis turns its attention to the various ways that capitalism acts as a barrier to human flourishing[5] (Wright, 2018) through, for example, capitalist enclosure (Bollier, 2014) and commodification (Chatterton and Pusey, 2020).

However, the postcapitalist stance of community economies research argues that capitalism is not all we are up against. Gibson-Graham (1996, 2008) argues that scholars play a significant role in reinforcing capitalist hegemony, with alternatives framed only as coping strategies responding to an incontestable economic system (Rose, 2019). She coined the term capitalocentrism (1996) to describe the ways in which capitalist practices are fixed as totalities (Alhojärvi, 2020). Even where other practices exist, they are marginalised, framed as subordinate to capitalism. These alternatives do not offer a serious challenge to capitalism, only change its form. As McKenzie Wark (2019) writes, "just add another modifier to it: surveillance capitalism, platform capitalism, neoliberal capitalism, postfordist capitalism and so on" (p. 6). Such representations position capitalist modes of organising socio-ecological relationships as inherently more powerful and durable than other, more communal, forms.

Capitalocentrism challenges researchers to take this process of marginalisation as the object of analysis (Alhojärvi, 2020)[6], and to read for difference within the economic landscape (Gibson-Graham, 2008)[7]. Capitalocentrism is an analytical tool that challenges power by "tackling capitalocentric representations and exposing their effects" (Gibson-Graham and Dombroski, 2020a, p. 17), and proliferates difference.

Capitalocentrism also broaches other questions of power and discourse. For example, it has been used to show the ways in which economy, environment and society are made into separate spheres to mask their interdependence (Miller, 2019). Equally, capitalocentric concepts of scale frame what solutions are possible, making the supposed 'globalness' of

[4] This often presents a tendency to subsume other forms of oppression (such as racism and colonialism) into an overarching capitalist problem.
[5] Authors have also explained how capitalism acts as a barrier to non-human flourishing, for example through agriculture (Gillespie, 2022).
[6] Alhojärvi (2020) notes that there is a risk that capitalocentrism means that unwanted discourse of the economy becomes the problem, rather than the practices themselves: "While capitalism gets shattered and dislocated in Gibson-Graham's provocative readings, capitalocentrism often paints a more solid ground to push against" (p. 296).
[7] For example, Yang (2000) shows how Chinese Indigenous economies persist, are reinvigorated and resist capitalism. St Martin's (2009) study of fisheries in New England highlights the possibility of commons, rather than capitalist property.

capitalism appear more powerful than local practices (Healy, 2009). These are themes that I develop in sections 2.2 and 2.3.

In this sense, community economies research is critical of how the way that we think about capitalism orders the world, constraining our ability to be anticapitalist. Rather than eschewing critique, it challenges us to see how we performatively contribute to the capitalism that we are up against. As Miller (2019) writes, we "cannot simply affirm possibility in the face of coercion that shape the space in which that can unfold", and perhaps the task is "*creative critique* or *critical creation*… it is both possible and necessary to *oppose* and *compose* simultaneously" (p.222).

This challenges us to approach projects like bioregioning without either marginalising or romanticising them. Instead, we can ask what might emerge or be enabled through bioregioning? And how can projects that are rooted in place and community be understood as radical critiques of power?

2.1.3. What am I building on?

There is a rich body of diverse economies literature that has taken up the call to take seriously alternative practices and projects to live in more just and sustainable ways. These centre on reframing the economy as a range of heterogeneous practices using tools of inventorying (see Section 2.4.2). This allows us to map both undesirable economic practices that use coercive power, or allow environmental degradation, and those which we want to affirm (Gibson-Graham and Dombroski, 2020b). They work by exposing interdependencies with human and non-human Others, and have sought to build community economies which involve negotiation of this interdependence around 'ethical coordinates' (Gibson-Graham, Cameron and Healy, 2013). These are questions of:

- "What do we really need to live healthy lives both materially and psychically? How do we take other people and the planet into account when determining what's necessary for a healthy life? *How do we survive well?*
- What do we do with what is left over after we've met our survival needs? How do we make decisions about this excess? *How do we distribute surplus?*
- What types of relationships do we have with the people and environments that enable us to survive well? How much do we know about those who live in distant places and provide the inputs that we use to meet our needs? *How do we encounter others as we seek to survive well?*

- What materials and energy do we use up in the process of surviving well? *What do we consume?*
- How do we maintain, restore, and replenish the gifts of nature and intellect that all humans rely on? *How do we care for our commons?*
- How do we store and use our surplus and savings so that people and the planet are supported and sustained? *How do we invest for the future?*" (Gibson-Graham, Cameron and Healy, 2013, pp. xii–xiv, original emphasis)

The Handbook of Diverse Economies (Gibson-Graham and Dombroski, 2020b) alone offers 58 chapters of the many ways in which this thinking has been applied, and enacted in places to create actually-existing alternatives.

Yet despite this affirmative approach, the language of diverse *economies* strikes a decidedly economic register that somewhat recentres human relationships and wellbeing (Miller, 2019). The discursive framing of environment, economy and society as "separate, law-governed spheres… makes it exceedingly difficult to develop collective accounts of and interventions into *how we are actually sustained*, and *with whom/what we are actually interdependent*" (Miller and Gibson-Graham, 2020, p.314, original emphasis).

This provokes the question of "How can we think *with* the world, with the fullness of interdependencies that make us?" (Miller and Gibson-Graham, 2020, p. 315 original emphasis). Section 2.2 unpacks how the categories of economy, environment and society have been troubled in different ways. This culminates with the argument that although these discursive assemblages are sticky and durable, they can be thought of otherwise (following Miller, 2019). I position bioregioning as a way that people on the ground are deconstructing these categories, and experimenting in composing what Miller (2019) would describe as *ecological livelihoods*.

In section 2.3, I outline spatial concepts such as scale, community and place that geographers have contributed to thinking about economic and social transformation. I argue that our spatial understandings can also be framings which constrain our abilities to negotiate our interdependence and take seriously place-based practices. Geographers have called for a progressive understanding of place (Massey, 1991), scale and community (Taylor Aiken *et al.*, 2022), but also not eschewing the power that such imaginaries hold (see Blakey, 2020 for example). Bioregioning is an inherently spatial approach to transformation. I argue that bioregioning offers ways of analysing how progressive understandings of place can offer new pathways for change.

In thinking through bioregioning from the perspective of community economies, I offer a shift in emphasis from “starting where we are”, to asking “where are we?”

2.2. Economy, environment, society

If postcapitalism is understood as “a series of strategies for socio-economic-ecological negotiations” (Barron, 2020, p.176), with the aim of living well together (Gibson-Graham, Cameron and Healy, 2013), then the current configuration of society, economy and ecology supports capitalist practices and constrains other ways of configuring relationships with human and non-human Others. Geographers have attended to this by troubling each aspect of this discursive assemblage. A great deal of scholarship has focused on the various pairings of economy, environment and society, and even generating new hybrid disciplines (Miller, 2019). This has gone a long way in informing different ways of ‘doing’ the economy.

The following sections set out some of the ways that the pairings in this trio have been recomposed and renegotiated. In section 2.2.4 I then examine how the configuration of the three categories themselves have been troubled, and how this offers spaces for interventions for bioregioning.

2.2.1. Resocialising the economy

There has been a wide range of literature that focus on re-socialising the economy to create democratic alternatives to capitalist economic practices, ‘real utopias’ (Wright, 2010) and ‘concrete utopias’ (Dinerstein, 2017). This literature has resituated the economy from something that is law-governed, and only carefully intervened in by experts, to something that “has no existence apart from us” (Gibson-Graham, Cameron and Healy, 2013, p.3). Therefore, if the economy is something we perform, we can perform it differently. This repoliticises the economy, creating space for alternative economic subjects, organised around more ethical logics.

Feminist analyses of the economy have expanded the understanding of ‘what counts’ as the economy. For example, the work of Henderson (1991) and Brandt (1995) expand the account of the economy to account for gendered differences. Showing that ‘productive’ economic practices depended on the unpaid labour or invisible labour of both women and the Earth itself, they aim to offer more ‘complete’ accounts of the economy. Such feminist approaches have had wide ranging impacts, from broadening economic subjectivity and practices (McKinnon, Dombroski and Morrow, 2018b), to new accounts of work, labour and care (Dombroski, Healy and McKinnon, 2019).

Gibson-Graham (2006; 2008) built on this through the diverse economies framework that makes visible economic practices that are 'below the waterline' (in reference to their use of an iceberg as a metaphor for economic practices). However, this is not to create a more accurate account of the economy. Instead, it is a provocation to destabilise the discursive construct of capitalism and map spaces where more desirable practices can be fostered. This approach is expanded upon in Section 2.4.2.

From different theoretical roots, inspired by the experience of Argentina and other Latin American countries in the 1980s and 1990s, literature on the solidarity economy has documented how people have met their needs outside of the capitalist economy (Gago, 2020). The solidarity economy was the convergence of three trends: 1) growing economic exclusion that required people to develop their own mechanisms of meeting their needs, 2) dissatisfaction with the culture of the market economy even amongst people who considered themselves privileged, and 3) wider collective movements emerging through networks of grassroots projects (Miller, 2006). Examples include worker recuperated enterprises, which began as 'concrete struggles for survival' before turning into more concrete and sustained performances of alternatives (Esper *et al.*, 2017), large cooperatives such as Mondragon (Meredith and Quiroz Niño, 2015; Villalba-Eguiluz and Pérez-de-Mendiguren, 2019), and the everyday antagonistic practices that are performed in the interstices of capitalism (Habermehl, 2021). Analyses of the solidarity economy have demonstrated the ways in which economic practices can be reorganised in antagonistic and counterhegemonic ways, but also how they emerge in ways that are specific to cultural and political conditions (Miller, 2006).

In a similar vein, literature on the commons has offered examples of collective forms of ownership, and the ways in which capitalist enclosure has been defended against (Chatterton, 2016; Bollier and Helfrich, 2019). The commons, in its most basic definition, is where a group of people collectively govern and share a resource (Bollier, 2014). The commons has been used to discuss the ways in which political movements have resisted enclosure and other forms of spatial control (Hodkinson, 2012; Kirwan, Dawney and Brigstocke, 2016), as well as for the better management of common pool resources (Ostrom, 1990). The concept of commons plays a central role in post-capitalist thought (Chatterton, 2016), as well as being an approach in its own right (Schmid, 2020).

Commons literature has shown how beyond simply reversing neoliberal markets (Kirwan, Dawney and Brigstocke, 2016) or co-existing alongside them, the commons can be understood as a form of prefigurative politics, and an anti-capitalist critique. Through this

literature, subjects are shown as collaborative rather than as self-interested individuals and their practices as more communal (Bollier and Helfrich, 2019).

Many scholars have followed Linebaugh (2008) in framing commons through the verb *commoning*. Commoning refers to the social practices of collectively addressing shared problems in a self-organised way (Bollier and Helfrich, 2019). It recognises that (re)producing and defending the commons involves certain kinds of labour (Dombroski, Diprose and Boles, 2019). Authors have discussed the challenges and strategies of commoning within a capitalist context (Caffentzis and Federici, 2014; Ossewaarde and Reijers, 2017), in the context of the state (Bresnihan and Byrne, 2015; Bianchi, 2018; Ginn and Ascensão, 2018), and through the lens of practices of care (Diprose, 2017; Dombroski, Healy and McKinnon, 2019; Morrow, 2019; Morrow and Parker, 2020). Turning the commons into a verb shifts this literature into a different register, centring the creative and ongoing process of bringing the commons into being. It highlights co-production of commoners and the commons.

Through each of these approaches to resocialising the economy, the economy has been shown as something that we perform, and that is already being performed differently. This opens a wider range of economic subjectivities and agency, in which people are not only consumers. Finally, these approaches have turned attention to the ways that people are engaging in alternative economic practices to generate and sustain alternatives (Healy, 2009) in ways that are specific to the places and contexts that they are within (Miller, 2013a).

Yet, focus on resocialising the economy has largely centred human livelihoods, rather than on the relationship between human and non-human Others (both living and non-living) in postcapitalist futures (Barron and Hess, 2020). This thesis uses the example of bioregioning to examine how approaches to alternative livelihood practices can be extended to more-than-human livelihoods.

2.2.2. The environment and society

As well as redrawing the boundaries between society and the economy, the relationship between society and the environment have been continually troubled in geography[8], through

[8] This extends beyond Human Geography, with calls for a more-than-human Physical Geography (Sharp *et al.*, 2022), and critical physical geography (Lave *et al.*, 2014).

more-than-human geographies, the influence of science and technology studies (STS) and the ecological humanities.

Castree (2004) notes that since the 1990s there has been a post-nature move within human geography. A great deal of attention was paid to the way that 'nature' as a concept was constructed, and how this concept worked to present beliefs as facts of nature, and to justify particular forms of action. However, this led to a suspicion towards "any attempt to talk about nature 'as it really is'" and that geographers saw such attempts as "typically conservative: little more than a ruse to justify oppression, dominance, and control" (Castree, 2004, p. 192). This was rooted in the idea that the concept of nature was of an unchanging, fixed natural world, and that this stood in the way of change. Understanding nature as socially constructed created the possibility for change, as if the social was easier to change (Castree, 2004). Castree (2004) called for new ways of reckoning with nature by advocating for post-nature approaches.

Perhaps where this has become most salient is in writing on the Anthropocene[9] (Crutzen, 2006). The Anthropocene is the suggestion of a new geological epoch, in which humanity has acted as a geological force upon the Earth. As Arnall (2023) notes, the notion of the Anthropocene surfaces two key ideas about human-nature/nature-culture relations: 1) human and non-human worlds are entangled and co-produced, and 2) agency is not solely a human characteristic, but something that is shared.

Lorimer (2017) offers a typology of this literature, arguing that the Anthropocene has been mobilised as 1) a scientific question, 2) an intellectual zeitgeist, 3) an ideological provocation, 4) new ontologies, and 5) science fiction. Here, the idea of new ontologies provoked is useful. Citing, amongst others, the work of Haraway (2016) and Latour (1994), Lorimer (2017) suggests that the notion of the Anthropocene signals a departure from prevalent ways of understanding human-nature relations in environmentalism. Such new ontologies are diverse, but share an understanding of humans as embedded within ecological and geological worlds, and of new "subjects of the Anthropocene, who emerge as much more vulnerable, material and asymmetrically entangled within the nonhuman and inhuman forces of an unruly planet" (Lorimer, 2017, p.128).

More-than-human geographies have offered ways to make sense of this, by decentring human understandings of nature (Rose, 2009) and rethinking the complex relationships

[9] Plantationocene and racial Capitalocene have also been suggested as terms to reflect that the *anthropos* being referred to is not an undifferentiated humanity as a whole, but rather a minority (Davis *et al.*, 2019).

between humans and nature, with the world being understood as a multi-species project of inhabitation (Philo and Wilbert, 2000; Dowling, Lloyd and Suchet-Pearson, 2017). This involves reckoning with any ontological politics which silences non-human agency (Suchet-Pearson *et al.*, 2013; Dowling, Lloyd and Suchet-Pearson, 2017).

The STS literature has influenced this work. Amongst writers such as Latour, Haraway, Callon and Thrift, the notions of embodiment and hybridity offer different ways of thinking about nature that are not static, but dynamic and enable change (Castree, 2004). This is evident in Whatmore's (2002) *Hybrid Geographies*[10]. This text calls for geographers to take hybridity seriously, understanding the "heterogeneous entanglements of social life" (p.3), and for the reframing of ethical and political projects in more-than-human terms.

STS has contributed to understanding non-human agency. For example, Haraway's call to 'stay with the trouble' (2016) involves an understanding of *sympoiesis*, or making-with, rather than *autopoiesis*, or self-making, to conceptualise the ways in which world-making is a multispecies project. In *Down to Earth*, Latour (2018) uses the term 'Terrestrial' to denote a hybrid subject:

> "As long as the earth seemed stable, we could speak of space and locate ourselves within that space and on a portion of territory that we claimed to occupy. But how are we to act if the territory itself begins to participate in history, to fight back, in short, to concern itself with us – how do we occupy a land if it is this land itself that is occupying us?" (p. 34).

For Latour, land itself is a Terrestrial subject, made up of both the lively and non-lively. This has previously unrecognised agency that demands to be accounted for. The Terrestrial is not the background to human action, but an active participant within it.

In a similar vein, the concept of the Anthropocene[11] has been taken up in the emerging discipline of Environmental Humanities (Lorimer, 2017; Castree, 2021). Focusing on the politics of knowledge production and questions of ethics and justice (Rose *et al.*, 2012), the environmental humanities situate human subjects "as participants in lively ecologies of meaning and value, entangled within rich patterns of cultural and historical diversity that shape who we are and the ways in which we are able to 'become with' others." (p.2).

[10] Whatmore (2002) cites Haraway's (Haraway, 1985) cyborg figure, for example.
[11] Although there is a continued scepticism of the concept of the Anthropocene within the discipline (Jørgensen and Ginn, 2020).

The aim of this is "to re-situate humans within ecological systems, and to re-situate non-humans in ethical terms" (Plumwood, 2002, p. 8–9). Key tenets include openness and receptiveness to the agency of others (see Roelvink, 2015), in particular shifting focus from particular subjects to how we are entangled (Ginn, 2014). This literature is not only about moving focus to non-humans, although the agency of non-humans is important, but instead creates a thought-space in which cultural and natural worlds are co-constitutive (see Sharp *et al.*, 2022).

Indigenous ontologies have also offered ways of understanding the relationship between humans and the environment. These have different epistemologies and ethics to Western Human geography but have been increasingly drawn on as a way of rethinking human interconnectedness with the non-human world[12]. Bawaka Country *et al.* (Bawaka Country *et al.*, 2015, 2016) have called for geographers to embrace a 'geography of co-becoming'. Co-becoming draws attention to the ways that we care for, and are cared for by, "the myriad human and more-than-human becomings that emerge together to create [country]" (Bawaka Country *et al.*, 2016, p.270). It opens up relational understandings of the world underpinned by an ethics of care. Tynan (2021) also describes an Indigenous relational ontology that understands relationality as a living practice and responsibility with kin.

Such understandings are often rooted in concepts of place that offer a challenge to colonial spatial concepts such as the state and concepts of sovereignty (Alfred, 1995; Barker and Pickerill, 2012). For example, Coulthard (2010) describes Indigenous understands of place as having multiple meanings: "land-as-resource central to our material survival; land-as-identity, as constitutive of who we are as a people; and land-as-relationship" (Coulthard, 2010, p.81).

Within geography, then, there is a growing desire to find new ways of approaching the relationships between humans and the places that they live, and those that they share it with. Bioregioning is one example of the ways that people are finding alternative ways of understanding their relationship between place, the environment and the non-human nature with which they share a living place.

[12] For example, *Braiding Sweetgrass* (Kimmerer, 2020) has become a popular text that calls for Indigenous modes of inquiry to make sense of the co-constitution of humans and the land.

2.2.3. Economy and the environment

If the economy is understood as produced and reproduced by humans, and the human and natural worlds are co-constituted, it follows that the relationship between the economy and the environment would also be troubled within geographical thought. Both within academic thought and environmental movements, the fact that the economy is inherently related to the environment is well trodden ground. Extensive analysis of capitalist economies have demonstrated the contradiction between a world of finite resources and a demand for continuous growth, (see for example Harvey, 2014) and the bias towards consumption in capitalist markets threatens to undermine the basis of future (and current) human flourishing (Wright, 2010) .

Geographers have made particular contributions to analysing the ways in which economic activities have unequal impacts on environments through, for example, commodity chains and economies of scale (for example, Hartwick, 1998; Liverman, 2004; Argent, 2017), and the ways that environmental impacts of economic processes are deliberately distanced from those consuming most resources (Huber, 2019; Peri and Robert-Nicoud, 2021).This sits alongside a rich literature of green economics. This includes thinkers like Schumacher (1973) and Meadows (Meadows and Club of Rome, 1972), who argued against growth both as a strategy for increasing human wellbeing, and for its environmental impacts (see Chapter 3).

In recent years, this discussion has moved in new and interesting directions. Degrowth (Hickel, 2020), circular economy, ecological economics and related fields have debated the possibility of delinking growth and resource consumption and generating more sustainable economies (Wall, 2015). Class analyses of the economy have situated labour movements at the heart of environmental transformation and problematised responses such as ecological and carbon footprints (Huber, 2019). In popular literature, *Doughnut Economics* (Raworth, 2017) offers a critique of the images that we use to conceptualise the economy, arguing that they fail to show the interplay between the economy and the environment[13]. This has been applied within geography and beyond (see for example, Doughnut Economics Action Lab, 2020; Chatterton and McKay, 2023; Hjelmskog *et al.*, 2023).

[13] Raworth (2017) instead proposes the doughnut as a metaphor. The inner ring of the doughnut represents the social foundation that needs to be met for human flourishing. The outer ring is the ecological ceiling, the limit of the systems that support human life. The space between these two rings is the space and just space for humanity, where human needs are met, and ecological boundaries are not exceeded.

The community economies literature introduced at the start of this chapter has also turned to a greater focus on the relationship between the economy and the environment. To offer just a few examples, Roelvink (Roelvink, 2015; Roelvink, St. Martin and Gibson-Graham, 2015) has sought to extend economic ethics to the more-than-human; and Barron (2015) applies a diverse economies lens to 'Earth Others'. This includes the conceptualisation of 'econo-ecologies' to highlight the ecological dimensions of economic interdependence, and rethinking non-human labour (Barron and Hess, 2020).

There is a growing literature that offers new ways of thinking through the economy and the environment, and different approaches to reworking our economies to take account of the physical realities and limits that they exist within. Bioregioning offers a useful empirical example of the ways in which people are considering how their economic practices are, or are not, sustainable in the actual locations that they take place.

Yet what is perhaps most relevant when researching bioregioning is the way that the economy has been discursively separated from the environment and society, their distinction as separate domains is something that stands in the way of being able to enact alternatives (Miller and Gibson-Graham, 2020).

2.2.4. Reframing the trio: ecological livelihood

The literature presented so far has shown how the economy has been re-socialised, how the social and the environment have been resituated as co-constituted, and finally how the economy is grounded in the environment. In doing so, it has broadened our understanding of the economy and opened it up as something that is contestable, as well as how the worlds we make are more-than-human. However, although I have shown how the boundaries between the economy, society and the environment have been blurred, they still appear as relatively coherent categories. As Miller (2019) writes,

> "It is as if only two balls can be juggled at one time, or only two categories deconstructed simultaneously - as it one of the three fields must remain tacitly stabilized as the foundation for thought or as the ground from which the others can be challenged" (Miller, 2019, p. xv).

Drawing on assemblage theory, Miller (2019) argues that the articulations of economy, society and environment stand in the way of 'becoming otherwise'. We exist within the environment, but we are not part of it. We can choose between jobs and economic growth, bringing with them wellbeing (and often survival), or the environment, "whose care merely

detracts from these desperate priorities" (Miller and Gibson-Graham, 2020, p.317). Their categorisation *anaesthetises*[14] our interdependence, foregoing an understanding of how our livelihoods intersect with others, and erasing our responsibilities (Miller and Gibson-Graham, 2020).

This raises the question of what might help dislodge this assemblage? And what other ways of thinking would offer such a powerful description of the world, and simultaneously provoke more ethical encounters within it? How do we access, in the words of Miller and Gibson-Graham (2020):

> "The world that lies "beyond" the hegemonic assemblage, a "world of becoming" in which we are *connected* in ways we barely imagined, *responsible* to and with each other in ways we can barely grasp much less fully respond to, and *called* toward new possibilities for world-making that we have only just begun to glimpse" (p.318)

Miller (2019) offers the concept of *ecological livelihood* as a different way of thinking about more ethical and sustainable ways of living, rather than struggling to re-signify the hegemonic connotations of 'economy'. He borrows the term *ecology* to denote a state of radical interdependence, rather than to mean the environment *per se*[15]. This term makes more space for the non-human agency than the more hegemonically human-centric 'community'. Instead of 'economy', he mobilises 'livelihood'. Rather than 'livelihood' referring to the ways in which people meet their needs, with connotations with and subsistence, Miller's (2019) conceptualisation of livelihood is a relation. Noting that the term livelihood has not been "wholly captured by a particular metrology" instead indicating "a diversity of activities" (Miller, 2019, p. 153). This aims to capture all of the ways in which we make a living, and to resist capture by the metrics and measures that fix the economy as a domain (Miller, 2019; Gibson-Graham and Miller, 2021). The hope is that this new discourse might be more successful in 'tipping the assemblage' and opening up new imaginative politics of possibility.

Miller's (2019) conceptualisation of ecological livelihood here is used to describe the reproduction of life, underpinned by 3 dimensions:

1. *Autopoiesis*, or the question of how do we make a living?
2. *Allopoiesis*, or the question of how do we receive a living made by others?

[14] The term 'anaesthetise' is mobilised from Isabel Stengers (2005) work.
[15] This reflects the use of ecology in Bookchin's (1982) *social ecology*.

3. *Alterpoiesis*, or the question of what living are we making for others?

These questions continually provoke a movement between 'I' and 'we' (Miller, 2019), demonstrating how making livelihoods is the negotiation of our interdependence with others. Miller (2019) argues that this is normally obscured by the denotation of the economy, the environment and society. Rather than pitting the environment against the economy, this framing allows us to consider how the ways that we make a living impact the living we make for others, or in fact the very basis of the life that is made for us.

Miller (2019) understands the concept of ecological livelihoods as a tool for commoning. This builds on the literature on commoning referenced above, but Miller follows a slightly different trajectory. For Miller (2019), commoning is the politicisation of livelihood, working against the anaesthetisation (or uncommoning) of the hegemonic categories of economy, environment and society. It is the ways in which our livelihoods, and the terms of our interdependence are rendered negotiable. Crucially, this is work that can only be done in place, "since the only point is to invoke these tensions and open up the question of what might emerge from them with effort, over time" (Miller, 2019, p.222).

The geographical literature on economy, environment and society, and particularly the concept of ecological livelihoods, raise the question of how these interconnections are being navigated on the ground? What projects are working to make their interconnection visible, and act in new ways? Bioregioning, I argue, can be such a project.

In section 2.5, I return to this in explaining my theoretical framework. But first, I turn to another way of thinking that structures what is possible, how we think about space, place and community in our efforts to 'become otherwise'.

2.3. Scale, community, place

Section 2.2 dealt with how the economy, society and the environment have been approached in the question of how we can live in more ethical and sustainable ways. As well as arguing that these categories themselves act as barriers to becoming otherwise, I also pointed towards the spatial questions at the heart of this. As Latour (2018) points out that reworking and reimagining new ways of living forces us to confront particularly spatial challenges:

> "CO_2 is not spatialized in the same way as urban transport systems; aquifers are not local in the same way as bird flu… What can be done about problems at once so large and so small?" (Latour, 2018, p.62).

Equally, a recognition of the co-becoming of land and humans draws attention to how such relations are constituted in place (Section 2.2.2), and critiques of the economy and capitalism make visible the spatiality of power (Sections 2.2.3 and 2.2.4).

Space, alongside human-nature interactions, is geography's raison d'être. Geographers have long been interested in the spatiality of change and social movements. In this section, I reflect on the ways that spatiality has been thought about, drawing on concepts of scale, community and place. I argue that as geographers have turned to more relational and progressive spatial understandings, alternative community and place-based projects that apply these in practice, such as bioregioning, should be taken seriously.

2.3.1. Scale

Geography has a long-standing debate about the nature of scale and how scalar approaches order thinking and action. Scale has been historically imagined as a spatial hierarchy, with the global largest and most powerful, shaping what happens at the lower levels of the national, regional and local. This understanding of scale has been used to make sense of how the conflicting scales of environmental problems and governance create barriers for dealing with transboundary environmental problems (Haarstad, 2014).

In the late 1990s, there was a move in geography to understand scale as an epistemological device, or a way of seeing the world, rather than ontological reality or 'natural' category of the world (Jones, 1998). Literature focused on how scale is constructed and used to order the world (see (Moore, 2008; Blakey, 2021) In particular, geographers have examined how the development of scale as a concept emerged alongside capitalism (for example, Smith, 1996) and globalisation (Swyngedouw, 2004). From these perspectives, scale isn't 'natural', it is a way of seeing the world that is socially constructed and inherited. It is therefore always open to contestation. However, scale also has a performative effect: when faced with problems as enormous and complex as climate change, local or regional responses are positioned as inadequate (Cameron and Hicks, 2014).

Yet there remains a debate about if and how scale should be mobilised. Marston *et al.* (2005) argued that scale naturalised the global as a causal force, reducing the agency of the local, and Cameron and Hicks (2014) argue that scale continues to stubbornly shape the way we understand the world. This means that social science research is:

> "characterized by a pervasive asymmetry by which the global is equated with space, capital, and the capacity to transform while the local is associated with place, labor,

> tradition, and hence with what will inevitably give way to more powerful forces" (Escobar, 2001, p.30).

The binary pairing of the local and global continue to imply a directionality of modernisation, with the local as yet to be modernised (Latour, 2018).

In a slightly different trajectory, others have suggested that the local is assumed to be inherently more democratic and therefore preferable as the site for politics in what Purcell (2006) calls the 'local trap'. Similarly, Massey (2004) argues that hierarchies of scale can 'exonerate the local'. The local is assumed to have more genuine meaning, rendering the global as an abstract outside. She offers the metaphor of Russian nesting dolls of care and responsibility, where that which is closest to home receives the most care, with care dissipating with each step in scale.

What is common to all of these arguments is that the concept of scale reduces the possibility of politics by "re-assigning to it a cordoned register for resistance" (Marston *et al*., 2005, p. 427) when assumptions are made about any scale (Purcell, 2006). Marston *et al*. (2005) proposed eradicating scale from geography, and instead using a flat site ontology in which an unfolding materiality (re)constructs space through its connection to other sites.

In contrast, others have argued that rather than diminishing the possibility of politics, scale is important for devising strategies of resistance (Leitner and Miller, 2007). Scale has been mobilised by actors within political movements by jumping scale, bending scale (Smith, 2008) and glocalization (Swyngedouw, 2004). In such approaches, the ways in which scale is constructed and deployed by resistance movements (and the state) remains important (Miller, 2000; Brenner, 2004). Instead of removing scale from our conceptual toolkit, instead it is important to make sense of "*who* is involved in this process of democratisation, and the *place* through which it happens" (Russell, 2019, p. 998). For Blakey (2021), this perspective allows geographers to take common-sense understandings of scale seriously and be open to the politics unfold through emergent narratives of scale.

Once again, the community economy approach offers a useful intervention. In community economies research, local/global binaries are troubled, repositioning the local and the global as "the outcome of particular networks and associations rather than inherent qualities or capacities" (Roelvink, St. Martin and Gibson-Graham, 2015, p. 16), and hierarchical spatial ontologies in which a correlation between scale, size and power is assumed, and "in which the local is nested within the regional, national, and global scale" (Healy, 2009, p. 341).

Gibson-Graham and Dombroski (2020a) argue that practices that are often considered to be local, like care work, or the flow of migrant remittances are in fact ubiquitous, both local and global simultaneously. Crucially, for community economies scholars, this flat spatial ontology has a performative effect. By understanding differences as equivalent, it prevents the marginalisation of alternatives that occurs when we assume them to be intrinsically deficient and therefore make them vulnerable (Healy, 2009). Instead, it treats the economy as a site of experimentation and focuses on pointing subjectivities away from capitalocentric practices (Healy, 2015). Rather than a politics of scale, community economies researchers "cultivate a politics of horizontal extent, reach, and association" (St Martin and Gibson-Graham, 2015, p. 20). In this sense, it is not the spatial extent of alternatives that is important, rather the extent to which they "summon and order other practices" (Schmid, 2020, p. 111).

This spatial approach makes it possible to "configure a place-based global movement for economic transformation" (Healy, 2009, p. 341) through making connections between dispersed projects and places, without the presumption of dominance and subordination. Through this lens, there is no expectation that alternatives will look the same everywhere, or that one grand strategy will offer a solution[16]. Instead, this is negotiated by the community in question. As Russell (2019) argues, the local does not have pre-defined politics, politics is made in place.

Researching bioregioning requires remaining attuned to common sense[17] understandings of scale as it leverages a specific more-than-local, non-state form of regional scale (see Chapter 3). Yet at the same time, as explored in Chapter 5, it does not assume the direction of power. Bioregioning therefore offers a useful empirical context for analysing scale, including how scale is produced and the effects that it has.

2.3.2. Community

Community can be understood as an alternative way to thinking about the spatiality of change that eschews scale. There is an evolving academic interest in community environmentalism (Taylor Aiken, 2017b; Pickerill, 2021). One reason for this is a reflection of the growing role of 'community' in environmental governance (Taylor Aiken, 2012).

[16] As Escobar (2018) notes, this form of universalism stems from a Eurocentric understanding of the world, or a One-World World (Law, 2015).
[17] Here, common sense refers to the shared frameworks that shape roles within society. This draws on Rancière (2010) and his theories of politics rooted in shared (or common) ways of perceiving (or sensing) the world.

Community is mobilised as a way to garner buy-in from residents for policies, to indicate a 'meso' scale (larger than individual, but smaller than state) at which interventions can operate, and in reference to and bottom up grassroots work (Taylor Aiken, 2012).

A further reason for the growing interest in community is the mobilisation of community within grassroots movements themselves, such as the Transition Towns Network (Taylor Aiken, 2017b), and other movements that draw on relocalisation as a strategy (Barr and Pollard, 2017). Here 'community' serves many functions including expressing particular values, generating feelings of belonging, fostering good conduct and the exclusion of certain others (Taylor Aiken, 2016).

Yet simultaneously, community initiatives are criticised for being post-political, providing a "cozy feeling of activity" (Taylor Aiken, 2017b, p. 2385), or pseudo-activity (Žižek, 2008) which focuses on symptoms rather than causes. As noted in the previous sections, community approaches can be marginalised because of their lack of the ability to 'scale up' to effect broader change.

Equally, community initiatives have the potential of being exclusionary. Kenis and Mathijs (2014) argue that those that initiate community projects can continue to dominate and crowd out alternative visions, and there is the possibility of tensions of identity and belonging (Pickerill, 2021). Some communities are more able to enact alternatives than others. For example, Morrow and Martin (2019) study on urban food commoning found that white people had privileged access to spaces with ambiguous property claims and were able to engage in practices of commoning, such as harvesting fruit and caring for trees, whereas black and brown people are more heavily policed. This can have powerful implications for social justice which can prevent projects from achieving their aims (Pickerill, 2021).

However, these critiques are based on a conceptualisation of community as either a locality (Gritzas and Kavoulakos, 2016), or at other times a (spatially heterogeneous) group with shared essence, values, traditions, pastimes, or shared experiences (Taylor Aiken, 2016; Miller, 2019). These are essentialist understandings of community, which assume some level of 'sameness'. This, to borrow from Miller (2019), uncommons, anaesthetises, or closes down the negotiation of togetherness. Understanding community in this way negates how community can be a powerful political project.

Instead, the conceptualisation of community within community economies literature is powerfully anti-essentialist. Drawing on the work of Jean Luc Nancy, Gibson-Graham (2006) rejects the idea of community as organised around a positive essence, instead viewing

community as a shared condition of existence: being-in-common, rather than common-being (Miller, 2013a; Miller, 2019). We are in common with myriad others that we are exposed to in sustaining ourselves. Such a community can only be exposed (Foley and Mather, 2016), not built or realised through any collective project (Miller, 2013a). Recognising this state of being-in-common calls us to negotiate questions of who we care for and how (Popke, 2010).

From this perspective, community is not reduced to a particular scale, nor is its value derived from a sense of localness being inherently more meaningful (Massey, 2004; Purcell, 2006). Community as being-in-common does not even have to be in the same place. In fact, this understanding of community may reveal how we are in common with others in distant places, provoking us to confront power and our own responsibilities. How, then, can we turn community into a powerful political project, without determining its contents in advance?

Bioregioning is a community initiative, so is a useful empirical example of how social movements are enacted. Further, and perhaps more interestingly, bioregioning draws on a concept of community as being-in-common in the bioregion (see Chapter 3 and Chapter 5). Therefore, bioregioning groups can offer examples of how being-in-common is being negotiated in place.

2.2.3. Place

Geographers have drawn on concepts of place as a way of understanding people's experience of the world. Place is a key, yet contested, concept in geography. Often, in distinguishing it from other spatial concepts, place is described as space that has cultural meaning attached to it (Henderson, 2009). Such definitions focus on social construction of place and a sense of boundedness (Malpas, 2012). While there have been debates about what makes place a specific concept[18] (see Henderson, 2009), what is most relevant here is how there has been an intellectual recommitment to place, and how place based struggles and social movements "take place and place-based modes of consciousness as both the point of departure and goal of their political strategies" (Escobar, 2001, p. 153; see also Barr and Pollard, 2017).

Escobar (2001) writes that the "double goal of transforming ecology and economy can provide a powerful interface for the renewal of place-based theory and practice" (p. 144). Arguing that concepts of space have been privileged over place in analyses of power,

[18] This means how place is conceptualised in comparison to other spatial concepts like the region or area which also share features like boundaries, internal coherence, and interactions with other places (Henderson, 2009).

Escobar (2001) calls for a defence of place-based practices to make visible the potential diversity of sources of strategies for reconstructing the world, and to ask how place-based projects can offer a critique of power.

Escobar (2001) draws parallels with capitalocentrism and the marginalisation of non-capitalist economic practices with *globalocentrism*, a process by which place is erased. Globalocentrism makes the ways we think about scale, place and locality the object of analysis. Escobar (2001) challenges us to take localisation strategies and place-based movements seriously. He argues that place cannot just be understood in the same way as the local, nor place-based knowledge as just romantic and nostalgic.

One way to do so would be to draw on the work of Doreen Massey. Massey's essay *A Global Sense of Place* (Massey, 1991) problematises a 'reactionary' theorisation of place, in which moves towards a focus on the specificity of place is a reaction to the 'loss' of place through globalisation[19]. In this understanding of place, there is 1) a strong connection between place and (singular) identity, 2) a narrative of a singular history that is continually reaffirmed, and 3) clear boundaries that delineate inside and outside, and insiders and outsiders. Such understandings of place can offer a source of security and feeling of rootedness, yet it also can result in "reactionary nationalisms, to competitive localisms, to introverted obsessions with heritage" (Massey, 1991, p. 24). For Massey, the challenge is finding ways hold on to ideas of place as rooted and specific, but in progressive ways.

Massey offers a progressive theorisation of place that is not rooted in the idea of a singular history but is contingent on a particular 'constellation' of social relations. For Massey (1991), a precondition of place is its connection to the global and other places. Places and cultures have always had, and always will have, a degree of hybridization with other places and cultures, but this does not make them more global (Escobar, 2001). Within places, there is no one identity, but conflicting identities and claims to the past, present and future identity of place. This way of thinking about place turns the gaze outwards, by understanding how place is connected to the wider world and created from the outside.

The recognition of the global construction of place *and* of local specificity does not have to be contradictory. Place is continually being remade in relation to other places, and globalisation does not necessarily equate to homogenisation (Massey, 1991). Crucially, this

[19] As Escobar (2001) notes, loss of place is often used to in ways that mean a loss of culture.

does not undermine the importance of place as a concept. This understanding resituates place as a process, rather than an area contained within boundaries (Massey, 1991).

This progressive concept of place complements the anti-essentialist understanding of community as being-in-common. Both trouble the scalar imaginary of the global and local and rest on the contingency of relationships. Both offer the possibility of extending beyond the human: being-in-common can be understood as a state of coexistence with human and non-human Others. Finally, both unsettle the ground on which political projects can be built by their rejection of any form of positive and essential content.

However, as Malpas (2012) contends, progressive and relational understandings of place like Massey's can lose the sense of boundedness which are central to the experience of place. Such boundaries can also be felt due to the biophysical nature of place. As Barron *et al*. (2020) write, "hydrology, soils, climate, biodiversity and biotic community structure are the foundations typically used to differentiate environmental places and understand their meaning and importance in the global environment" (p.447). Malpas (2018) argues that relational understandings of place focus on how humans shape place, neglecting the ways in which humans are shaped by biophysical place.

This poses the questions of what more bounded understandings of place, that still recognise relationality, might offer? Can we conceptualise place beyond social construction alone? How do we "construct place as a project, to turn place-based imaginaries into a radical critique of power" (Escobar, 2001, p.157)? What conditions would help us to realise place-based projects, and for such projects into alternative structures? Bioregioning is a productive context to examine these questions because, as Chapter 3 introduces, bioregioning understands place as more-than-human and material, as well as dynamic and contingent.

2.4. Where are we?

This chapter has outlined many contours of the geographical literature concerned with how we can live well together and suggested how an investigation into bioregioning might contribute. In section 2.1, I set up the challenge of taking projects to build alternative worlds seriously. I highlighted the ways that part of such an effort involves taking on the language that we as researchers use to talk about the economy and affirming other practices. This is informed by 'starting from where we are' by anchoring ourselves to those already-existing alternative practices.

Section 2.2 set out how the economy has been re-politicised as a contested terrain by unpacking the economy, environment and society as descriptive categories. I showed the different ways that the literature has approached them to help us to make sense of our interdependence, but also how the very categories themselves obscure interdependence. Here, I offered Miller's (2019) concept of ecological livelihood as another way of negotiating togetherness. This has to be pursued in place, "there is no 'theory of ecological livelihoods' outside of the actual places in which we live, think, work and struggle" (Miller, 2019, p. 222).

In Section 2.3, I turned to how our ways of thinking spatially can constrain alternatives. Mapping relational turns within geography, I extended Gibson-Graham's diverse economies approach (2006, 2008) by asking how place can be the source of alternative pathways for development. Or, as Escobar (2001) asks, "can the world be reconceived and reconstructed from the perspective of the multiplicity of place-based practices of culture, nature and economy?" (p.170).

This section raised the question of how place-based projects can resist closure around reactionary understandings of place, recognise the global constitution of place without rejecting local specificity, and find new ways of thinking beyond economy, environment and society, all while offering a radical critique of power. I argued that geographers have moved towards relational understandings of scale, place and community which view scale, place and community as always in the process of co-becoming.

However, I noted that in foregrounding relationality and anti-essentialist concepts of place, there is a risk of losing a sense of boundaries and of more-than-human place-making. If we are to 'start where we are' in building alternatives and negotiating ecological livelihoods, then the question of 'where are we?' is surely one that should orient our thought and action. It is by taking Gibson-Graham's (2008) provocation, and transposing it into a new key that this research into bioregioning makes valuable contributions to geographical thought.

2.4.l. Theoretical framework

This final section of the chapter moves from setting out the rationale and context of this research in geographical literature, to explaining the theoretical tools that I use to analyse bioregioning. I draw upon the three themes that Gibson-Graham sets out in *A Postcapitalist Politics* (2006): 1) a politics of language, 2) a politics of the subject, and 3) a politics of collective action. However, I rework them in response to the particular emphasis that bioregioning brings. Bioregioning is rooted in place, and a specific understanding of place that is not only human, and not only physical. I therefore bring into this framework Miller's

(2019) movement from community economy to ecological livelihood, influences from more-than-human geographies, and the relational understandings of place outlined above.

The remainder of the chapter explains these three analytical themes and how I use them in this thesis. Finally, it introduces Val Plumwood's concept of remoteness, that I mobilise as a way of thinking through the spatial politics of bioregioning.

Politics of language

In order to discursively unsettle capitalist hegemony, Gibson-Graham (2000, 2006) offers 3 tools for thinking to activate a politics of language. The first, drawing inspiration from Derrida (Derrida and Spivak, 1997) is *deconstruction*. Derrida identifies binary structures that produce meaning in Western thought, which he describes as logocentrism. For example, **Man**/woman; **Mind**/body; **Self**/other; **Culture**/nature; **Economic**/non-economic, **Capitalist**/non-capitalist and **Factory**/household.

Through the frame of logocentrism, in each binary one half represents presence and value, and the other half is an absence and devalued (Gibson-Graham, 2000). Post-structural feminists (such as Plumwood, 1993) developed this concept further by noting how such binaries are also underpinned by the masculine figure, using the term phallogocentrism. As Gibson-Graham (2000) argues, this makes one side appear more stable and more important than the other. For example, the Economic is filled with meaning and presence, the non-economic is marginalised and unimportant.

Strategies of deconstruction involve unsettling these binaries. This involves either revaluing the subordinate half of the binary or blurring the binary by drawing out the similarities between each term (Gibson-Graham, 2000). For example, the category of Capitalist practices could be deconstructed by revaluing non-capitalist practices by showing the monetary value of unpaid labour. Alternatively, the similarities between Capitalist and non-capitalist practices could be highlighted by demonstrating the ways in which they both contribute towards livelihoods.

The second thinking tool is *genealogy*. Following Foucault (1991), this approach traces how meanings have been constructed and in turn, how some have become accepted as truth. What emerges from such a project is a disruption of the coherence and continuity of concepts such as the economy. Miller's (2019) work is an example of this. It offers a genealogy of the economy, society and environment as forces and domains, showing how they are in fact contingent and incomplete. This denaturalises dominant discourses and

opens up the proliferation of other discourses that can "resist and reconstitute power in different ways" (Gibson-Graham, 2000, p.100).

The final tool for a politics of language is theories of performativity (Butler, 1993, 2006). This is another de-essentialising tool, which states that the categories in which we use to organise the world are not just descriptions, they produce the effect that they name. By naming something 'economic', or 'capitalist' for example, we participate in the creation of the economy. Performances need to be continually performed to appear stable and fixed, and therefore they are always open to change. Highlighting the hesitations and uncertainties in such performances enables us to destabilise the categories that constrain other forms of world-making (Butler, 1993; Gibson-Graham, 2000). This generates agency within something that seems 'naturally given', allowing us to decide what performances of world-making we want to amplify and which we do not (Gibson-Graham, 1996, 2000, 2006).

This is not to say that the world comes into being through discourse alone (Schmid and Smith, 2021). A growing influence of practice theory (Schmid, 2020; Schmid and Smith, 2021) and assemblage theory (Miller, 2019; Sarmiento, 2020) examines how performances are shaped by resources and skills, "which in turn are inscribed into habituated bodies, artefacts and things" (Schmid and Smith, 2021, p. 258).

Thinking through the politics of language and applying these discursive tools enables me to ask how people engaging in bioregioning challenge dominant discourses of place and economy, and to examine the new narratives generated.

Politics of the subject

A key question within community economies research is "How do consumer subjects become **subjects of sustainable community economies**?" (Gibson-Graham and Dombroski, 2020b, p. 19, original emphasis). Much of this literature focuses on understanding the politics of the subject, and how new economic and political subjects can be generated (Healy, Özselçuk and Madra, 2020). This is underpinned by an anti-essentialist understanding of the subject[20], an anti-essentialist understanding of class, and the concept of overdetermination.

[20] Rather than a humanist understanding of the subject, which sees it as individual, capable of perfect decision-making, giving rise to the economy, or the structuralist concept of the subject, which is constituted by the economy (Healy, Özselçuk and Madra, 2020).

Gibson-Graham draws on Resnick and Wolff's (Resnick and Wolff, 1989) conceptualisation of class. Rather than understanding class as a noun which describes the position of a group of people in relation to the mode of production, Resnick and Wolff (1989) use class as a verb to describe the process of how surplus labour is produced, appropriated and distributed. For Marx, a capitalist class process is one in which capitalists appropriate and distribute the surplus labour produced by the worker (see Cameron and Gibson-Graham, 2022). However, other class processes exist, such as a feudal class process in which a landlord appropriates surplus labour, or a communal class process in which surplus labour is collectively appropriated and distributed and the benefits shared.

This understanding of class as a process highlights the diversity of class processes that coexist, and the multitude of sites in which they take place (Cameron and Gibson-Graham, 2022). The economy is not constituted solely by capitalist class processes, and the economy does not just happen in the factory or workplace. This conceptualisation of class makes visible the multiple, often overlapping and contradictory, economic positions that people occupy (Cameron and Gibson-Graham, 2022).

The anti-essentialist understanding of class as process is underpinned by Althusser's (1968) concept of overdetermination. In contrast to determinism, overdetermination means that everything is contingent on multiple conditions of existence, with none having necessarily more determining power than others (Cameron, 2020). In terms of class process, this directs focus to the continually shifting conditions that organise the production, appropriation and distribution of surplus (Healy, Özselçuk and Madra, 2020), rather than claiming that any single condition (such as the drive to accumulate) causes capitalist class processes (Cameron and Gibson-Graham, 2022).

The decentring of the economic subject through the concepts of overdetermination and class as a process opens the possibility of multiple sites of transformation, not just the historical working class (see Healy, Özselçuk and Madra, 2020), and questions of which processes and economic subjectivities we want to foster. In particular, there is a concern with generating collective subjects, through communal class processes.

However, the new ontologies prompted by the Anthropocene mean that "no longer can we see subjects as simply human and places as human-centered" (Gibson-Graham, 2011, p. 1). The concept of ecological livelihood extends the relationality of the subject, by seeing the "co-production of subjectivity as an emergent property of relationship" (Miller, 2019, p.135).

Through engaging with the politics of the subject, this thesis examines the forms of subjectivity that are refused and built through bioregioning.

Politics of collective action

The politics of collective action involves the conscious acts of bringing new economic worlds into being (Gibson-Graham, 2006). What alternative practices are enacted? How are they institutionalised and reproduced? How are less desirable practices diminished?

Miller (Miller, 2013a) describes this as the *political moment* of community economies. This is the moment in which some form of normative stance about what kinds of world-building we desire are taken, following the exposure of the interdependence that characterises community, and the recognition of the multiple economic practices we use to make a living through economy. For Gibson-Graham (Gibson-Graham, 2006) and her colleagues, any moment of exclusion created by introducing such positive essence is risky, but also necessary and productive in order to nurture more desirable practices. Thinking through the politics of collective action asks us to consider how projects for alternative economic worlds are being realised.

Critically though, it is not the role of scholars to prescribe how this occurs. The community economies literature is filled with examples of collective action, however none of these are represented "to be universalized in a theory of postcapitalist politics" (Miller, 2013a, p. 525). Instead, a community economy will be rooted in the specific articulation of place, struggles and networks (Miller, 2013a, p. 201).

Again, Miller's (2019) concept of ecological livelihoods makes a useful intervention here. It centres the intersection of the livelihoods we make for ourselves, the livelihoods we receive, and those we make for others, as a site for collective action. There are similar calls from Latour (2018), who argues for a consideration of dwelling places, territories and a re-composition of landscape as "that on *which a terrestrial depends on for its survival*, while asking *what other terrestrials also depend on it*?" (p. 63, original emphasis). This not only widens the collective political subject, but grounds it in particular places. I draw on this understanding of collective action in my analysis of bioregioning.

Remoteness

Finally, I draw on the concept of remoteness set forward by Plumwood (2002) to analyse the spatial politics of bioregioning. Plumwood (2002) outlines different types of remoteness.

The first is *spatial remoteness*. This refers to the ways that we externalise the negative effects of our livelihoods on places, people and ecosystems that are further away. The second is *temporal remoteness*, which describes how the consequences of our livelihoods are pushed into the future. The third is *consequential remoteness*, where consequences are systematically felt by those other than the decision maker. There is also *communicative* and *epistemological remoteness*, which refer to the ways in which knowledge of the negative impacts of livelihoods are weak or blocked. Finally, Plumwood (2002) suggests *technological remoteness*, in which technological fixes create more liveable conditions in one place but externalise consequences[21] to other places.

Following this, Plumwood argues against bioregionalism and other forms of localism that minimise spatial remoteness (through, for example, localising exchange) but increase other forms of remoteness. For example, in *Shadow Places and the Politics of Dwelling*, Plumwood (2002) argues that focusing on developing love of a singular home place can obscure the impacts of livelihoods on shadow places. This could be an example of epistemological remoteness, as the knowledge of how livelihoods continue to negatively impact other 'shadow places' is rendered invisible through a false consciousness of place.

There are parallels between Plumwood's conceptualisation of remoteness and Miller's (2019) concept of *commoning* and *uncommoning* in negotiating ecological livelihoods. For Miller (2019), commoning is the rendering of livelihood relations into sites of struggle and negotiation. Not all things that are shared are common, they are only commoned when they become "active questions, concerns or sites of struggle" (Miller, 2019, p. 189). For Plumwood, remoteness is akin to uncommoning: it is a form of distancing that prevents accountability and eschews ethical negotiation of the terms of togetherness.

Instead, for an ethical and ecological economy[22], all forms of remoteness should be minimised, rather than replacing one form of remoteness with another. In other words, responsibility and care should be extended through the recognition of the ways our lives are connected to other places. In this thesis, I use this conceptualisation of remoteness to analyse the spatial politics of bioregioning.

[21] Plumwood (2002) gives the example of air conditioning, which generates "thermal well-being in places of prominence and privilege by generating thermal and other ills it takes no responsibility for in remote or disregarded 'waste' places" (p. 72-73).

[22] Plumwood (2002) would describe this as *ecologically rational*, drawing on Dryzek's (1987) notion of an ecological rational polity.

2.4.2. Research questions

I aim to contribute to the geographical and postcapitalist (and in particular, community economies) thought outlined in this chapter by examining bioregioning as a strategy "for socio-economic-ecological negotiations" (Barron, 2020, p. 176). I use two case studies of community projects of bioregioning, the Casco Bay bioregion and Bioregioning Tayside (introduced in Chapter 3). The research questions that I aim to answer in this study of bioregioning are as follows:

Research question 1: What is bioregioning and to what extent does it challenge the spatial critique of bioregionalism?

My first research question is concerned with conceptualising bioregioning and affirming it as a way of negotiating livelihoods. Noting a new use of bioregioning as a verb, it seeks to clarify what bioregioning is and how it reworks bioregionalism for contemporary environmental movements. In doing so, I address questions of what practices are involved in bioregioning? What critiques does it make of the world and what solutions does it propose? This question is primarily addressed in Chapter 3 through an exploration of bioregionalism in the literature. This theoretical answer is developed through my empirical research on Bioregioning Tayside and the Casco Bay bioregion (in Chapters 5-7).

Research question 2: How does bioregioning problematise discourse of place and what new narratives does it offer?

My second research question tackles the critiques and solutions offered by bioregioning in greater depth, in the context of Casco Bay and Bioregioning Tayside. It focuses on the ways in which bioregioning conceptualises place as both a process and as a material context, and how this opens up the possibility of politics. In Chapter 5, I examine how bioregioning problematises the dominant narratives of place. I demonstrate how the groups used 'Story of Place' and 'Learning Journeys' to reshape how they understand their bioregion, mobilising Gibson-Graham's (2006) politics of collective action.

Research question 3: How does bioregioning produce new subjectivities for ecological livelihoods?

Question three is concerned with how bioregioning changes the ways that people understand themselves and others that they share a place with as part of socio-economic-

ecological negotiations (Barron, 2020). It asks how bioregioning activates different individual and collective subjectivities as the foundation for more ethical and sustainable socio-ecological relationships and livelihoods. What enables this resubjectivation? What pushes back? Chapter 6 responds to this question, drawing on Gibson-Graham's (2006) politics of the subject.

Research question 4: What forms of collective action are being realised through bioregioning?

Question four explores how bioregioning is applied in practice through a politics of collective action (Gibson-Graham, 2006), and how this is specific to the places and networks that it is situated within. Chapter 7 explores how Bioregioning Tayside and Casco Bay are beginning to act collectively in new ways to negotiate more ethical ecological livelihoods.

2.5. Conclusion

In this chapter, I have set out the ways in which the question of how we can live well together have been approached in geography and postcapitalist literature. I argued that this question has two key axes, one which is concerned with the relationship between environment, society and the economy, and the other which is concerned with scale, place and community. In relation to the first, I drew on work that troubles the relationship between economy, environment and society as discursive categories that shape how we enact livelihoods. Miller (2019) provokes the question of what a politics of ecological livelihood (as the outcome of autopoiesis, alterpoiesis and allopoiesis) might look like in practice.

Building on geography's concern with spatial politics, I noted the shift towards relational understandings of scale, place and community. This creates an opening for understanding place-based projects to foster more sustainable livelihoods as meaningful sources of alternatives and radical critiques of power. However, it also risks decentring the material and non-human aspects of place that also shape human livelihoods.

Bioregioning offers a way to examine these questions together, through its focus on living sustainably in place (see Chapter 3). I concluded the chapter by introducing the four research questions that this thesis asks about bioregioning, and the theoretical framework that I mobilise to answer them, to contribute to the debates outlined in this chapter. These research questions seek to affirm bioregioning as a productive project, and also highlight what those involved in bioregioning might learn from.

In Chapter 3, I turn to the literature on bioregional thought in order to position bioregioning as an environmental movement. I also introduce the Casco Bay bioregion and Bioregioning Tayside, the case studies that inform this thesis.

Chapter 3. From bioregionalism to bioregioning

> "Bioregioning: from verb 'to bioregion'; act of bringing your bioregion into existence through:- grounding, connecting, celebrating, belonging" (Tyler, no date)

The quote above is one of the earliest uses of bioregioning that I have found. It is from a blog titled *Bioregioning: co-creating my local bioregion along the south west coast of Scotland*. The post itself is not dated, but comments date back to 2015. Tyler (no date) defines bioregioning as a verb. At first this definition appears straightforward, but it is also somewhat slippery. Bioregions, as this chapter will go on to explain, are ecological units of space: bio (relating to life) + region (a spatial area). So, what does it mean to bring a place (that you already live in) into existence?

This chapter aims to explain what bioregioning is to firstly contextualise the remainder of the thesis, and secondly, to go some way in addressing my first research question: What is bioregioning and to what extent does it challenge the spatial critique of bioregionalism? To do so, it traces the history of bioregional thought and explains how bioregioning builds on, and departs from, these roots.

Bioregionalism is the foundational eco-philosophy that has given rise to bioregioning. Section 3.1 therefore outlines the roots of bioregionalism and the critiques that have been made of it. Section 3.2 suggests some of the ways that bioregional thought has developed in response to these criticisms. It then suggests how bioregioning has become a

contemporary expression of these ideas. Finally, section 3.3 introduces the two case studies of bioregioning: Casco Bay bioregion and Bioregioning Tayside.

Throughout this thesis, I use the term 'bioregional thought' to describe the whole body of thought and practice that use the bioregion as their foundational concept. *Bioregionalism* refers to the earlier versions of this eco-philosophy, and *bioregioning* is the contemporary articulation used by the case study groups.

3.1. What is bioregionalism?

Bioregionalism is a body of thought that understands the planet as divided into distinct ecological regions, or *bioregions*, and advocates for reconnecting people with the places in which they live as a strategy for ecological restoration (see Hubbard *et al*., 2023). The term "bioregionalism" was first used in 1974, but the idea can be traced back to 1960s California (Gray, 2007). Bioregionalism gained traction with the popular essay by Peter Berg and Raymond Dasmann, *Reinhabiting California* (2015 [1977]), which conceptualised the bioregion as a spatial unit and described the bioregion of Northern California. It then sets out an agenda for 'living in place'.

Menser (2013) argues that bioregionalism operates on two dimensions. First, it is a form of interdisciplinary knowledge that begins with the idea that the Earth is structured into unique bioregions. Each bioregion has "rough boundaries [that] are determined by natural characteristics" (Sale, 1991, p. 55). Early bioregionalists focused on watersheds as a way of delineating bioregions, largely because this was a core concern in the west coast of the USA where bioregionalism was being conceptualised (Cato, 2012). Some authors continue to use this definition (for example, Parsons, 2013; Ryan, 2012), situating bioregional thought within related watershed movements (Schlager and Blomquist, 2008; Woolley *et al*., 2002) but other geographical and ecological features, such as keystone species and elevation, can also be used to characterise bioregions.

For example, Thayer (2003) and Sale (1991) point to watershed as only one way, amongst many potential ways, of defining bioregions. Bioregions, in these understandings, can be defined by any of the surface features that form coherent territories in a particular place. Furthermore, the boundaries themselves may be blurred or overlapping:

> *"Now, one rather interesting thing about all this is that when you start to look closely at how nature is patterned—and I have spent a considerable amount of time doing this for North America in the past few months—you discover that you are dealing with something*

> *almost, appropriately enough, organic. For just as bioregions normally merge with one another without hard-edged boundaries, so they overlap and even subsume one another in a complex arrangement of sizes depending upon the detail and specificity of natural characteristics"* (Sale, 1983, no page number)

Hubbard et al (2023) and Wearne et al (2023) outline how the movement to the concept of 'bioregioning' represents a shift even further from an eco-philosophy based on watersheds to a social movement focused on the process of change.

The bioregion is also not solely determined by non-human nature. Berg and Dasmann (2015 [1977]) note that a bioregion also must make sense in terms of the identity of those that inhabit it and their knowledge of the territory, or 'terrains of consciousness' (Sale, 1991). The boundaries of bioregions, then, are subjective and open to contestation (Meredith, 2005), drawing on lived experience of place as well as non-human boundaries. Hubbard *et al*. (2023) and Wearne *et al*. (2023) demonstrate that different conceptualisations of bioregions have been mobilised over time, geographies and disciplines (Appendix A and B).

The second dimension of bioregionalism is a normative framework that:

> "aims to reintegrate the economic, political, and sociocultural spheres according to the norms of ecological sustainability, social justice, and human well-being through the concept of place" (Menser, 2013, p. 441)

The aim of bioregionalism, as laid out in *Reinhabiting California*, is to live sustainably in place. This means "following the necessities and pleasures of life as they are uniquely presented by a particular site, and evolving ways to ensure long-term occupancy of that site" (Berg and Dasmann, 2015 [1977], p. 35). It is a form of sustainability, rooted in place, in which human communities form part of a flourishing ecosystem. For bioregionalists, the bioregion is the logical unit for "a sustainable, regenerative community to take root and to *take place*" (Thayer, 2003, p. 3, original emphasis).

Reinhabitation is the key strategy offered to living in place and is a foundational concept in bioregional thought. As Glotfelty and Quesnel (2015) write, "to 'inhabit' implies fitting into and being a part of a habitat, a living place composed of plants, animals, organisms, soil, water, landforms, and climate" (p.2). Reinhabitation, then, is a process of learning to live in ways that are specific to the particular bioregion. Building bioregional consciousness is the cornerstone of reinhabitation, involving learning about the ecological relationships (Berg and Dasmann, 2015 [1977]), fostering an aesthetic appreciation of the bioregion (Ryan, 2012), and developing a communal identity (Aberley, 1999). Love for the particular nature of your

bioregion is thought to foster a sense of responsibility, and the knowledge of the ecosystems and land is thought to enable effective stewardship (see for example, Gilbert, Sandberg and Wekerle, 2009; Thackara, 2019).

As well as understanding human culture as specific to place and inspired by the ecosystems they are situated within, reinhabitation calls for bioregional communities (or 'ecotopias', as Bookchin, 1982 describes) to follow principles of self-rule, communal land and self-sufficiency (Toro, 2021). These values of just and less exploitative ways of living extend to the land itself. Berg and Dasmann (2015 [1977]) compare living in place to *making a living* through the exploitation of the land. This is often compared to Indigenous livelihoods. Drawing on Indigenous cultures as examples of local adaptation (Wiebe, 2021), in bioregional texts reinhabitation is often described as 'becoming native' (Berg and Dasmann, 2015 [1977]; Glotfelty and Quesnel, 2015)[23]. 'Becoming native' signals a sense of belonging to place, knowledge and stewardship of that place, and a way of living that is context-specific and durable.

Bioregionalism, in other words, is both a claim about the way that the Earth is structured, and a set of principles about how we should live in it (Menser, 2013).

3.1.1. Roots

It is worth taking some time to situate bioregionalism within the particular social context in which it was initially thought. The publication of *The Limits to Growth* (Meadows and Club of Rome, 1972) had profound impacts on radical green thinking. The report was based on early computer models of demographic growth and resource consumption and argued that the Earth's carrying capacity was on the verge of being surpassed. Despite being criticised for sparking neo-Malthusian politics and ignoring the issues of distribution and social justice (for example, Harvey, 1974), this text affirmed the central belief that there are limits to growth, and that technological solutions would not enable the realisation of continual growth in a finite system (Dobson, 2007).

Limits to Growth was quickly followed by the publication of another key text, *Small is Beautiful: Economics as if People Mattered* (Schumacher, 1973). *Small is Beautiful* argues that the economy should improve human happiness and wellbeing, but instead economics "takes precedence over all other human considerations", with increased wealth only making it more difficult to do "worthwhile things" (p.67). Schumacher rallies against the "idolatry of

[23] Section 3.1.3 explores how this concept has been problematised.

gigantism" (p.49) in economic and big technological responses and instead calls for a recognition of the "virtue of smallness—where this applies" (ibid)[24].

There was also a growing radical green movement (for example, the direct action of Earth First!) underpinned by radical ecological politics (Wall, 2015). This movement was characterised by a critique of reform environmentalism's 'shallow' ecology, and the growing deep ecology movement (see Bookchin, Foreman and Chase, 1991)[25]. It drew inspiration from texts like Rachel Carson's *Silent Spring* (1962), and others that emphasised the relationships between humans and the Earth. For example, this included Wendell Berry's writing on the connection between people and land (for example Berry, 1985)[26], and Aldo Leopold's *Land Ethic* (1949) that called for a shift from understanding ourselves as members of a wider biotic community (*the land*) and extending our ethics to that community.

Murray Bookchin was one such thinker that significantly influenced bioregional thought. Inspired by Kropotkin's concept of mutual aid, Bookchin argued that species are best understood not through individual evolution, but rather how they have evolved in complex interdependent and dynamic relationships (Bookchin, Foreman and Chase, 1991). The diversity of these 'eco-communities', as he calls them, "opens increasingly *new evolutionary pathways*, indeed, alternative evolutionary directions, in which species play an active role in their own survival and change" (Bookchin, 1986, p. 31, original emphasis). Bookchin's shift from deep ecology to what he termed *social ecology* (see Bookchin, Foreman and Chase, 1991) argued that ecological problems were caused by hierarchical and exploitative human societies (Bookchin, Foreman and Chase ,1991). Bookchin (1974) called for 'ecological societies' that were modelled on the eco-communities that they are located within. Decentralisation of production tailored to the carrying capacity of different bioregions was a route for more ecologically sustainable living as well as a way for humans to reconnect with ecological sensibilities (Bookchin, Foreman and Chase ,1991).

Bioregionalism is a confluence of these ideas, particularly deep ecology and social ecology. It offered a way to connect humans to the finite natural resources that they use (located in

[24] The last three words here are crucial. Schumacher does not advocate solely for 'small' approaches. Instead, he argues that bigger isn't inherently better, and that small approaches *can* be more appropriate.

[25] For Bookchin, the idea that humans have dominion over nature is linked to the rise of social hierarchies. The development of 'hierarchical sensibilities' was transferred to the natural world, and thus ecological crises have deeply social roots (Bookchin, 1982).

[26] In a conference presentation, Berry (1996) proposed the question "What will nature permit us to do here?" This resonates with bioregional thought which begins with asking what forms of inhabitation are possible and desirable in the context of particular ecological places.

physical places), sustained a critique that human relationships to ecology were exploitative, and finally it drew inspiration from nature as ways to organise society, mapping human communities to ecological and geographical patterns.

3.1.2. The bioregional critique of the economy

Despite having shared roots with many environmental movements of the time, including similar arguments about the inherent link between human economies and ecology, bioregionalism can be differentiated by its particular spatial critique. The concept of the bioregion provided a framework for drawing the environmental thought outlined above together into a normative vision of society. In doing so, its economic and ecological critique centres on the spatial politics of human societies.

Rather than focusing on class relations (as in a Marxist critique), or the impossibility of decoupling of GDP growth and resource use (as in a degrowth critique), bioregionalism is concerned with the ways that people are disconnected from the places in which they live. This could be through the homogenising effects of capitalism (Evanoff, 2011), or the role of the state as a spatial formation that both cannot respond to the needs of specific ecosystems or address the premise of hierarchy and domination that underpin exploitation (Toro, 2021). This has certain effects that are of interest to bioregionalists.

Firstly, the lack of connectedness to place results in the loss of knowledge of the ecosystems and natural cycles of particular places. Plumwood (2008) describes this as a dematerialisation of place. Dematerialisation allows us to place increasingly unrealistic demands on the Earth and erases “the agency of the more-than-human sphere… [and] justifies appropriation” of non-human labour (Plumwood, 2008, p.142). This lessens our ability to act responsibly and prevent exploitation of local ecosystems (Wahl, 2016).

Second, this cognitive separation from the places that we live reduces love and care for that place. Instead, we might feel a responsibility to human concepts of place, like towns, nation-states and so on, rather than the material conditions that support our livelihoods. Reconnecting to place transforms the relationship between humans and nature, creating a greater sense of responsibility (Ryan, 2012). As Plumwood (2008) writes,

> “Love can develop capacities for perception and sensitivity that might otherwise be stunted, and can provide a basis to spread its virtues of attention, compassion and care to a wider field. Love for a specific earth place can provide a basis to care for other (similar) places” (p. 143)

Many environmental thinkers outside of bioregional thought have also argued that fostering love and connection to place can be a strategy for generating stewardship behaviours (for example Cockburn *et al.*, 2018). Sense of place is a similar concept that has been mobilised as a strategy for adapting to ecosystems changes (Masterson *et al.*, 2019).

Third, the loss of connection to place produced by arbitrary human boundaries results in a development paradigm that relies on the growth of the global market to solve environmental and social problems (Glotfelty and Quesnel, 2015) and the homogenisation of culture and political systems (Evanoff, 2011). As well as resting on potentially flawed assumptions (see for example Raworth, 2017), bioregionalists argue that this is the transposition of particular (usually western) modes of thinking. As Gibson-Graham writes, "'development' is the historical experience of capitalist industrialization in a few regions that has become a description of a universal trajectory and a prescription for economic and social intervention in all the world's nations" (Gibson-Graham, 2003, p. 52). This creates homogenised economic and political subjects (Evanoff, 2011), and a devaluing of alternative pathways for development (see for example Escobar, 2001). In contrast, bioregionalism and bioregional governance "not merely tolerates but thrives on the diversity of human behaviour, and the varieties of political and social arrangements they give rise to" (Wahl, 2017).

For bioregionalists then, the target of action is to reconnect people with place, move the scale of decision-making to the scale of the bioregion, and focus on providing a quality of life for humans (Cato, 2012; James and Cato, 2014) and more-than-human ecologies (see for example ross, 2019). This fundamentally reshapes the logics of the economy and can be understood as powerfully anticapitalist in the sense of following non-market principles, and non-capitalist in terms of class relations by fostering communal economic practices.

3.1.3. Critiques of bioregionalism

Bioregionalism has attracted a range of criticisms, from questions about its strategic approach to troubling ethical concerns about cultural appropriation and environmental determinism. Many of these could also be criticisms of deep ecology more broadly. However, bioregionalisms approach to place has also attracted particular scepticism.

One critique of bioregionalism is that it draws on romanticised imaginations of place. For example, some have criticised the ways in which it appears to call for a return to some romanticised rural idyll that perhaps never existed (Cato, 2012). This rural imaginary also negates the experience of environmental degradation and political injustice in urban areas (Menser, 2013), or places that are less beautiful or easy to love (Plumwood, 2008).

Romanticised imaginaries of place also risks generating the reactionary understandings of place that Massey (1991) problematises (see Chapter 2). This results in forms of place attachment that are not dissimilar to those with the nation-state (Anderson, 1983).

This line of thinking could also be extended to the ways in which bioregionalism takes inspiration from Indigenous ways of living in ways that represent such Indigenous livelihoods and ontologies as singular and unchanging. This not only could be understood as a form of epistemological violence that erases complexity and plurality of Indigenous place-work (Larsen and Johnson, 2016), but also undermines bioregionalism's argument that human communities adapt and change in conjunction with ecology (see Chapter 7).

Others have argued that bioregionalism is inherently inward looking, and therefore ill-equipped to deal with global challenges (Whatmore, 1997, 2009). Centring action at the scale of the bioregion does little to transform the global systems which drive climate change for example. Plumwood (2008) goes further to argue that bioregionalism generates even greater 'false consciousness of place'. Her critique pivots around the idea that the "dematerialisation in commodity culture engenders a false consciousness of place" (p. 139). By dematerialisation, Plumwood means that we become increasingly separated from the material conditions that support our lives (as explained in Section 3.1.2) For Plumwood (2008), the dematerialisation of place can be increased, rather than mitigated, through bioregionalism.

First, a focus on a singular homeplace means that privileged nations and places can neglect or deny their impact on other places that materially support their livelihoods. Plumwood (2008) adds that focusing only on our 'singular homeplaces' can mean that we disregard "the many unrecognised places that provide the material support of self, most of which, in a global market, are likely to elude knowledge and responsibility" (Plumwood, 2008, p.146), or what she terms 'shadow places'. In this sense, bioregionalism produces new forms of remoteness (see Chapter 2) from the consequences of our livelihoods. Second, it erases the non-human sphere which justifies appropriation by intensifying commodified relationships, allowing even greater exploitation.

The tendency to call for self-sufficient, autonomous communities that are organised around the specifics of place also raises political concerns such as narrow mindedness (Meredith, 2005), and worse, environmental determinism (Olsen, 2000). Sale's (1991) definitions of bioregions is often used to demonstrate this (Ryan, 2012). Sale (1991) writes that bioregions could be mapped along the lines of "the human settlements and cultures those attributes have *given rise to*" (p. 55-56, emphasis added). Here, it is implied that human cultures are

determined by the places that they live (Olsen, 2000). This, in combination with ideas of bioregional carrying capacity which are evident in some texts (see Gilbert, Sandberg and Wekerle, 2009), can have problematic political manifestations'[27].

Perhaps most pertinently, bioregionalism has been condemned as inherently colonial. Bioregionalism often involves the appropriation of Indigenous knowledge and practices in its search for examples of locally adapted livelihoods (Wiebe, 2021). Even more problematically, there is a tendency to situate Indigenous people and their practices as "forerunners rather than contemporary agents, thereby leaving up to the current possessors of the land to reinstitute their paradigm" (Wiebe, 2021, p.139).

The strategy of reinhabitation, and 'becoming native' points towards a coloniality of thought. The language of 'becoming native' risks erasing all other claims to Indigeneity (Wiebe, 2021)[28], and lays claim to future imaginaries of place. Both this language and the normative aim of bioregionalism of living sustainably (or persistence of occupation) are concerned with ensuring futurity. Returning to Berg and Dasmann's (2015[1977]) definition of living in place, their aim is to "ensure *long-term occupancy* of that site" (Berg and Dasmann, 2015 [1977], p. 35, emphasis added). In colonised places, this assumption of settler futurity makes decolonisation impossible (Tuck and Yang, 2012)[29]. At best, it offers a politics of reconciliation, which "leaves the status quo intact… without any loss of white privilege" (Wiebe, 2012, p. 149).

Bioregional thought has been therefore heavily criticised, including by geographers (see for example Whatmore, 1997, 2009). Yet bioregionalism is not a static body of thought. Through its 40 years of history, bioregionalism has been reinterpreted in response to the critiques above, and has taken on a range of different influences and emphases (Hubbard *et al.*, 2023). The following section outlines some of the key shifts in thought and reflects on its most recent expression as bioregioning.

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[27] It is important to note here, as Olsen (2000) writes, there are key differences between bioregionalism and forms of right-wing ecology. Bioregionalism's critique of the nation-state and its democratic roots mean that it does not reach the anti-immigration conclusion of right-wing ecology.

[28] Interestingly the book *Braiding Sweetgrass* (Kimmerer, 2020), which offers an Indigenous perspective on bioregioning also calls for 'becoming Indigenous' as a strategy for ecological restoration (find page number). However, this strikes a different tone as it is written by a member of the Citizen Potawatomi Nation, rather than from settler communities in North America. Equally, for Kimmerer (2017) this does not mean claiming the identity of being Indigenous.

[29] Plumwood (2008) questions whether in colonial cultures, attachment to place can mean anything other than the commodification of land, and a false consciousness of place that ignores downstream effects.

3.2. Changing meanings and influences

Despite the criticisms explained in section 3.1.3, bioregional ideas have persisted, often changing in response to those criticisms. For example, recent bioregional work has applied the ideas in urban settings, arguing that bioregional understandings could be even more relevant in such places where connection to ecology is weakened and that urban areas may make more coherent units for participatory governance, localisation of consumption and production (Fanfani and Duží, 2018; Fanfani and Rovai, 2022). Church (2015) for example provides a model for how bioregionalism could inform sustainable urban development which goes beyond adding nature back into cities to transforming the relationship between people and their environment. Similarly, Thackara (2019) argues that bioregioning is not about "leaving home to live in a yurt" (p. 22) but reconnecting the urban and the rural through recentring ecological relationships.

There have also been visions set out for cosmopolitan bioregionalism (Snyder, 2010; Kossoff, 2019; Crist, 2021), which values the exchange of knowledge, ideas, music and art (Gray, 2007). This recognises that total self-sufficiency is limited by the permeability of boundaries and unequal distribution of resources (Sale, 1991), and that there is value in cultural exchange (Gray, 2007).

In a similar vein, Molly Scott Cato (2011, 2012) has advocated for bioregional economies as a form of local economy that both centres the material realities of what can be produced in a place, and enables ethical cooperation between places (James and Cato, 2014, 2017). For Cato (2012), the bioregional economy would enable the negotiation of power and resource distribution between places; foster the development of different forms of identity that are not based around capitalist subject positions, and challenge the objectification of nature.

Plumwood (2008) has offered 'critical bioregionalism' which would move away from a focus on a singular homeplace to an understanding of all the places that "grow you" (Plumwood, 2008, citing Neidjie, 'Story', p. 166). This form of bioregionalism would extend our spheres of care and responsibility to 'shadow places' (Plumwood, 2008). Other critical approaches include Indigenous bioregionalism (ross, 2019), as well as the potential for decolonial bioregionalism (Wiebe, 2021).

Finally, Gilbert, Sandberg and Wekerle (2009) have attempted to show how bioregionalism encompasses a spectrum of politics, rather than a singular dogmatic approach. In their study of Oak Ridges Moraine, Gilbert, Sandberg and Wekerle (2009) identify three 'currents' of bioregional thought. The first is an eco-centric current, which draws on deep ecology

principles and concepts like carrying capacities. Decentralised self-rule is a key aim, as small-scale communities are deemed most accountable and responsive to carrying capacities. The second is a scientific managerial current, in which the interventionist role of humans is central, and bioregions are constructed as biophysical units for intervention and management (Gilbert, Sandberg and Wekerle, 2009). Finally, there is a socio environmental current. This draws on themes from the environmental justice movement in recognising the contradictory and competing claims of actors in the bioregion (Gilbert, Sandberg and Wekerle, 2009, p. 391). It goes beyond protecting the ecological integrity of a place (that can verge on NIMBYism) in the ecocentric currents and focuses more on the modes of domination that shape the environment than the scientific-managerial currents (Gilbert, Sandberg and Wekerle, 2009).

These different reworkings of bioregional ideas show a continued interest in the concept of bioregions. This inspired me and a group of PhD researchers and bioregional practitioners to map in detail the ways in which bioregional thought has been reinterpreted across time and geographies (published in Hubbard *et al*., 2023 and Wearne *et al*., 2023; see Appendix A and B). Section 3.2.1 outlines our findings, and how this contributes to the arguments put forward in this thesis.

3.2.1. Three tendencies of bioregional thought

Hubbard *et al*. (2023) reflects on how bioregional ideas had been reworked over time. This paper identifies three tendencies of bioregional thought: an ontological tendency, a critical tendency and a processual tendency. Each of these tendencies were more prevalent at various times, however, they are not necessarily distinct movements.

Hubbard *et al*. (2023) finds that, particularly in early bioregional writing, there was an ontological tendency in which the bioregion was understood as a naturally defined unit. Ecologically coherent and unique, in this perspective bioregions can be objectively mapped. With this comes an implicit assumption that human culture is arranged along bioregional lines, and thus inherently connected to ecological and landscape.

Understanding bioregions as ontological scales has several effects (Hubbard *et al*., 2023). It tends to support a strong eco-centric discourse which decentres humans by proposing "that human identity may be constituted by our residence in a larger community of natural beings— our local bioregion— rather than, or at least supplementary to…, national, state, ethnic, or other more common bases of identity" (Lynch, Glotfelty and Armbruster, 2012, p. 4). It also situates the bioregion as the appropriate scale for sustainable human

communities, and thus its aim is to adopt regional scale governance systems (see Berg & Dasmann, 2015[1977]), self-sufficient communities (Toro, 2021) or bioregional economies (Cato, 2012). It is this ontological tendency that has generated most of the criticisms outlined in Section 3.1.3.

Second, there has been a critical tendency which responded to concerns about the interdependencies between places and the power relations embedded in those relationships (Plumwood, 2008). Moving away from the bioregion as a particular scale, the bioregion becomes all of the places and ecosystems that support our lives. Within this tendency is the recognition of bioregional place as narrative which dissolves the bioregion as an ontological unit, but reinstates it as an epistemological one (Cheney, 1989; Hubbard *et al.*, 2023). This tendency of bioregional thought moves the target of action away from a single strategy of reinhabitation. Instead, it centres more on the analysis of power, and approaches more akin to those of ecological footprints (see for example, Plumwood, 2008).

Finally, Hubbard *et al*. (2023) identifies a more recent and emerging processual tendency. Adopting the more-than-human concern of ontologising ontological tendencies, and the political provocation of the critical tendencies, *bioregioning* (as a verb) is being mobilised to place an emphasis on the process, rather than the ends, of change (Thackara, 2019; Bioregional Learning Centre, no date; Bioregioning Tayside, no date b). Bioregioning differs from previous interpretations of bioregional thought by its focus on the 'doing' of bioregional work and the complexities this raises, rather than offering a theory of change through reinhabitation (Hubbard *et al*., 2023).

It is puzzling that, within bioregioning, the specificity of the bioregion is being troubled[30], and even rejected entirely (Hubbard *et al*., 2023). Why use the language of bioregioning, with its distinguishing foundation of the bioregion, if the specific scale and content of bioregions does not matter? This, alongside a seemingly resurgent interest in bioregional ideas[31], prompted an empirical investigation into contemporary bioregional thought (Wearne *et al*., 2023, see Appendix B).

Wearne *et al*. (2023) found that the idea of bioregions, even in loosely defined forms, satisfies a range of motivations. It offers a way of understanding and communicating

[30] This has also been noted by Ryan (2012), who found a confusion about the term bioregion in the literature.

[31] For example, one theme of the Transformations 23 conference was dedicated to bioregionalism; there is a new thematic network for the UArctic on bioregional planning; the UK Bioregional Community of Practice being established through the UK Bioregional Learning centre, as well as the groups that are the focus of this thesis.

human-nature interdependence. The provocation offered by early bioregional thought, that human communities are part of wider ecological systems, remains a key attraction. However, this understanding has responded to different movements in the social sciences (Wearne et al., 2023), drawing on ideas from socio-ecological systems research (Folke, 2006; Folke *et al.*, 2007, 2011; Masterson *et al.*, 2019); biocultural diversity (Maffi, 2005); ecological literacy and ecological design (Orr, 1991), and biophilia (Wilson, 1994). The idea of the bioregion continues to resonate with these different literatures.

The concept of the bioregion also gave practitioners a sense of agency (Wearne *et al*., 2023). The bioregion is a more-than-local scale at which individual and collective actions could have a tangible impact, without requiring global transformation. This enabled practitioners to act in ways that were not only about managing individual consumption, or in relation to abstract global concepts (Wearne *et al*., 2023).

Finally, the bioregion is a concept that is capacious enough to act as a boundary object (Star and Griesemer, 1989). For example, it allowed participants to think about place as well as scale, and to disagree about boundaries but still work productively together. This is expanded upon in Chapter 7; however, Wearne *et al*. (2023) argue that bioregioning's more agnostic approaches to boundaries and focus on the process of change enables action without consensus.

3.2.2. Bioregioning

Building on Wearne *et al*. (2023) and Hubbard *et al*. (2023), I argue that rather than treating boundaries of place as settled matters, bioregioning is the "act of bringing your bioregion into existence" (Tyler, no date). The shift towards the language of bioregioning, and away from bioregionalism, invites a collective remaking of the bioregion, with humans nurturing systems and engaging in the ongoing process of 'co-becoming' with place. Drawing parallels with commoning (Linebaugh, 2008), shifting to the verb 'to bioregion' emphasises the process and practices of bioregional strategies, rather than the outcome of living bioregionally (such as autonomous bioregional communities, or localised bioregional economies).

However, by conserving the concept of the bioregion, bioregioning maintains a connection to the earlier movement's commitments, including to connection to specific places, and action within specific ecological configurations (Wearne *et al*., 2023). This circularity keeps questions of how boundaries are defined, who and what belongs, and the relationship between place and identity in tension. It at once rejects essentialist understandings of the

bioregion, and yet holds a space open for the particularity of place. This creates the opportunity for progressive understandings of place (such as those proposed by Massey, 1991, see Chapter 2).

Thinking about bioregioning in this way enables it to be refracted into three parts. Firstly, bioregioning brings the bioregion into existence discursively. Developing the spatial critique of bioregionalism, bioregioning points to the ways that human boundaries (political and ontological) prevent ecological livelihoods. It offers new ways of thinking about how land, human and more-than-human communities are co-produced. This is addressed further in Chapter 5, where I outline how bioregioning subverts discourse of place as a critique of power and to open new spaces for politics.

Second, bioregioning brings the bioregion into existence in the mind. The key aim of bioregionalism is bringing human communities into alignment with ecology by recognising interdependence and understanding ourselves as members of ecological communities (and extending our care and ethics to those communities). Bioregioning shifts the focus to an ontology of becoming, in which interdependence is always being remade and negotiated. Chapter 6 gives examples of how bioregioning generates new forms of collective subjectivity.

Finally, the normative goal of bioregioning is to bring the bioregion into existence through a spatial strategy of enacting care for the places we live, and by reducing the remoteness of our livelihoods. This argument is developed in Chapter 7, where I describe some of the forms of collective action that are being enacted to bring bioregional livelihoods into existence.

As Wearne *et al*. (2023) discuss, bioregioning is being expressed differently across geographies and political positions, and varying in scale and strategy. Wearne *et al.* (2023) note that in some contexts there remains the far-right ecological tendencies noted by authors such as Olsen (2000). Benoist (2024) has pointed to bioregionalism as a form of far-right localism that is growing in popularity in France. Some places, like Australia, have experimented with state-led forms of bioregionalism (Thackway and Creswell, 1995). There are also long-standing bioregional projects including the *Planet Drum Foundation* in San Francisco. Founded by Peter Berg, *Planet Drum* has led bioregional education courses and produced bioregional publications since 1973. Networks of local bioregioning projects, including *Earth Regenerators*, *COBALT* (Collaborative for Bioregional Action Learning and Transformation) and the *UK Bioregional Community of Practice* (UKBCOP), attempt to draw together small-scale community projects (like Bioregioning Tayside). Some such projects have well developed governance structures and funding streams; for example *The River Dôn*

Project in South Yorkshire has a range of funders and partners in academic, government and private sectors.

This thesis builds on this analysis of bioregioning as a global discourse, to understand how it is applied in practice. The following chapter introduces the two examples of bioregioning at the centre of this thesis: Bioregioning Tayside and the Casco Bay Bioregion.

3.3. The case studies

This thesis examines bioregioning in two case studies: the Casco Bay bioregion and Bioregioning Tayside. These two sites are 3000 miles apart, and neither are the bioregion that I live in. However, they are interesting sites to explore my research questions because both have actively developed a bioregional approach during 2020-2023, sometimes independently and sometimes in collaboration with each other.

Both Bioregioning Tayside and Casco Bay bioregion are small-scale community projects. As the following sections go on to explain, during the course of my research, Bioregioning Tayside began to formalise their governance as a Community Interest Company (CIC). However, at the beginning of the research, Bioregioning Tayside was a voluntary community group that participated in the UKBCOP and the work of COBALT. The Casco Bay bioregioning project emerged through the work of COBALT.

In this chapter, I introduce both bioregions. I begin with my own experience of them, and the sense of place that I developed during my time spent with the groups. I outline some of the key contexts needed to make sense of each site and tell some of the history of both groups to the point that my research began. In doing so, I introduce some of the key participants that feature in the following chapters.

Alongside these case studies are other groups and people that are not part of Bioregioning Tayside or Casco Bay bioregion, yet they are also part of this story. The Bioregional Learning Centre in South Devon, and its founder Isabel Carlisle is one of them. Isabel has worked with both case study groups, as well as coordinated the UK Bioregional Community of Practice that has brought together many people interested in bioregioning across the country. Equally, John Thackara and Daniel Christian Wahl and their writing on bioregioning has underpinned and inspired a lot of this work.

3.3.1. The Casco Bay bioregion

Miller writes, “Maine is a particularly good place to think with when it comes to economy, society and environment” (2019, p. xix). For Miller, this is not just for its reputation based around wildness, but also for its self-image of ‘a place apart’ from the wider USA, and thus its potential for political rearticulation (2019). Maine’s state slogan is ‘The way life should be’, which seems an apt challenge for experiments in living well in place.

There is another reason that Maine, and Casco Bay specifically, is useful to think with. It is situated in the Gulf of Maine, one of the fastest warming ocean systems (Seidov, Mishonov and Parsons, 2021), which I felt acutely during my time there. During my visit, one of the hottest temperatures ever was recorded in Portland, one of the major cities in Maine and the largest city in the Casco Bay bioregion.

Casco Bay is home to nearly one in five Mainers, the bay itself supports over 18,500 jobs and contributes $704 million through aquaculture, tourism, shipping and fishing (Friends of Casco Bay, no date). Casco Bay was named an “estuary of national significance” and supports over 850 species of marine life, including commercially valuable species such as oysters and clams (Casco Bay Estuary Partnership, no date). Maine has cold, snowy winters and mild summers, with winter average temperatures of 15- 25 °F, and summer average temperatures of 60-70 °F Runkle and Kunkel, 2022). The coastal areas of the bioregion are somewhat warmer, due to the influence of the Atlantic Ocean.

Figure 2: A map of the Casco Bay bioregion (Casco Bay StoryMap, 2021).

Casco Bay is bookended by two lighthouses, the light at Cape Elizabeth in the South and Cape Small in the North. Inland, the bioregion stretches to just south of Bethel. Within the

bay are hundreds of islands, known as the calendar islands due to the fact that there is roughly one for every day of the year. Few of these islands are now inhabited year-round, but they were once key settlements. The forest and ocean formed the basis of colonist economies when European settlers arrived in Maine, and island settlements gave access to fishing grounds (Weaver, 2020)[32]. With the railroad and then the building of Route 1, peninsular towns and islands became less significant settlements (Weaver, 2020). They were used as military forts until the end of World War II (Beem, 2015). On Peaks Island, Battery Steele, an abandoned gun emplacement, acts as a reminder of this past. The 300m of thick concrete tunnels, now covered in graffiti (see Figure 2), and surrounding land was bought up by a community organisation, the Peaks Island Land Preserve, in order to protect it from development (Peaks Island Land Preserve, no date). It now is a conservation site, kept open to the public for recreation.

During my time in Maine, I visited several of the islands, but my experience of the bioregion centred on the mainland in the city of Portland. Portland (and its neighbour South Portland) is the urban centre of the bioregion, and Maine's largest city. The deep water of Casco Bay prevented freezing even during the harshest winters (Weaver, 2020), making Portland historically an important shipbuilding site. Interestingly, Portland's waterfront remains a working waterfront, having resisted the encroachment of condominiums and hotels. On one side of the street sits Portland's tourist centre, with gift shops, restaurants and bars, yet across the street fishing boats come in, and only marine industries line the waterfront. There is public access, but far from the cleaned up and accessible waterfronts you might expect, instead there are ropes, lobster traps and boat refuelling stations to be navigated. Far from being a happy accident, this is the result of a citizen referendum in 1987 in which residents voted to block non-marine development on the waterfront, and ongoing activism by the Waterfront Alliance (Groening, 2022).

Saltmarshes, forests, beaches and rocky inlets surround the city. Standing at the saltmarsh next to the Presumpscot River, we see Ospreys diving and grabbing fish, carrying them away in their talons (see Figure 3). A sturgeon jumps out of the water and George tells me that the coming full moon is known as a Sturgeon Moon. This is a name given by Indigenous Americans, referring to the abundance of sturgeon at this time of year (Native Knot, no date).

There is, of course, an Indigenous history of Casco Bay. It is the ancestral land of the Abenaki, Maliseet, Mi'kmaq, Penobscot, and Passamaquoddy people, and at least 16 other

[32] Where possible, I have drawn on locally written histories, for example the Island Journal, a community run journal focusing on the Islands of Maine.

tribes that were decimated by colonisation (Sockbeson, 2011). Much of this history is told by white anthropologists, so I draw on the history given by Sockbeson[33] (2011) in her dissertation about Waponahki[34] epistemology and policy making in Maine.

Waponahki means 'people of dawn', the people who were there from the beginning. It is also the collective name for Abenaki, Maliseet, Mi'kmaq, Penobscot, and Passamaquoddy tribes who form the post-contact political alliance of the Wabanaki Confederacy. Waponahki economies were based around reciprocity between tribes, with subsistence hunting and fishing. The English colonists arrived in the 1500s, devastating the Waponahki through war, genocide and forcing children into residential schools. By the 1880s, Waponahki economies had been forced to shift to a greater reliance on basket-making, logging and construction. Severe poverty in the 1950s generated large scale off reservation migration, and further destruction of Waponahki communities. Yet Sockbeson (2011) shows how despite colonists' efforts, Waponahki epistemology and ontology have persisted and continued to inform policy making in Maine.

For Casco Bay, finding new ways to live that are socially just and that address the rapidly changing environment is an urgent need. However, it is one that is complicated by the competing claims and imaginations of place.

COBALT

The bioregioning project in Casco Bay is led by COBALT, the Collaborative for Bioregional Action Learning and Transformation[35]. COBALT is led by George, a key participant in this research. George's roots are in community-led ecosystem restoration of marine environments, and this is where his journey towards bioregioning began. He couldn't understand why people kept coming back again and again:

> "I sort of stumbled into the reality that when people engage and are invited to engage in restoration of natural systems, they start to see themselves differently, they start to see themselves as healers of the earth. And that has sort of an unbelievable transformative power" [George, interview]

[33] Sockbeson, University of Alberta, describes herself as a "Waponahki scholar, mother, and community member" (2011, p. 2).
[34] Sockbeson (2011) uses the name 'Waponahki', however, more commonly the spelling 'Wabanaki' is used. Where I am referencing Sockbeson's work, I use the spelling Waponahki, and elsewhere in the thesis I use the spelling Wabanaki, as used by the Wabanaki Confederacy.
[35] Throughout this thesis, I use COBALT to refer to the organisation and its work across bioregions, but the Casco Bay bioregion to refer to the bioregioning project specific to the bay.

For George, this experience of seeing people develop biophilia (Wilson, 1994) began to form links in his mind about the role of internal and external transformations. The restoration of ecosystems had profound impacts on the people that he worked with and encouraged stewardship behaviours. But it left a key question unanswered:

> "A key question was what does a 3-hour visit mean for stewardship behaviour? And we studied that and found that within about 6 weeks that experience really goes back to baseline, whatever inspiration that they had goes away. It's an ephemeral feature" [George, interview]

This was a challenge for George. How could you expand this experience so that people built deep and meaningful relationships with the ecosystems that they lived in? And how could these relationships be translated into transformation of the whole system?

> "The area that I felt was really in dire need was really trying to deeply listen to people in coastal communities and to help guide pathways forward that are *their* pathways with sort of multidisciplinary systems, complexity and informed ways of thinking, but to really have it be their plan, their vision, not some expert from away parachuting in" [George, interview]

This combination of fostering connection with place and nature, community-led solutions and systems-thinking that birthed COBALT and inspired the Gulf of Maine 'transformation transect'. This transect draws on a road network that spans from Cape Cod to Nova Scotia to act as "a lens into the nested nature of ecosystem governance across an urban to rural region that can illuminate how government, civil society and market forces can create positive momentum to respond to ecosystem change in coastal regions of the Gulf of Maine" (Page *et al.*, 2021). The bioregion, as a spatial unit that enclosed systems and linked them to the people that lived there, followed as a key unit of analysis.

I first spoke to George in 2020. At the time he was running 'Story of Place' workshops with bioregioning groups across the world. He had just finished running the course, that Bioregioning Tayside had participated in, and was about to launch a second cohort. These workshops mapped out the history of the bioregions each group was situated in through the lens of the three forms of governance, and importantly the 'green shoots of change'.

> "You can spend a lifetime doing this looking back and asking how did we get where we are? So, you can't spend a lifetime there. But what you can do is ask some key questions, and a lot of it is around power and governance and issues of how has

> power been expressed, and we look at it in terms of three dimensions and the language we use is around governance" [George, interview]

The three dimensions of governance that George describes are the market, civil society, and the government. George's framework involves understanding how ecosystems have been managed in different ways through these lenses of governance (I explain how the concept of governance is mobilised in Chapter 5):

> "It's as if things start to click and you begin to see "ah I really get it, I get why this has been a force of colonialism for so long, I get why this has been da da da" … so all this great discovery happens, but what is also essential is that we then do what we then call 'crossing the bridge'" [George, interview]

Crossing the bridge involves imagining how the bioregioning could be managed differently. It involves inventorying the 'green shoots of change', the transformative projects already underway, and working to leverage them to change the 'systems'.

One strategy for this is learning journeys. Learning journeys are programmes of events in which participants travel around the bioregion visiting these different projects. In August 2022, George ran the Casco Bay Bioregional Learning Journey. This was the largest learning journey George had ever delivered. Over 5 consecutive days we visited over 20 projects and places in the bioregion. The learning journey was framed around seagrass, and how seagrass might be used as an indicator for bioregional health (see Chapter 5). In this thesis, I use Casco Bay Bioregion to refer to this work specifically, and COBALT when I am referring to the work outside of the bioregion.

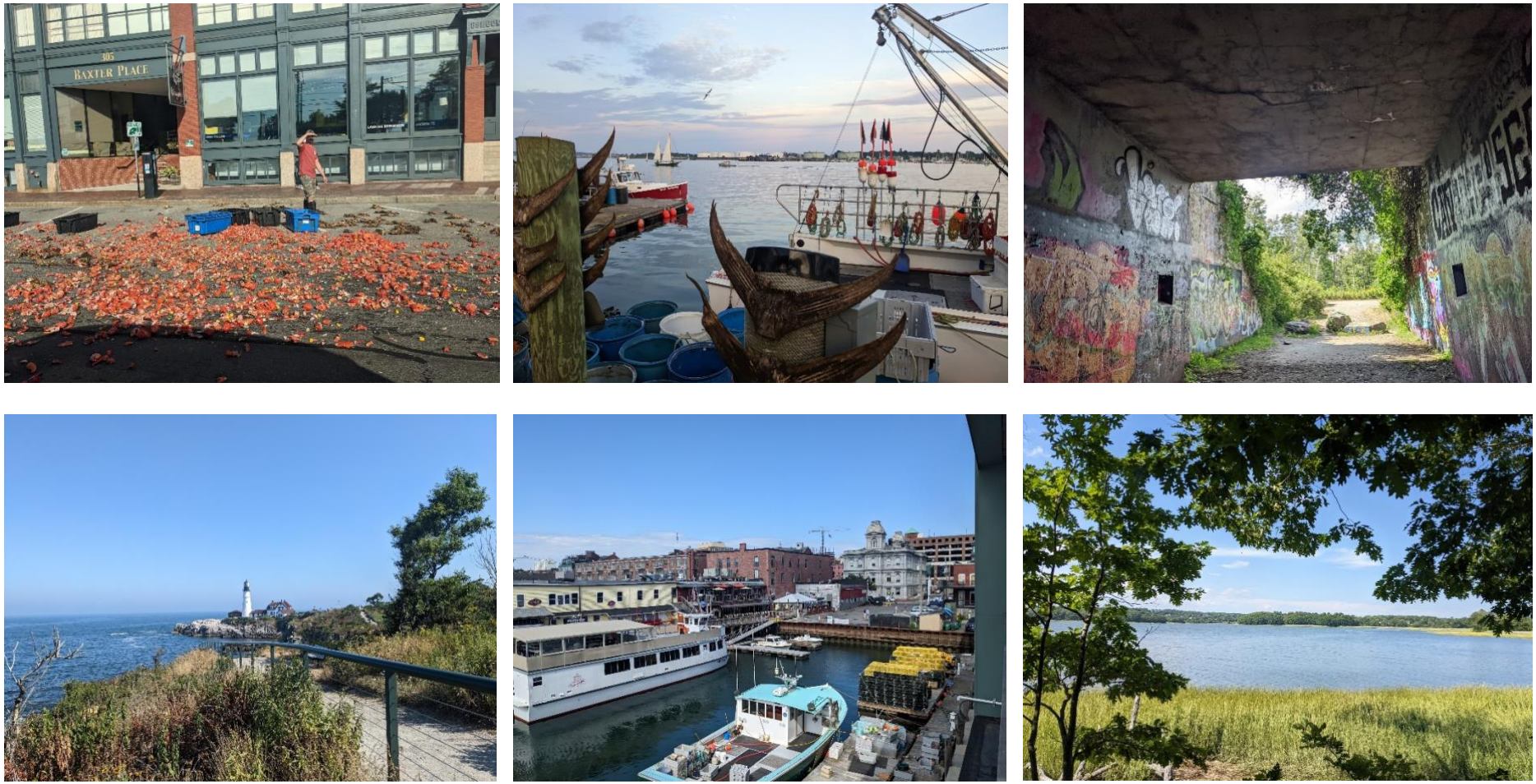

Figure 3: Images of Casco Bay (All author's own). Top left: A man spills a truckload of lobsters on the road between old town and the working waterfront at rush hour. Top middle: A view of Casco Bay from the waterfront, with tuna fins in the foreground. Top right: Battery Steele on Peak's Island, covered in graffiti. Bottom middle: a view of the working waterfront, with fishing boats and the ferries to the Calendar Islands. Bottom left: The Portland Head Lighthouse in Cape Elizabeth, a famous lighthouse that was the subject of an Edward Hopper painting.

3.3.2. The Tayside bioregion

The second case study is some 3000 miles away. It is Tayside, the watershed of the River Tay. When I imagine the bioregion, it is as I saw it from the top of Alyth Hill. The first time I did this walk, it was a windy November day. It's a steep walk to the top of the hill, passing first through community woodland, which plays an important role in Bioregioning Tayside's story, and then gorse scrub. In the early afternoon, the sky is made up of blues, greys and lilacs that graduate to yellows and pinks along the horizon. Across the valley is a patchwork of farmland greens, and the trees in the valley are red, orange, brown and dark green.

Figure 4: Photo of Alyth Hill commonty (Author's own)

The top of the hill is marked by a plaque reading "THE COMMONTY OF ALYTH HILL. OWNED FOR AT LEAST 600 YEARS *AND FOR ALL OF TIME* BY THE PEOPLE OF ALYTH" (original emphasis, see Figure 4). From this point you can see a large area of the bioregion including Strathmore, the Sidlaw Hills and the Cairngorm mountains. About 3 miles away is the Bamff Estate, a rewilding project in which wild boar and beavers have been reintroduced.

The bioregion is defined through the watershed of the River Tay, but is a diverse landscape with marine, inland, upland and lowland environments. The northern edge of the bioregion falls along the south of the Cairngorms, including the Spittal of Glenshee, moving southward to include Kirriemuir and Forfar, reaching the coast just south of Arbroath. The southern border runs along Kingsbarns and Lochty in a relatively straight line until Gleneagles. The westernmost border reaches just beyond Loch Ericht, Loch Rannoch and Loch Tay, with the furthest points being Ben Lui.

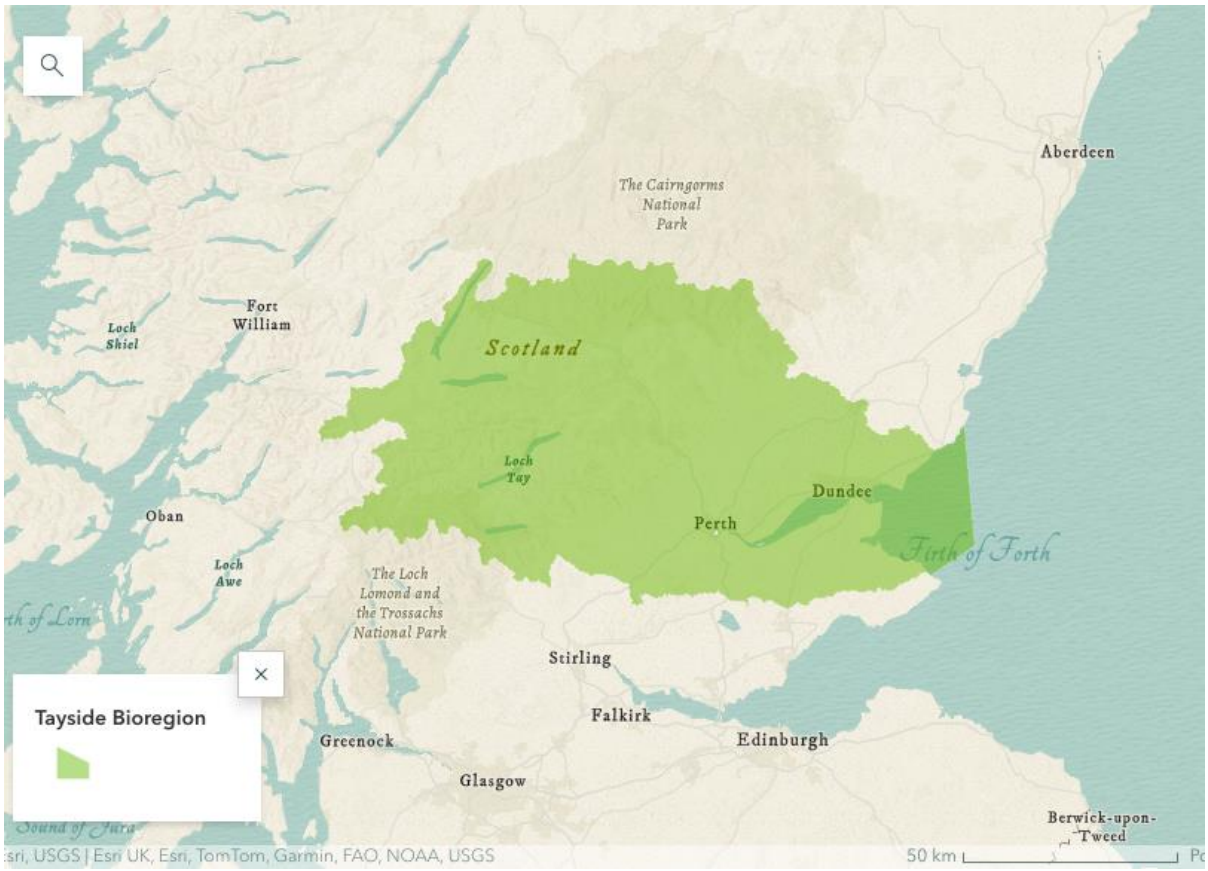

Figure 5: A map of the Tayside Bioregion (AberTatha StoryMap, 2021)

Tayside has a population of roughly 400,000. It is largely rural, but includes the cities of Dundee and Perth. The mean annual temperature is 9℃, but with cold winter temperatures allowing skiing in areas such as Glenshee (Met Office, no date). Despite its shelter from the rain-bearing Westerly winds, Tayside is still relatively wet compared to the rest of the UK, with over 1500 mm of rainfall annually (Met Office, no date).

From Alyth Hill, the Highland Boundary Fault is visible through the subtle shifts in topography. The bioregion is bisected by this geological fault line that separates the Highlands from the Lowlands. This is not only a geological rift, but a cultural divide (Graves, Villano and Cooper, 2021). South of the rift, the softer sedimentary rock enabled agriculture and feudal land ownership structures. North of the boundary, the hard rocky landscape and

harsher conditions were more dominated by clan structures. Linguistically, the boundary also represents a shift from English and Scots to Gaelic for much of Scotland's history.

Once, Pictish languages were spoken here. The Picts were people of Iron Age civilisations that lived in Northern and Eastern Scotland, and therefore much of the Tayside bioregion. In Meigle, the east of the bioregion, a large collection of Pictish sculpted stones tell the history of King Arthur and Guinevere (known locally as Vanora). Meigle is also home to Vanora's mound, where legend states that King Arthur's wife Guinevere was buried. On my journey to Alyth, Carol took me to these sites, explaining this early history and mythology of Tayside.

Carol had picked me up in Dundee which, although being the most populated area within the bioregion, has a different feeling. The first site you are met with as you exit the station is the new V&A museum, which looks out onto the River Tay. This is the centrepiece of a £1 billion regeneration of the waterfront, which was once an important whaling port. I'm told that Dundee is known for the three Js: Jute, jam and journalism. Jute is a fibre which comes from India, but when treated with whale oil (which Dundee had in abundance) it was possible to spin to make cheap, strong and versatile textiles. Jam refers to Keiller's marmalade, which was created after a ship of bitter Seville oranges came into Dundee port and became the world's largest marmalade producer in the 19th Century. Publishers of The Beano and The Dandy, DC Thomson, made journalism one of Dundee's most well-known exports.

The landscape of the bioregion cannot be fairly discussed without reference to the history of land in Scotland. "Historically specific forms of discourse that naturalise the form of land ownership, landscapes and practices of the current sporting estate system" (Toogood, 2003, p. 154) have been naturalised as 'The Highlands'. Furthermore, Scottish identity more broadly came to be associated with symbols of the Highlands, including tartan and kilts (Womack, 1989). As Toogood (2003) argues, this iconography of Scotland as large estates and 'wild' landscapes has symbolic force because it creates the notion of a place where it is possible for the rich to buy 'wilderness' and enact the elite Highland lifestyle of golfing and hunting.

The concentration of land ownership in the Scottish Highlands is rooted in the 18th and 19th century land shifts from small-scale and communal land ownership to large estate ownership known as The Clearances. The Clearances were a colonising process of forced evictions, the imposition of different agricultural practices and social disenfranchisement that replaced crofting townships with large sheep estates (Toogood, 2003).

However it is important to note that crofting itself is not a customary form of land ownership (Toogood, 2003; Mackinnon, 2019). *Dùthchas* (which is also a term used to describe a sense of clan belonging and identity to territory and community) was a form of land tenure that preceded crofting. It was likely made up of communal arable and grazing land and inherited trusteeship of land (Mackinnon, 2017). Crofting was created as part of the enclosure of commons and in defiance of *dùthchas*.

In Tayside, these histories of land ownership still shape politics and environmental management (see Chapter 5). Here, living sustainably in place requires a form of thinking that makes a critique of power and land ownership.

Bioregioning Tayside

Bioregioning Tayside is best understood as the confluence of several projects. Whenever participants spoke about the history of the group, it was always in the context of their individual and collective projects that unfolded into the form of Bioregioning Tayside. The first was Cateran's Commonwealth, an arts and heritage project that aimed to introduce people to the cultural assets of the Cateran trail, and to understand the importance of building commonwealth for "social, economic and environmental sustainability" (Cateran's Common Wealth, no date).

The second was the Storybox project. This was supported by Cateran's Commonwealth and focused on the social and cultural history of Alyth. The project recorded 265 stories from the community which could be played back through a disused phone box:

> "It's centred on the phone box as instead of being somewhere where you talk to somewhere else, it was somewhere it was a portal through which you get into voices of the community" [Marie, interview]

Stories of the past and present came from community groups and the archives, and children from the primary school told stories of how they imagined the future. Together, they told a story of how the town had been shaped. As Marie worked on the Storybox project she also ran her distillery which uses Scottish botanicals, to bring forgotten botanicals back into use. She also was working to rewild and restore the farmland on which she lives.

Cateran's Commonwealth laid the foundation for the Cateran Ecomuseum. Ecomuseums are 'museums without walls' that focus on the identity of places by exploring heritage within landscapes (Graves, Villano and Cooper, 2021). The Cateran Ecomuseum was the second Ecomuseum in Scotland, the other being situated on Skye (Graves, Villano and Cooper,

2021). Carol brought the idea to life, mapping the heritage and environmental points of interest on the Cateran trail, and animating them throughout the year with events. The Ecomuseum boundaries are not the same as the bioregional boundaries, but the museum shares an approach to understanding the natural and cultural landscape together and, importantly, using this knowledge to imagine more regenerative futures.

These different projects wove together to start building bioregioning Tayside. During 2020, the group participated in a *Story of Place* workshop with COBALT. This course introduced the concept of bioregioning. Over several months, the group researched the history of the Tayside and mapping projects that they considered to be regenerative. This was where the concept of bioregioning was established for the group. It was a conceptual framework that tied together these different projects and approaches - it was capacious enough for the cultural heritage as well as ecological, and oriented towards change.

After the learning journey, Carol drew together the histories they had produced to create a massive timeline of climate history in Tayside. It is fifty metres long and two metres tall, with bright colours and images (see Figure 6). It was displayed in the centre of the town, on a fence alongside Alyth Burn. The timeline captured the imagination of the community when the burn flooded. The water level rose until it lapped against the bottom of the timeline. For a short while, it became a kind of ironic vignette that was shared on social media.

My involvement with the group began after their completion of the Story of Place workshop in 2020. In 2022 they held a series of learning journey events and began a project mapping the citizen science taking place in Tayside. The group began to formalise their structure in 2022 by registering as a Community Interest Company (CIC), in a bid to manage flows of funding more formally.

Figure 6: A photo of the timeline in Alyth (Author's own). The waterline from the recent flood is visible.

Figure 7: Photos of the Tayside bioregion (Author's own). Top left - A view of the bioregion from the Highland Boundary Faultline. Top right – Vanora's Mound in Meigle. Bottom left – A map of the Tayside habitats in the University of Dundee botanical gardens. Bottom right – The V&A, Dundee.

3.4. Chapter conclusion

This chapter has given an overview of bioregional thought, outlining its critiques and how it has shifted over time, taking on new emphases. This not only has helped to situate the work of the two case study groups in this research within the history of bioregional environmental movements, but it has also gone some way in addressing my first research question: What is bioregioning and to what extent does it challenge the spatial critique of bioregionalism?

By explaining its roots, I have outlined that bioregioning builds on a body of bioregional thought that provokes us to consider the material places that we live and the more-than-human Others that we share it with. Bioregioning, then, builds on bioregional thought by maintaining the provocation that we live in material places, which are shaped by actually existing non-human processes and livelihoods.

Yet, bioregioning is different from bioregionalism in a key way: it does not offer a single strategy for change. Instead, bioregioning orients action towards collectively negotiating what it means to live in specific places and reworking human societies (including ways of thinking about the world) to generate more ecologically sound relationships. Bioregioning moves away from an ontological understanding of the bioregion, instead understanding the bioregion as the outcome of ecological relationships that are always being remade. This differs from more essentialist forms of bioregionalism (Hubbard *et al*., 2023) that can lead towards environmental determinism in the conceptualisation of the relationship between humans and nature, and that understand bioregions as ontological categories rather than epistemological frameworks.

Bioregioning, as Tyler (no date) writes, is therefore a process of bringing the bioregion into reality. This has three parts. One is about reimagining the concept of place in ways that situate it as the contingent outcome of multispecies lives, and as shaped by (and shaping) other places and scales. The second is bringing the bioregion into existence in the mind, as something that makes us as well as being made by us, extending spheres of care and responsibility. Finally, it is about bringing the bioregion into existence as a place that supports livelihoods, and that is cared for by those that live there.

Finally, I conclude this chapter by introducing Bioregioning Tayside and Casco Bay bioregion as two projects that are using this approach as a way of making sense of complex place-based concerns. Throughout this thesis, these case studies continue to contribute to the question of ‘what is bioregioning?” by exploring how it is being practiced in place. In the

following chapter, Chapter 4, I explain my methodology by explaining how I approach Bioregioning Tayside and Casco Bay from a community economies perspective, as well as the methods I used to conduct the research.

Chapter 4. Researching Bioregioning

This thesis is based on empirical research conducted between 2020 and 2022 with Bioregioning Tayside and the Casco Bay bioregioning project. In this chapter, I outline the participatory methodology that I used to address the research questions raised in Chapter 2. I explain the methods I used and, perhaps more importantly, I reflect on my personal approach to conducting the methods and interpreting the data as a political intervention.

It is first important to clarify that my research aims to "energize and support" the activities of people engaging in building other worlds (Gibson-Graham, 2008, p. 618). Rather than solely mapping out bioregioning, cataloguing the different forms it takes[36], this affirmative approach[37] seeks to make bioregioning efforts "credible objects of policy and activism" (Gibson-Graham, 2008, p. 613). My methodology reflects this commitment. Therefore, this chapter begins by setting out a politics of research inspired by community economies scholarship and outlining how this orients my methodology.

The second key factor that shaped this methodology was that researching bioregioning demands a sensitivity to place and context. This is perhaps the central challenge for the design of my research: to conduct research into 'bioregioning' in ways that remain sensitive

[36] Although that is not to say that such work of recording and archiving is not important. As Zanoni et al. (2017) recognise, "archivization always performs specific realities in the present that are working to bring about a specific future" and archiving is to "bear witness to oppressive and exploitative power relations and their historical articulation and pain, but also to the desires for joy, for solidarity, recognition, equality, and self-determination" (p.580).

[37] An affirmative approach does not mean that I avoid critique, as set out in Chapter 2. Following Gibson-Graham (2008), I avoid making critiques that equate imperfect practices and strategies with failure. Instead, it is about providing opportunities to learn, to "clarify particular forms of collective world-making" (Miller, 2013b, p. 5), and to constitute openings for alternatives.

to the kind of place-based understandings that the concept itself calls for. This is a tension that I do not fully resolve.

The idea of the bioregion brings us down to Earth, asking us to be open to experiencing place. It follows that my research took me to the Tayside and Casco Bay bioregions. However, this coincided with the COVID-19 pandemic. I was instead confined to my *own* place, over 300 miles from Tayside, and 3000 miles from Casco Bay. Unusually static for much of the research, pragmatic decisions and new ethical considerations structured how I approached the research. Section 4.2 explains the methods that I used, and how I adapted them in this context. It describes the 160 hours of participant observation and a series of interviews conducted between 2020 and 2022.

I then explain the reflexive thematic approach to data analysis. This approach complemented the relational approach to knowledge production of both my literature review, and the groups themselves. This reflexivity follows through to the concluding section of the chapter. Building upon the ways that this shaped my data collection and analysis, it discusses how I leverage this position from where I am located in the academy (Gibson-Graham, 2008).

4.1. Research approach

Researching community initiatives requires being with the community and experiencing the project that they are building. As Taylor Aiken (2017a) writes,

> "We cannot just be in a tangle of social ties… all the while remaining detached, observant, unaffected, and 'neutral'. We need ourselves to have access to what that bond feels like, and why (or why not) it motivates one to behave, participate or act in certain ways. Researchers need to be within the community, not just amongst it". (p.21)

To do this, methods need to be able to grasp the experience of being inside a community project, attending to everyday lives and relations (Taylor Aiken, 2017a). Spending time with groups, not only observing but acting *with* them, in mundane, everyday ways as well as critical and spectacular moments, is essential to making sense of them (Hodkinson, 2009; Watson and Till, 2010; Mason, Brown and Pickerill, 2013).

Such approaches could be broadly defined as participatory. However, this umbrella term houses a range of different epistemologies, techniques and motivations for research.

Activist (or even militant[38]) research (see for example Taylor, 2014; Mason, 2015; Routledge and Derickson, 2015) aims to fulfil both academic and political ends by acting collectively with social movements. Participatory action research (PAR) works with groups to generate action-oriented knowledge, drawing on the emancipatory pedagogy of Freire (1970). Ethnography can also be understood as participatory, either through the researchers' approach of following along with everyday life (Watson and Till, 2010) or for its role in producing that which it describes (Clifford and Marcus, 1986).

There are, then, a great deal of small-scale approaches that involve spending time with groups that are the focus of research, and therefore it is helpful to outline those with which I share epistemological and political orientations. In the following sections, I expand on my main theoretical influence of community economies research on my methodology, and then situate my research approach as one of co-production.

4.1.1. Community Economies research approaches and methods

In Chapter 2, I drew on the community economies literature as a key theoretical influence on this research. Motivated by the possibilities offered by its performative ontology and its destabilisation of discursive categories that demarcate space for political action, I suggested how this line of thought could be mobilised in thinking through bioregioning. It makes sense to therefore turn to this body of research as a touchstone for my methodology.

The challenge posed by the diverse economies approach is threefold (The Community Economies Institute, no date). First, it is to develop a language of a diverse economy, challenging capitalocentrism and making visible the economic diversity that already exists. Second, it is to activate ethical economic subjects, through making interdependency visible and opening spaces in which economic relationships can be negotiated. Finally, it is to imagine and enact collective actions that foster community economies, meaning economic relationships that actively negotiate questions of how to live well together. Given that a core theoretical contribution of Gibson-Graham (2008) has been a performative understanding of research as a force that constructs the world, and the complicity of academia in capitalocentrism (see Alhojärvi, 2020), these are fundamentally methodological challenges.

[38] For example, Bresnihan and Byrne (2015) use the term 'militant research' in their study of Dublin's common spaces.

There are two theoretical components of the community economies approach that respond to the challenges above. The first is an ontology that places research as a site of co-production and possibility, rejecting epistemological realism. Although we tend to associate realism with the natural sciences, Roelvink (2020) points out that critical left scholarship also has a tendency towards epistemological realism in its aim to "get to the 'root' of social issues" (p. 453). Rather than proposing a methodology that will enable researchers to produce stable, generalizable conclusions (Law, 2004), community economies methodology is designed to understand nuance and actively generate postcapitalist possibilities (Gibson-Graham, 2008). The politics of research is therefore placed at the centre, recognising that research "is not an innocent or distant academic exercise but an activity that has something at stake" (Smith, 2022, p. 5).

Community economies research goes even further through its performative ontology, arguing that research shapes what is possible (Gibson-Graham, 2008). This requires a fundamental shift from analysing what is known and instead relating to the unknown (Roelvink, 2020). Thus, for methodology, the key question is how research interventions can produce possibilities, without knowing in advance what they are. As Roelvink (2020) writes, "Thinking the unthinkable, and engaging with complexity and the unknown to create new possibilities, is what diverse economies methodology is all about" (p. 455).

To generate possibility through method requires an experimental approach (Roelvink, 2020). This experimental approach doesn't seek to determine if something is a success or a failure, or to make generalisable conclusions. Instead, it looks for lessons to share, and treats projects that succeed in place as a source of potential pathways for alternative worldbuilding.

The second contribution is a commitment to cultivating new economic subjectivities and catalysing social transformation through research (Gibson-Graham and Dombroski, 2020b). Drawing on theory of performativity (Butler, 1993), social life is understood as constituted through repeated discourses and practices, and that "social transformation occurs through the slippage and difference that result from repeated performances" (Roelvink, 2016, p. 158). Research is understood as one actant that constitutes social life (Roelvink, 2016).

Cameron and Gibson (Cameron and Gibson, 2005b, 2005a) use participatory action research (PAR) with a 'post-structural twist' as a way of generating new subjectivities. Hill's (2013) doctoral thesis is another example of research methods being used to cultivate new economic subjectivities. Her use of collective research practices supports collective

economic subjectivities and creates the opportunity for encounters between the human and more-than-human world (Roelvink, 2016).

Although it provides analytical tools, community economies research doesn't prescribe, or outright reject, particular research methods (Roelvink, 2020). Drawing on the concept of overdetermination (Gibson-Graham and Dombroski, 2020a), there is no assumption that any method is inherently positivist or inherently emancipatory. Community economies research draws on a range of methods and analytical tools to 'see differently' and make visible existing diversity (McKinnon, Dombroski and Morrow, 2018b). In community economies research, "methodology involves attending to the nitty-gritty of economic life" (Roelvink, 2020, p. 459). This often involves qualitative methods, involving thick description and weak theory, to produce performative rethinking of the economy (Gibson-Graham, 2014; Gibson-Graham and Dombroski, 2020a; Placino and Gibson, 2022) and to map 'terrains of practice' (Gordon, 2018).

As such, community economies research is place-based and context specific. It follows an understanding of social change as happening *in places* - mundane places, such around coffee tables and kitchen counters, connected through shared practices and a shared language of the economy (Gibson-Graham, 2006). However, this is not to privilege the local, as understood through a local/global binary (Roelvink, 2020), despite the use of 'community' in community economies, which is often conflated with localism (Gritzas and Kavoulakos, 2016). In fact, community economies research has placed significant emphasis on disrupting the local/global binary, for example showing that the 'global' is "a projection, on a world scale, of a local particularity" (Gibson-Graham, 2003, p. 52), following Massey's (Massey, 1991) understanding of place as continually under construction. What is important is the relationships that are established and maintained, not their scale (Cameron and Hicks, 2014), as shown in Chapter 2.

Following the above, there are two premises that have shaped my methodology. The first is an ontological and epistemological one: that research is a "process of co-creation and possibility" (Gordon, 2018, p. 210). By this, I mean that the researcher is as much part of the research as the 'data' in generating meaning, and in creating alternative ways of living well together (Gordon, 2018). I describe my approach to this as co-production, and outline this in the following section, Section 4.1.2.

The second is an ethical motivation, discussed in Section 4.1.3. If research shapes the world, then doing research comes with greater responsibilities than a procedural understanding of ethics (Guillemin and Gillam, 2004) suggests. In designing my

methodology, I had to consider more broadly how my research contributed to my participants and their efforts at worldbuilding, and think through what it meant to be useful (Taylor, 2014).

4.1.2. Co-production

PAR is commonly used in community economies research, although with a post-structuralist twist which draws on an anti-essentialist conceptualisation of the subject and an understanding of all knowledge making as political (Cameron and Gibson, 2005b). Examples include Gibson-Graham's (Cameron and Gibson, 2005a; Gibson-Graham, 2006) use of PAR in their study of economic development in the Latrobe Valley, Victoria, to mobilise positive affective experiences to generate new economic subjectivities for ethical development.

PAR lends itself to community economies research for several reasons. The community economies approach aims to act as a tool for bringing about justice, and a way for academics to offer social movements support in building alternatives (Roelvink, 2016). This is in line with PAR's action and learning components (Freire, 1970), and its focus on generating new subject positions. As Taylor Aiken (2017a) outlines, PAR has a flat power hierarchy, an ethical commitment to building better worlds for participants, produces rich data, and its 'learning by doing' approach means that it can grasp the experience of community.

Through my fieldwork, I co-theorised and collectively enacted bioregioning. However, I situate my research as co-production rather than PAR. Co-production is the weaving together of research and practice through the involvement of diverse societal actors (Chambers *et al.*, 2022) to produce knowledge that isn't just inclusive of different worldviews, but actionable by participants (Campbell *et al.*, 2016). Co-production is increasingly being mobilised in transformation initiatives because of its potential to contribute to societal transitions by "shifting the institutional arrangements that govern relationships between knowledge and power, science and society, and state and citizens" (Wyborn *et al.*, 2019, p. 319). However, it is often more closely associated with policy design and delivery compared to other participatory research approaches such as participatory action research (PAR), which are more often used in activist research.

As a research practice, co-production is closely related to PAR (Horner, 2016; Wakeford and Rodriguez, 2018). Both work with participants throughout the research process, from defining problems to disseminating findings (Horner, 2016). At the centre of these approaches is the recognition of knowledge "as a shared resource, jointly generated and

publicly owned" (Miller, 2006, p. 14). They therefore involve valuing different forms of knowledge and decentring of the academy as the locus of knowledge (Horn *et al.*, 2018). This means that the researcher is no longer simply a neutral observer, but equally, the research is more than "simply a collection of data drawn from the goodwill of movement participants as research subjects" (Gillan and Pickerill, 2012, p. 138). Knowledge is created by both the lived experience of participants and the analysis of the researcher.

However, PAR tends more towards working with groups to solve specific issues (for example Stevenson, Baborska-Narozny and Chatterton, 2016), and involves participants taking charge in setting the research agenda (Pain *et al.*, 2007; Horner, 2016; Wakeford and Rodriguez, 2018). In contrast, co-production (whilst also focusing on shifting the locus of expertise) recognises the variability of participation (Clayton and Vickers, 2019). Although my research was highly participatory, it focused on generating and refining theory rather than solving specific problems defined by participants. I also approached my participants with broadly defined research questions, before working together to refine the questions to make them more specific to the context in which they were working, and to ensure that they were useful to them.

The intervention I tried to make was to nurture a better form of bioregioning, strengthening and building on the work of Bioregioning Tayside and Casco Bay Bioregion. This is a task well suited to co-production.

4.1.3. Ethical commitments

Through this research, I sought to follow the community economies politics of research in opening up the economy as a site of decision-making, and a space of potential for generating new modes of co-existence. This framing of research as a performative practice involves centring the politics of research (Roelvink, 2020). I navigated this by following three ethical commitments.

1. Treating participants as knowledgeable, and myself as implicated in the data

First, I understood the participants in the research as knowledgeable agents, and their own theories, concepts and ideas as meaningful ways of making sense of the world. This informed the way I approached interviews and participant observation (see Section 4.2).

Another way that I did this was through using the term 'activists' to describe participants, despite their actions being outside of the "'capital A' activism (Askins, 2009) associated

with direct action, road blockades and occupations" (Taylor, 2014, p. 306). This recognised the work that they were doing to create meaningful change, without putting them in the category of 'non-activist' that disempowers their actions or removes their agency.

In turn, I position myself as part of the data. As participants help to interpret meaning and build theory, I also shape the 'raw' data. My presence and participation with Bioregioning Tayside and the Casco Bay bioregion project were active, shaping their work. I reflect on this further in Sections 4.2.4 and 4.3.

2. Producing research that is affirmative and hopeful

Reflecting on the community economies understanding of research as performative practice, I focused on producing research that is affirmative of bioregioning, and hopeful about its potential. As Taylor (2014) writes, there is a risk that "academics wishing to research alternative economies unwittingly weaken them" (p. 308). This is both in terms of the imaginative possibilities that are constrained by critical work, but also immediate and tangible ways.

Mason, Brown and Pickerill (2013) argue that too much focus on critique can stall progress, and this felt particularly true of bioregioning. I am aware that bioregioning is a nascent movement. Searching it online yields few direct results, and therefore any writing I produce could be easily found by funding bodies or potential stakeholders. The work that I produce could easily foreclose opportunities for the groups that I work with if I focus on where their falls short.

Referencing Sedgwick (1993), Gibson-Graham calls for a 'weak theory' approach that refuses "to know too much" (p. 619). This centres on reading for difference, rather than dominance, to see the potential of alternatives rather than how they are doomed to fail in the face of capitalist totality. This is rooted in a standpoint that is caring and fostering alternatives rather than "subtracting diversity and possibility from the world" (Gibson-Graham *et al.*, 2019, p. 5).

I follow this approach in my research by focusing on the ways in which bioregioning proliferates opportunities for different modes of world building, rather than situating as a small and local response to a powerful, global capitalism. This begins with legitimising it as an approach and a movement.

This required thinking through ethics in practice, as well as procedural ethics (Guillemin and Gillam, 2004). In procedural terms, I worked with my participants to set out an agreement

about what my research would do and what was off limits. For example, one participant runs a business that interacts with their work on bioregioning. It was helpful to clarify what parts of their work I could include in the research, because some things could not be recorded to protect the intellectual property. In practice, I made decisions on the ground about what I would record and write about.

This commitment also informed my writing practice, making me considerate of how I framed tensions and challenges. This does not mean eschewing critique, but instead trying to do this in productive ways with the deliberate intention of strengthening bioregioning as a movement. Equally, I had to decide how to attribute quotes and ideas to protect confidentiality, but also credit participants who were creating theory.

3. Producing research that is useful

Finally, I focused on producing research that is useful. Taylor (2014) offers 'usefulness' as a way of thinking through the ways in which research contributes to social movements. This is a shift from thinking of 'activist research' as the only form of research that makes a difference, or directly intervenes in efforts to make change, which excludes those who are put off by "narrow notions of 'capital A' activism" (Taylor, 2014, p. 310).

As Gillan and Pickerill (2012) argue, much of the focus on ethics in researching activists calls for an ethics of reciprocity as a way of justifying research. Often this takes the form of immediate reciprocity. This is aiding the movement in some way, such as physically undertaking tasks that contribute to the activities of the group.

Although immediate reciprocity does not go a long way in redressing the power imbalances between researcher and participants (Taylor, 2014; Gillan and Pickerill, 2012), often my reciprocity was immediate. Participating in groups with extremely limited resources meant that frequently what was needed from me was an extra pair of hands. I helped film events, completed data entry tasks and took minutes at meetings. At times I had more resources at my disposal than participants and leveraging this offered instant solutions for the groups. For example, I offered the sofa bed in my accommodation for participants on the Casco Bay learning journey. This meant that not only did a participant have a place to stay, but the administrative burden of the hosts finding (and funding) appropriate accommodation was lessened. These actions were helpful, but their effects were short-lived.

General reciprocity, or producing knowledge that may come back to help the movement, is another form of reciprocity (Gillan and Pickerill, 2012). This draws on the argument that knowledge production in general benefits society, and thus the effects of this form of

reciprocity are wider and more durable. However, as Gillan and Pickerill (2012) argue, there should be efforts to make such knowledge directly useful to the groups that participated in its production.

I found that I was most useful in the space between these forms of immediate and general reciprocity. My participation helped to legitimise the work of the groups by consolidating bioregioning as a concept (Esper *et al.*, 2017). My writing helped to establish this early movement as reality, giving the groups something to point to in their bids for funding and relationships with stakeholders. Equally, by presenting my early analysis at their meetings, I helped to work through challenges, strengthening their project. I found almost immediately that I was expected to say what I thought, not just sit in the background. I came to understand this as a reciprocal process of theorising together.

4.2. Methods

I applied the co-productive approach and ethical commitments outlined above through the use of participant observation and interviews. I chose these methods for their ability to be applied in a co-productive approach, but also their status as 'traditional' social science methods. This made them familiar to participants and the academy, whilst being flexible enough to be mobilised in participatory and reflexive ways.

In sections 4.2.1 to 4.2.4, I discuss each of these methods in turn and explain how I implemented them with the Casco Bioregion and Bioregioning Tayside. Weaved through this narrative is the context of the COVID-19 pandemic, and how it intersected with the research process.

4.2.l. Participant observation

The majority of my data came from the 160+ hours of participant observation that I undertook between July 2021 and September 2022. This took place both virtually via attending online meetings and events, and face to face. During 2022, both groups held learning journeys. The Casco Bay learning journey took place over the course of one week in August. Bioregioning Tayside, in contrast, held a series of short events throughout the summer.

As well as attending the events and meetings of each group, I also participated in wider networks of the bioregional movement. I joined the monthly UK Bioregional Community of Practice meetings (organised through the Bioregional Learning Centre in Devon) and

participated in a Story of Place workshop over the course of seven months. This workshop was organised by COBALT (Collaborative for Bioregional Action Learning and Transformation) and involved building a bioregional profile of another bioregion in Massachusetts. This course gave me an insight into the process that both Bioregioning Tayside and the Casco Bay bioregion project had been through and helped me to build trust with them. Participating within wider bioregioning networks not only helped me to put the work into context, but it also became an opportunity to test ideas and share my research.

Most of my face-to-face participant observation took place on the learning journeys that each group ran (see Figure 8 for the number of participants involved in participant observation). These are described in more detail in Chapter 5, but it is also helpful to reflect on this in relation to my methods. Learning journeys involved spending intense periods of time in the bioregion. We visited different projects and places, listening and asking questions to try to piece together new ways of bioregional living that might be developing. In this context, neither myself as the researcher or the participants were the experts. We were on the same journey together. This opened up interesting opportunities to reflect together, showing how we had put together all of the information we had been given in different ways. Some of this we did in interviews, some came out in conversations over dinner or in the car, or in flurries of excited emails, and at other times there were structured group reflections.

Participants in Tayside Learning Journeys	
What will be on my plate in 2042?	19
Can Tourism Help Tayside #RaceToZero?	27
What will I do when the waters rise?	15
How can Participatory Science Bring New Solutions to Ecosystem Restoration	32
Feeding Tayside through the Climate Crisis	90+
Can your business help drive Tayside's net zero, nature positive economy?	14
Participants in Casco Bay Learning Journey	
Participants following the whole learning journey	26
Participants involved in wider learning journey activities (including *Taste of the Bioregion* meal, speakers and *Bioregional Feast*	100+

Figure 8: Number of participants in Learning Journey programmes.

As Crang and Cook (2007) note, the ethnographic approach of doing extended immersion with communities isn't always possible (or necessary) because communities can be spatially and temporally dispersed, coming together at certain times and places. In the case of Bioregioning Tayside and Casco Bay Bioregion, this was very much the case, not least a pandemic that prevented us from physically being together. Most members of the group were also involved in a great deal of other work and volunteering projects, and therefore my observations coalesced around periods of face-to-face activity, and virtual participation mixed in with my day-to-day work. As part of my participant observation, I also analysed documents produced by the groups. This included adverts for events, newsletters and reporting on their activities.

As Crang and Cook (2007) point out, the phrase 'participant observation' is oxymoronic, suggesting at once a deep involvement and relationships within a group, and a position of an outside observer. A great deal has been written about researchers as insiders or outsiders, and the various merits and challenges of each position. I conceptualised my role as neither insider nor an outsider. I came to the groups as a researcher rather than being involved with the projects prior to my research, so in that sense I was an outsider. But through the research process I engaged with the group, changing the work that they were doing and how they understood themselves. Esper *et al*. (2017) offer the term 'critically engaged scholar' to describe this. In their study of worker recuperated enterprises in Argentina, they codified the diverse roles played by academics. Alongside more traditional roles of theorisation, they argued that scholars brought 'theory into being' through critical performativity (p. 691). The role of critically engaged scholar is one that resonates with my approach.

Doing participant observation involved identity and relationship work (Mason, 2017). Identity work is about deciding what kind of role you are going to play and the impressions you create (Mason, 2017). Relationship work involves deciding how you develop relationships with participants, what boundaries you set and how you establish if you have been accepted (Mason, 2017). In both groups, key informants helped me to gain the trust and acceptance of the wider groups. As stated earlier, I used agreement documents to set boundaries and regularly reminded people why I was there, to ensure I didn't cross their boundaries. But outside of this more formal work I had to put energy into listening, being attentive and contributing, while sometimes tired, jet lagged or preoccupied with my own day to day life.

Although I built strong relationships in both Bioregioning Tayside and Casco Bay, this was not always easy to navigate. For example, after one meeting a participant called me to talk through frustrations with another participant. Wanting to be an ally to a key participant, and

genuinely wanting to be helpful and kind, whilst also not 'choosing sides' was difficult. I had to make on the spot decisions about how to manage the phone call, and whether these kinds of tensions could form part of my data or not.

I recorded my experiences, early analyses and emotional responses to moments like these in a research diary. I include excerpts from this in Chapters 5 to 7 to illustrate my arguments.

4.2.2. Interviews

As well as drawing on my own research diary I conducted interviews with key members of Bioregioning Tayside and the Casco Bay bioregion, and with participants of the events and activities that they have run between 2019 and 2022. Interviews have been both lauded as the gold standard of qualitative research (Braun, Clarke and Gray, 2017) and criticised for becoming a default methodology in an 'interview society' (Silverman and Marvasti, 2008; Braun, Clarke and Gray, 2017). Rather than using interviews to elicit information that I then accepted uncritically (Crang and Cook, 2007), I used interviews in this project because of my ontological position which sees that "people's knowledges, views, understandings, interpretations, stories and narratives … are meaningful properties of the social realities" that are the object of my research (Mason, 2017, p. 111). I understood the interviews as a site of co-construction of knowledge (Mason, 2002), and through the process of interviewing I worked with participants to develop meaning.

I conducted 17 interviews, all of which could be described as semi-structured, however, as will become clear in the following section, the degree of structure varied. While some interviews were planned in advance and followed a relatively detailed interview schedule, others occurred 'on the fly' and were guided by much looser schedules which I kept to hand for these occasions.

I interviewed key members of each group, including those that were group founders (George in Casco Bay, and Marie, Carol and Kate in Tayside). I relied heavily on recruiting on site, and as such none of the interviews were the only encounter I had with the interviewee. Each interviewee had met me before and the interviews drew on events that I had participated in, using questions such as, "I noticed that you did this, can you tell me more about that?" in order to develop my understanding. For key members of the groups, I conducted a series of interviews over time, some of which were group interviews. This iterative approach allowed us to reflect on different events and activities, as well as to develop our thinking over time.

While most participants lived in the bioregions, not all participants were local. For example Freija was a student visiting Casco Bay from Norway. In Casco Bay, the majority of interviewees were living in Maine and could be described as settlers. However some, including Mae, were from Indigenous communities in Maine. Eight of the interviewees were men, and nine were women. Ages ranged from 18 to mid-sixties.

COVID-19: Fieldwork mobilities

The reality of fieldwork in the midst of the COVID-19 pandemic meant that I had to take a pragmatic and opportunistic approach to interviewing. I conducted the majority of interviews online, using Zoom and Google Meet. The growing familiarity with online platforms for conversations enabled me to hold interviews from home, helping to reduce costs and time travelling, and to respond to the (often complex) schedules of participants. There were unexpected benefits of this. Meeting online created “a space that is both (more or less) private and familiar and accessible to the researcher, who nonetheless remains removed from that space” (Hanna and Mwale, 2017, p. 260). This space was removed from the group's activities and helped to define the boundaries between my research activities and their work. In this space we switched more reflective and critical modes.

When I travelled to the bioregions, this pragmatic approach manifested in different ways. Rather than stationary and planned, interviews were often spontaneous and mobile. For example, upon arriving in Tayside, Carol collected me from the station. On the drive to my accommodation, we naturally began to talk about the things that we were seeing and rather than taking the most direct route, we decided to do a spontaneous tour of the bioregion. The conversation moved between the history, geomorphology and mythology of Tayside.

However, this wasn’t a planned ‘go along’ method in which I followed participants on their usual routines (Kusenbach, 2003). This tour of points of interest was not part of Carol’s day to day experience of place, rather it was a compilation of sites that together helped her to explain what the Tayside bioregion is. This form of mobile interview therefore elicited a certain kind of talk.

These mobile interviews were clearly less structured, but also meant that I relinquished a great deal of control. Carol chose where to take me and the stories to tell, and my interview schedule only served as a prompt. In this sense, the co-productive element became more visible. We were working together as collaborators; rather than solely focusing on the things the participant noticed, often I was pointing out things that I was noticing, and we would talk about them together.

Throughout the research process, my relationship with participants was reconstituted through different forms of mobility. This shifting power dynamic was powerful for co-productive research. It meant that the relationship was always open to renegotiation.

4.2.3. Fieldwork Timeline

There were four distinct phases of fieldwork. These were defined by different forms of participation and in part shaped by what was possible given COVID-19 travel restrictions. Figure 8 records a simplified account of the key research activities I undertook.

The first phase was conducted remotely and involved online participant observation of the two case study groups. The focus was on understanding who they are, their key aims and objectives, and on building trust and rapport.

The second phase was characterised by initial face-to-face participation and opportunistic visits. When travel was possible, I joined the Casco Bay bioregioning group at the Arctic Circle Assembly 2021. At this conference, I met key members of the team and attended their session about bioregional planning. I also visited Tayside in the wake of COP27. Here, the group took me around several key sites in the bioregion and held an event in response to COP27 that I attended. During this trip, I observed planning sessions for the group, and participated in scoping their 'learning journey' activities for the year. During this time, I also joined the national bioregioning networks, the UK Bioregional Community of Practice, and participated in monthly meetings and workshops. The second phase of fieldwork concluded with the first formal interviews which were conducted through video calls.

The third phase involved face-to-face participation with each case study group. This was organised around their planned activities, primarily 'learning journeys'. For Tayside, I visited in person for one event, and participated online for their virtual events. For Casco Bay, I spent three weeks planning and delivering their week-long learning journey.

The fourth phase included follow up interviews, sharing back initial findings as I analysed data, and exiting the field (the process of exiting the field is developed upon in Section 4.3.2). I visited Tayside once more and held a workshop with participants following their food conference (see Chapter 7).

Phase	Time period	Research activities	Aims and focus
1.	May 2021 - October 2021	Online participant observation	Building relationships Understanding networks and relationships
2.	October 2021 - March 2022	Scoping trip to Tayside bioregion Observing COBALT activities - e.g., Arctic Circle Assembly Initial interviewing UK Bioregional Communities of Practice	Building trust and rapport Initial data collection related to aims and objectives of groups Planning participatory observation on primary learning journey activities
3.	March 2022 - July 2022 August 2022	Participation in Tayside Learning Journeys (face to face and remote) Follow up interviews Participation in Casco Bay Learning Journey- 3 weeks face to face participant observation	Detailed data collection Detailed data collection
4.	September 2022 – May 2023 October 2022 - December 2023	Follow up interviews and workshop (May 2023) Staying in touch Sharing findings	Clarifying understanding and reflecting together on learning journeys Exiting the field Analysing data and writing up thesis Sharing knowledge to further the work of COBALT and Bioregioning Tayside

Figure 9: Fieldwork timetable outlining the key research activities for this research.

4.2.4. Data analysis & theorising together

The reflexive and situated approach threaded through to my approach to data analysis. I used reflexive thematic analysis, a theoretically flexible approach to thematic analysis in which coding is iterative and intuitive (Braun and Clarke, 2006, 2016; Braun, Clarke and Hayfield, 2022). The basic principles of reflexive thematic analysis are 1) a recognition of the researcher's role in actively constructing knowledge, and 2) approaching the subjectivity and skills of the researcher as a resource, rather than striving for objectivity (Braun and Clarke, 2006). This means that there is no expectation that another researcher would produce the same interpretation of the data (Byrne, 2022). This form of analysis is complementary to both diverse economies scholarship, and bioregional thought in that it understands knowledge production as contingent.

To analyse the data then, I followed Braun and Clarke's methodological process (Braun and Clarke, 2006). I familiarised myself with the data by listening to audio recordings and transcribing them, rereading research diaries and viewing photographs. Far from a linear process, this happened between periods of fieldwork in the pauses and gaps that occurred between the waves of momentum of each group. Such spaces gave me time to gather my energy, but also to gather my thoughts. I wrote notes about my initial impressions. Some of these initial notes helped to write this methodology chapter, as they were reflections on the process of doing research. Others went on to help generate codes, and some became topics of interview questions and conversations with participants.

I then began systematically coding the data, treating each piece of data equally, to label the data that may answer the research questions (Braun and Clarke, 2006). This was an iterative process. Codes changed as I followed different lines of inquiry. I generated initial themes by taking codes and understanding the relationship between them to inform the narrative of a theme (see Byrne, 2022) before going through a process of developing the themes by considering whether they were in fact themes or codes, and defining the boundaries of themes.

At points, I collaborated with participants to make sense of the data. This was not through 'member checks' (Lincoln and Guba, 1985) which have the potential to silence rather than provoke meaningful feedback (Bradshaw, 2001). Instead, I presented my interpretations to participants throughout the process as part of a dialogical approach, with participants as "agentive, responsible theorists" (Harvey, 2015, p. 34) in building concepts. This took place both informally, through day-to-day conversations, and formally, such as presenting at the

UK Bioregional Community of Practice meetings. Here, I was not aiming to find consensus necessarily, but to add to the richness of interpretation.

The process of coding and interpretation continued through the drafting of Chapters 5, 6 and 7. As Taylor (2017) reflected, developing the theoretical chapter alongside the empirical chapters helped to make the analysis more targeted. Writing with the data made my understanding more nuanced, and continued conversations with participants and others involved in bioregioning refined it further.

Reflexive thematic analysis complements my understanding of knowledge production as situated. It allowed me to reflect on my own experience of each of my study sites, and where my own positionality and sense of place influenced my interpretations. This approach to analysis also forced me to confront the contradiction between viewing knowledge as grounded in place and context that my methodology and bioregioning incites, and that of valuable knowledge being universal and abstract.

4.2.5. Collaborative writing

During this research, I worked with a group of other PhD researchers and bioregioning practitioners on a project about bioregioning as a global social movement. This resulted in two papers, Hubbard *et al*. (2023) and Wearne *et al*. (2023), which are included as appendices (Appendix A and B). Where I build on the arguments in these papers, I reference them clearly. However, this thesis is concerned with understanding how bioregioning is being applied in the two case studies of Tayside and Casco Bay, so makes its own arguments.

As part of this project, we conducted interviews with key bioregional thinkers that we saw as influential. We each had consent to use these interviews in our own PhD projects. Some excerpts are included in this thesis (particularly in Chapter 6) and are cited appropriately. Furthermore, while we collaboratively analysed the data for our shared project, these interviews were re-analysed independently in the context of the research questions of this PhD thesis.

4.3. Writing a thesis across place

Before moving onto the main body of the research, where I explore the data produced through this methodology, I would like to point towards some of the challenges of this methodology in the context of bioregioning. Throughout this chapter, I have suggested

challenges of particular methods, and of doing research during the COVID-19 pandemic. There are also challenges that are common to qualitative research generally, that have been well-trodden, for example, positionality (Rose, 1997) and insider/outsider relationships (Kanuha, 2000; Labaree, 2002; Corbin-Dwyer and Buckle, 2009); reliance on textual methods (Pink, 2004); the 'messiness' of social science research (Law, 2004), and pragmatic methodological challenges (often outlined in textbooks such as Mason, 2002, 2017; Kara, 2017). However, there are specific difficulties that I faced that could offer insights for place-based research. These relate to spatiality, and temporality and trust.

4.3.1. Speaking from a different place

As noted in section 4.2.1, I did not consider myself an insider in this research. This was in no small part due to the fact that I was an outsider to the two bioregions that my research centred on. I was based in England, moving between Nottingham, Sheffield, Tayside and Casco Bay[39]. Bioregioning asks us to take place seriously, and to be aware of the ways in which knowledge and practice are rooted in material contexts. This demands a consideration of positionality that accounts for how *place* shapes the power dynamics of our researcher, but also the way that this affects our interpretation of data.

This is something that I, and co-authors, discuss in *A Learning Journey into Contemporary Bioregionalism* (Wearne *et al*., 2023). As co-authors situated around the world, we struggled to understand and contextualise our own positions as we engaged with concepts relating to place. This was in part due to disciplinary differences, but also driven by the ways in which our physical, linguistic, personal and cultural contexts shaped our interpretations. We also found an irony in trying to draw generalised conclusions about a place-based process.

Yet speaking across place was unavoidable. My research questions, then, had to focus on how bioregioning was taking shape in Tayside and Casco Bay, and in exploring these contradictions. In some ways, this challenge spoke to a core tension within bioregioning: how can a generalised approach or framework become a place-based practice?

As well as being geographically distanced, I also write from the space of the academy. This location produces a particular spatial politics in which certain forms of knowledge are valued and legible (see Gillan and Pickerill, 2012). For example, the academy has a tendency to treat activists and those in social movements as the object of research, rather than as

[39] I recognise the mobilities that are afforded to me through funding and visa, that allow me to travel to the USA for example.

knowledge producers (Chesters, 2012). As Dawson and Sinwell (2012) write, “activist knowledge is merely considered ‘data’ until it is analysed, codified and written-up by the academic.” (p.179).

Again, in doing PhD research, this positionality cannot just be explained away through positionality statements. Instead, I had to recognise the ways in which the academy is situated within hierarchies of power, and also how it could be a source of social change itself (Gillan and Pickerill, 2012). In the words of Gibson-Graham (2008), “as university-based scholars, we are well positioned to mobilize the resources to support the co-creation of knowledges, create the networks necessary to spread these knowledges… and foster an environment where new facts can survive” (p.629).

Finally, I do not think of myself as a bioregionalist, although this was something that I was often described as during the course of the research. My politics often aligned with those in Bioregioning Tayside and Casco Bay, making understanding my role as supporting them relatively straightforward. At other times I felt conflicted. There were moments that I did not agree with during my fieldwork, for example, the way that Indigenous thought was used at times (see Chapter 7).

Beyond the fieldwork itself, I came across voices with which I definitely did not agree. Their mobilisation of the term bioregioning activated politics that I found problematic. The stories of those outside of the case study groups do not feature in this thesis (although some are included in Wearne *et al*., 2023). They were not the focus of my research, and therefore my interpretations of their bioregioning are not empirically based.

We cannot only do research activists that we agree with (Gillan and Pickerill, 2012). Navigating moments of tension in co-productive research requires an open and experimental orientation to research. For me, this involved not dismissing ideas or practices *a priori*, and a spirit of generosity towards understanding what people *are* doing, not what they *might* do.

4.3.2. Trust and temporality

Alongside the challenge of speaking across place, there was also a temporality to the relationships that I built as part of this research, which impacted the trust between myself and participants. This was partly driven by the temporalities of PhD research, but also by the spatial distance between my own home, Casco Bay and Tayside.

Trust is often referred to in methodological texts. Building trust and rapport is seen as key to producing quality research by enabling researchers to access the most personal insights (Mauthner *et al.*, 2012), and legacies of mistrust result in suspicion of researchers by researched communities (Armstrong *et al.*, 2022). However, as Armstrong *et al*. (2022) argue, there is a temporality to trust in participatory research that is rarely reflected upon.

In my research, there were moments in which my timescales and priorities conflicted with those of my case studies. For example, as I reached the end of my data collection and focused on analysis and writing, my participation in the groups' activities lessened. In particular, after the Casco Bay Learning Journey, where I had spent a month in Maine in close connection with participants, I had to return home. This meant making decisions about what level of participation I could take in the projects that had come out of the Learning Journey. Saying 'no' and withdrawing from the ideas that we had conjured together was difficult without feeling like I was walking away with data and leaving the group to move on without me. I had to maintain trust at a distance (Armstrong *et al*., 2022) by sharing updates via email, checking in at meetings and sharing things that might be of interest to participants.

Mason (2021) has argued that a practice of *staying* 'in the field' can open up collaborative possibilities in ways that the emphasis on *exiting* the field does not. In some ways I have 'stayed in the field' by continuing to participate in the broader bioregioning network that I was not part of prior to my research. However, bioregioning projects are so rooted in place that it was clear that my research could only contribute in certain ways and at certain times. This, for me, was a challenge of researching place-based concepts that also travel.

4.4. Conclusion

This methodology chapter has explained how I have negotiated my own role in the group and in the academy, and the limits of my situated knowledge, whilst seeking to strengthen the work of those that I was researching. It has outlined the methods that I have used and positioned these within a co-productive approach. I concluded by outlining the specific considerations and challenges for researching place-based concepts like bioregioning. Chapters 5, 6 and 7 move on to discuss the empirical findings of the research. Within this, there are various tensions and questions that are not fully resolved. Instead, the research 'starts where we are' (Gibson-Graham, 2008) to understand what bioregioning might offer.

Chapter 5. Politics of Language: Bioregioning narratives of place

We walked across the concrete platforms and could see the wastewater churning below us. This is the second stage of treatment, the first lets any larger material settle out of the water, now microorganisms are being used to remove matter, the churning is an aeration process. The treatment plant is by East End beach, with a great view. There is a walkway that the wastewater treatment plant has paid to be painted with street art. We looked out to where the water is pumped out of the wastewater plant, into the bay. It is right where we were just kayaking - between the mooring buoys where I had jumped out of the boat and tried to swim down to the seagrass beds. As the treated wastewater flows out in this spot, excess nitrogen can cause algal blooms, shading the meadows. The waste coming through this facility comes from Portland and the surrounding area. According to the leaflet, there is around 20 million gallons of wastewater produced a day."

The reflections above come from the Casco Bay Learning Journey, 2022. Over the course of five days, I joined participants in the bioregion on a tour of the area. In the heart of 'Vacationland', Maine, we explored places that many people don't see. On the third day, we found ourselves watching the wastewater being cleaned and pumped into the very same spot that we had been kayaking that morning. The aim was to generate new understandings of the roots of current ecological, economic and social challenges faced in Casco Bay. This required seeing the bioregion differently. These unlikely ways of spending time in place, moving between the beautiful and iconic to the unseen and unsightly, are a key part of the process of bioregioning.

Bioregioning, as I outlined in Chapter 3, aims to activate our spheres of care and responsibility to the place that we live, "bringing your bioregion into existence" (Tyler, no date) to generate more ethical practices of living in place. In doing so, bioregioning seeks to address various forms of remoteness that that negate responsibility and generate unsustainable ecological relationships. Bioregioning Tayside and Casco Bay bioregion use a range of tools that are used as part of a strategy for destabilising dominant narratives of place and generating alternatives (Gibson-Graham, 2000, 2020; Roelvink, 2015). This chapter answers my second research question: how does bioregioning problematise discourse of place and the economy, and what new narratives does it offer?

I draw on a politics of language to explore the reframing that Bioregioning Tayside and Casco Bay bioregion mobilise. As outlined in Chapter 2, there is a politics of language involved in constructing alternative projects of ecological livelihood. As Barron (2020) writes, "a politics of language suggests that language is an iterative process of negotiation, rather than a strict set of defined universals. Instead, language includes recognition of the other, opportunities for reframing meaning and questioning representation" (p. 179). The politics of language calls for the recognition of the performative effects of naming economies and livelihoods as 'capitalist' (Gibson-Graham, 2006), and for the revaluation of alternative narratives.

In the first part of the chapter, Section 5.1, I outline the tools used in bioregioning to activate a politics of language: Story of Place and Learning Journeys. I explain what these are, and how they were implemented in Tayside and Casco Bay. In Section 5.2, I discuss what is produced by using these tools. What cracks in the hegemony are opened in Tayside and Casco Bay? Section 5.3 discusses the research question: How does bioregioning problematise discourse of place and the economy, and what new narratives does it offer? I conclude the chapter by drawing on Miller's (2013a) concept of the 'ontological moment' of community economies and showing how Bioregioning Tayside and the Casco Bay bioregion open new ontological horizons.

Figure 10: Photos of the East End Wastewater Treatment plant (Author's own). The top image shows the view of the plant from the coastal path. The bottom left image shows where street artists have been employed to improve the exterior wall of the plant, along the path and cycle lane. The bottom left image shows participants on the Learning Journey at the plant, watching how the wastewater is treated.

5.1. Where you at?

The quiz 'Where you at?' (Charles *et al.*, 1981, see Figure 10) is a foundational tool in bioregionalism. It was first published in a special edition of *Coevolution Quarterly*, edited by Peter Berg, but has since been widely reproduced and reworked[40]. The quiz asks 20 questions about the place that you live, including the soils, growing seasons, native and migratory species and so on (see Figure 10). As much a provocation as an actual test of knowledge, the quiz confronts the placelessness of contemporary lifestyles, and separation from the physical realities of our livelihoods.

I can answer only two of the questions, despite living less than three miles from the hospital where I was born. It is jarring to realise how little I know about this place where I have spent the majority of my life. It's also clear that a low score doesn't only represent a lack of knowledge about the place you live. The highest scorers not only know where they're at, they know where '*it's*' at (Charles *et al*., 1981). As well as having a detailed knowledge about their place and the physical factors that shape how to live there, the quiz implies that they understand why this kind of 'bioregional consciousness' is so important.

Throughout my research, the bioregional quiz came up repeatedly in various forms. Once, at the start of the Story of Place workshops in Casco Bay, we drew maps of our bioregions following prompts such as: Which way did the prevailing winds blow? Can you draw a native animal? We added in the historical landmarks, settlements and sites of cultural significance. This practice of explaining our bioregion and situating ourselves in place was also used to open meetings with the UKBCOP as a way of introducing ourselves to each other.

The bioregional quiz is the foundation for two exercises that Bioregioning Tayside and the Casco Bay bioregioning group undertook as part of their bioregioning practice: writing a Story of Place and Learning Journeys. Both of these involve building a bioregional profile that maps the socio-ecological configuration of place. However, more than creating a simple inventory, these exercises act as a reframing process, activating a politics of language that opens up space for the proliferation of different practices and ways of living in place. Sections 5.1.1 and 5.1.2 describe these activities, giving examples from both case studies.

[40] For example, the issue of *Emergence Magazine* (2023) in the introduction of this thesis asks the reader to "learn about native vs. imported flora/fauna" (p. 36), and "asks do you know where your water comes from?" (p.46). The Regenerative Design Institute (no date) offers their own quiz, adding in questions like "how much gasoline do you use in a week, on average?" and "How many people live next door to you? What are their names?"

1. Trace the water you drink from precipiation to tap.
2. How many days til the moon is full? (Slack of 2 days allowed.)
3. What soil series are you standing on ?
4. What was the total rainfall in your area last year (July-June)? (Slack: 1 inch for every 20 inches.)
5. When was the last time a fire burned in your area?
6. What were the primary subsistence techniques of the culture that lived in your area before you?
7. Name 5 edible plants in your region and their season(s) of availability.
8. From what direction do winter storms generally come in your region?
9. Where does your garbage go?
10. How long is the growing season where you live?
11. On what day of the year are the shadows the shortest where you live?
12. When do the deer rut in your region, and when are the young born?
13. Name five grasses in your area. Are any of them native?
14. Name five resident and five migratory birds in your area.
15. What is the land use history of where you live?
16. What primary ecological event/process influenced the land form where you live? (Bonus special: what's the evidence?)
17. What species have become extinct in your area?
18. What are the major plant associations in your region?
19. From where you're reading this, point north.
20. What spring wildflower is consistently among the first to bloom where you live?

Scoring

- 0-3 You have your head up your ***.
- 4-7 It's hard to be in two places at once when you're not anywhere at all.
- 8-12 A firm grasp of the obvious.
- 13-16 You're paying attention.
- 17-19 You know where you're at.
- 20 You not only know where you're at, you know where it's at.

Figure 11: The bioregional quiz (Charles et al.*, 1981). This quiz is designed to highlight the placelessness of our lives, and to encourage the building of 'bioregional consciousness' (Sale, 1991).*

5.1.1. Story of Place

The first activity that Casco Bay and Bioregioning Tayside use is writing (or rewriting) their *Story of Place*. This process involves building a bioregional profile, and therefore requires generating responses to the kinds of questions the quiz poses (Figure 10). However, it goes beyond creating a description of the bioregion, or highlighting gaps in knowledge. As the name suggests, it is focused around telling a *story*, a narrative about the bioregion that makes sense of how it has come to be the way it is today.

Story of Place workshops were developed by Sustainametrix (see Sustainametrix, no date) and were reworked through the COVID-19 pandemic into an online workshop for several bioregioning groups to undertake together. George described this in an interview:

> "Typically, what we would have done - pre COVID - we would have done a lot of work in places and doing a lot of travelling and engaging and spending deep time in a single place... This time with COVID, you know, we had to tear up that playbook. And so, I thought OK let's now do many at once and all virtually. And so, it was a total test! Total like, you know, what the hell, let's see if it works. It could be a complete and epic failure, but let's give it a whirl and we did five bioregions". [George, interview]

Bioregioning Tayside was one of those five bioregions attempting this new online approach. The programme involved ten three-hour workshops over the course of six months. The facilitator guided the groups through five different phases of learning[41]. The workshops concluded with the creation of a StoryMap, a tool in ArcGIS that combines text with maps and images to create interactive stories.

Defining and describing

The first phase of learning is centred on describing the bioregion, beginning with assigning boundaries. Using the broad definitions suggested in Chapter 3, the bioregion is mapped along biophysical lines, but interpreted by the people that live there to decide boundaries that make sense to the lived experience of place (Sale, 1991; Berg and Dasmann, 2015[1977]).

My research with Bioregioning Tayside and the Casco Bay bioregion began long after they had determined where exactly their bioregion is, but I saw a small part of this process when observing a later Story of Place workshop with another bioregional group in Massachusetts. Defining boundaries was a fraught process. The group struggled to pinpoint exactly what boundaries they would use. It was complicated further by the fact that the data they were gathering often followed different boundary lines. One boundary would make sense for one piece of data, but then would fail to capture another, and it was difficult to correlate these boundaries with the perception of the people that lived there.

Rather than spending too long in this conflict though, George encouraged us to begin using tentative boundaries:

> "George said something to the effect of, 'you can just pick somewhere, and work from there'. He was right, to get going we just needed to decide a boundary - even roughly - and then figure it out as we go" [Research diary, 27th August 2021]

[41] This chapter will not go into detail about the full course and methodology because it was developed by Sustainametrix. Details can be found at: http://www.sustainametrix.com/the-story-of-place-course

This pragmatic approach to choosing boundaries is a departure from more traditional forms of bioregionalism. Much attention has been paid to determining boundaries, even in texts that emphasise the social construction of bioregions (see for example Cheney, 1989; Aberley, 1999; Berg and Dasmann, 2015 [1977]). Even some of the more contemporary bioregional writing argues that specificity of boundaries and scale is essential to advancing the goal of bioregionalism (Ryan, 2012). However, during this early phase of building a story of place, the groups were encouraged to begin building a rough profile of the area before finalising boundaries. At this point, the exact region that was being paid attention was still in negotiation, and it wasn't seen as problematic to use several different definitions for different purposes.

Alongside defining boundaries, the first part of the process involves building a detailed ecological and social profile of the bioregion. In many ways, this echoes the bioregional quiz (Charles *et al*., 1981). It is the foundational knowledge about what the place is like, and how it is possible to live there. What is produced during this phase is a description of bioregional *space*. As Ryan (2012) suggests, bioregional space can be understood as the ecological and physical context of bioregional *place.* Creating a profile of the ecological features of the bioregion aims to make visible its materiality (see, for example, Figure 11). Mapping the bioregion in this way unsettles the administrative and political boundaries that have determined place, and a refocusing on ecological delineations, in line with the aims of integrating human and ecological systems (see Chapter 3).

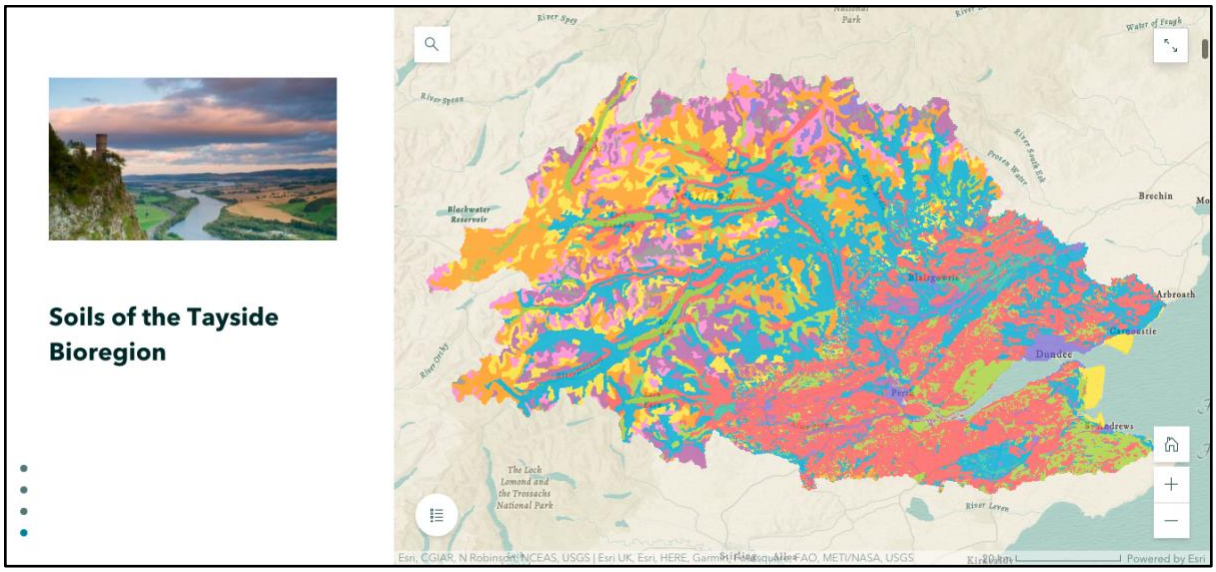

Figure 12: An example of a map of soil types produced in the Tayside bioregion Story of Place (credit: AberTatha StoryMap, 2021). Maps like this one are used to suggest how the material landscape shapes what practices are possible.

However, this step also begins to map out the potential assets, as well as the spaces in which citizens may have already come together to monitor and care for the bioregion (Gibson-Graham, 2011). It also considers the social elements, such as the demographics, major settlements and key industries. This begins to show how bioregional place emerges through the interaction between humans and bioregional space (Ryan, 2012).

Timelining

Critics often assume that bioregions are equivalent to natural space, and that this "oversimplified concept of place based on natural borders fails to acknowledge the intricate web of environmental and cultural factors that makes up place, in reality" (Ryan, 2012, p. 83). Yet in the Story of Place workshops, the learning didn't stop after determining boundaries and collecting ecological and social descriptions of the space within those boundaries.

The second step is developing a timeline of the bioregion as a technique to understand how management of the ecosystem has changed. The Story of Place process therefore does not only capture the bioregion as it is now (with its current ecological configurations), but how it has changed and why - including both spatial and temporal questions.

These timelines are brought to life using examples. The Casco Bay bioregion timeline outlines some of the Indigenous history of Casco Bay, or Cascoak[42], including the broken treaties of colonists. It moves through key moments that the group saw in the history, including the building of the railroad in 1837 which opening up Maine as a destination for tourists and artists; the 1947 forest fire that led to the dominance of red maple; and the effects of World War One on Portland's shipbuilding industry (Casco Bay Bioregion StoryMap, 2021).

Creating a timeline has two effects. It begins to show the bioregion as in the process of becoming *place* by showing how the bioregional space is entangled with human culture (Ryan, 2012). In other words, it helps to demonstrate how the human and non-human worlds are co-constituted (Whatmore, 2002) to create a bioregion.

Second, timelining helps to explain how the bioregion as place is contingent on global connections:

> "What was also interesting in working with the other groups was to understand how, particularly in the East Coast of the States where they were looking at similar

[42] Cascoak is the Wabanaki name for Casco Bay (Brooks, 2019).

> environmental problems… But how ridiculously connected they were as well. So, you know, there were people moving from Scotland to those areas in North America, they were being thrown off land here, going to North America, colonising somebody else and throwing *them* off *their* land. So, the connections were, you know, slightly gobsmacking actually" [Marie, interview]

Above, Marie makes the connection between the clearances happening within Tayside and the colonisation of other bioregions in the cohort. The bioregion is seen as dynamic, hosting changing human-nature relationships or ecological configurations that operate both locally and globally. In line with Massey (1991), this global connection does make the bioregion any less specific. Rather, it simply shows that it is impossible to think about the bioregion in isolation when it always exists in relation with a wider world. The bioregion is therefore always in the process of being produced through multiple interdependencies.

This reframing of bioregional place as a process opens up the possibility of it becoming differently and acts as a source of a multitude of strategies and pathways for change.

Governance

The third part of learning focuses on what George describes as *governance.* Governance is an idea that is used in the social sciences to identify the multiple ways that governing takes place (for example Bulkeley, 2005). It is used to distinguish *government* from the broader ways in which governing takes place, for example through private enterprise, non-governmental organisations and social movements (Pratt, 2009). Governance has been used to "develop convincing accounts of the multitude of hybrid governance arrangements" (Bulkeley, 2005, p.898), explaining how state and non-state actors shape and enact policy (Cornea, Véron and Zimmer, 2017).

However, in this context, governance is being used slightly differently. Rather than being used to think about how environmental problems are regulated and managed, in the Story of Place workshops, governance is understood as the relationship between the market, civil society and government[43] that produce particular social-ecological configurations. This includes forms of formal resource management and policy, but extends wider to all of the ways that humans are relating to the non-human environment: what is the dominant

[43] This is more akin to how Cornea et al. (2017) describe 'everyday governance' - the everyday practices of governing that produce order and regulations. This recognises that different modes of everyday governance come "from a specific source of legitimacy and authority, each is regulated by a particular set of norms, and each is accountable to others through particular mechanisms" (p.5)

relationship dynamic between humans and nature? And what assumptions, practices, and institutions shape that relationship?

George's framework conceptualises three different forms of governance: market, civil society and government:

> "What you can do is ask some key questions, and a lot of it is around power and governance and issues of how has power been expressed? And we look at it in terms of three dimensions… we refer to Government and all the different scales that entails. Market forces - everything from big corporate, international, multinational to small mom and pop kind of things. And civil society, social movements etc. And the organisations that might be considered bridging organisations, the ones that sort of have a foot in multiple camps" [George, interview]

The groups analyse which of these forms of governance are most dominant at any given time. Why and how has that come to be the case? What are the conditions that are enabling that, or constraining other forms of governance? This enables the analysis of how particular relationships between humans and ecology are generated and denaturalises them. The relationship between humans and the Earth that they inhabit is not inherently one of mastery (Plumwood, 1993), or one ruled by the laws of capitalism (Gibson-Graham, 1996). This relationship can therefore be reconceived.

This analysis of governance is also used to examine the different properties or values that are prioritised[44]. In this sense, analysing governance is not just about establishing the "means and ends but also about the imaginaries, set of norms, or normative registers, to apply in a given situation" (Cornea, Véron and Zimmer, 2017, p. 4). For example, in their Story of Place, Bioregioning Tayside drew on the example of oats and barley as a way of demonstrating changes in environmental governance in Tayside, and how this produced a particular ecological configuration and relationship with place.

They begin by describing how oats were once a staple crop. They were easily grown in the Scottish climate and could be stored for extended periods of time in the form of oatcakes. However, the legalisation of whisky meant that barley, which is distilled in whisky production, became more profitable, and therefore overtook oats as the dominant cereal being grown. Farmers shifted to barley as a staple crop, and oats quickly were relegated to animal feed

[44] This is similar to Duit et al.'s (2010) argument. Drawing on Ebbesson (2010), they note that legal forms of governance might prioritise certainty and predictability, whereas civil society might value resilience.

(AberTatha StoryMap, 2021[45]). This not only changed the type of crop grown, but also the barley itself. The whisky industry encouraged the growing of more hardy varieties of barley being bred which are highly productive, but vulnerable to disease (AberTatha StoryMap, 2021).

This example illustrates how barley, oats and humans were intertwined in a relationship that was governed in different ways at different times, according to the shifting priorities. In this case, this particular configuration of a market dominated form of governance (enabled by particular state governance) produced an ecological configuration in which there was a proliferation of hardy barley, and a reduction in staple food crops. This both created (and reinforced) particular imaginations of Scottishness.

The framework of governance acts as a political device. It demonstrates the contingency of current human-nature relationships that constitute the bioregion as well as highlighting other possible relationships that have existed (or have been more dominant) previously. It also helps to make sense of why particular practices have been marginalised and others expanded. By showing how other forms of governance have operated (with different values and imaginaries) it weakens the capitalocentric discourse that performatively recentres capitalist forms of development.

Threats and challenges

The next phase of learning moves from understanding the contingency of the bioregion to thinking about what challenges are produced from the current configuration of relations. It involves taking a normative stance about what human-nature relationships are beneficial and which are problematic. What are the key challenges and potential impacts? What are the drivers (both ecological and social) of the problem? What is the temporality and scale of these challenges? Again, this is situated within the framework of governance.

In the Tayside Story of Place, an example of a challenge identified was soil degradation:

> "Working on my case study about the soils of Strathmore and learning about when the degradation of our soil really started to kick in, through the rapid intensification of agricultural production after the Second World War, I reflected about the combinations of pressures and responses that would have clouded the market and the state's

[45] Bioregioning Tayside used the name AberTatha during the Story of Place workshops.

> capacity for two eyed seeing[46] that time. How much of the state's sight loss was driven by the deprivation and hunger of five years of war? How much of the markets, the farmers, was driven by fear, or grants and subsidies, and how much were they all captured by that worldview that promulgates notions of human detachment from nature…? And how could it be that despite wise counsel over millennia?" [AberTatha StoryMap, 2021]

Beyond identifying the threat, the group worked to analyse how this crisis was formed through a particular configuration of human-nature relationships. They reframe the problem of soil degradation away from either a solely ecological perspective or one driven by specific actors such as farmers, to one that has multiple drivers. In this case, the way that World War II enabled particular social-ecological relationships. Hunger and fear were understood as creating a form of governance that prioritised food production, utilising grants and subsidies to maximise production. Humans were situated as needing to control nature and were detached from it. They were made remote from the consequences of soil degradation.

In some ways, it is a profoundly generous reflection. There is an empathy with the state coming out of a period of 'the deprivation and hunger of five years of war'. However, this can also be understood as a discursive strategy. Soil degradation is not caused by the fact that economic growth, or the drive to increase production is inherently more powerful than other forces. Fear and the memory of deprivation are powerful drivers in themselves and can too contribute to particular ecological relationships.

This understanding helps to make sense of why different practices that could have generated alternative ecological configurations have been marginalised, and present openings for generating different relationships.

Envisioning the future

The final part of the Story of Place process is envisioning the future. Here, the focus is on understanding how the governance of the bioregion could be shifted to become more regenerative, creating different ecological configurations and more just and sustainable livelihoods. Switching to a more creative and imaginative process, the groups begin

[46]'Two-eyed seeing' is a concept attributed to Mi'kmaw Elder Albert Marshall (Bartlett, Marshall and Marshall, 2012). It is an approach to weaving Indigenous and Western ways of knowing: "To see from one eye with the strengths of Indigenous ways of knowing, and to see from the other eye with the strengths of Western ways of knowing, and to use both of these eyes together" (Bartlett, Marshall and Marshall, 2012, p. 335).

mapping alternative futures for the bioregion and considering where there may be 'leverage points'[47] or sites for intervention.

This involves examining case studies of existing transformative projects within the bioregion. George describes these as 'green shoots of transformation'. In the Casco Bay Story of Place, one case study given is *Friends of Casco Bay*, a non-profit organisation that monitors and advocates for the environmental quality of the bay. For the group, this was an interesting case study because of the ways it was made possible by historic environmental acts in Maine. It is a participatory, non-governmental organisation that has generated a considerable influence over the governance of the bay.

The case study Bioregioning Tayside drew on was an organisation called Circular Tayside. Circular Tayside works with organisations in Tayside to move to more circular business models by incorporating materials that are usually wasted in their inputs. When describing their case study, Circular Tayside, Kate says,

> "You can see that things can change much faster. And there is a lot of motivation there, which has been very refreshing for us. It's not just the big Goliath" [AberTatha StoryMap, 2021]

Examining case studies for transformation has an important reframing effect, which can be seen in Kate's statements. By spending time looking for examples of transformation within Tayside, challenges were no longer 'Goliaths'. Instead, they were problems that can be tackled. And indeed, people that feel that they might be alone in their worries and efforts are brought together through their shared motivations.

As well as making green shoots that are below the surface visible, this process also motivates thinking about how these can be nurtured. The workshop offers tools like stakeholder mapping (see Figure 12) to analyse how the groups might leverage existing relationships to support initiatives, or where there may be potential relationships to build to do so.

Therefore, this stage of learning can once again be understood as a discursive strategy. Imagining different futures for the bioregion, and inventorying already existing alternative projects, opens up the space for negotiations of ecological livelihoods.

[47] The concept of leverage points is one that has been adapted from Donella Meadows' (1999) *Leverage Points: Places to Intervene in a System.* This text describes ways to intervene in complex systems by considering system dynamics (such as feedback loops).

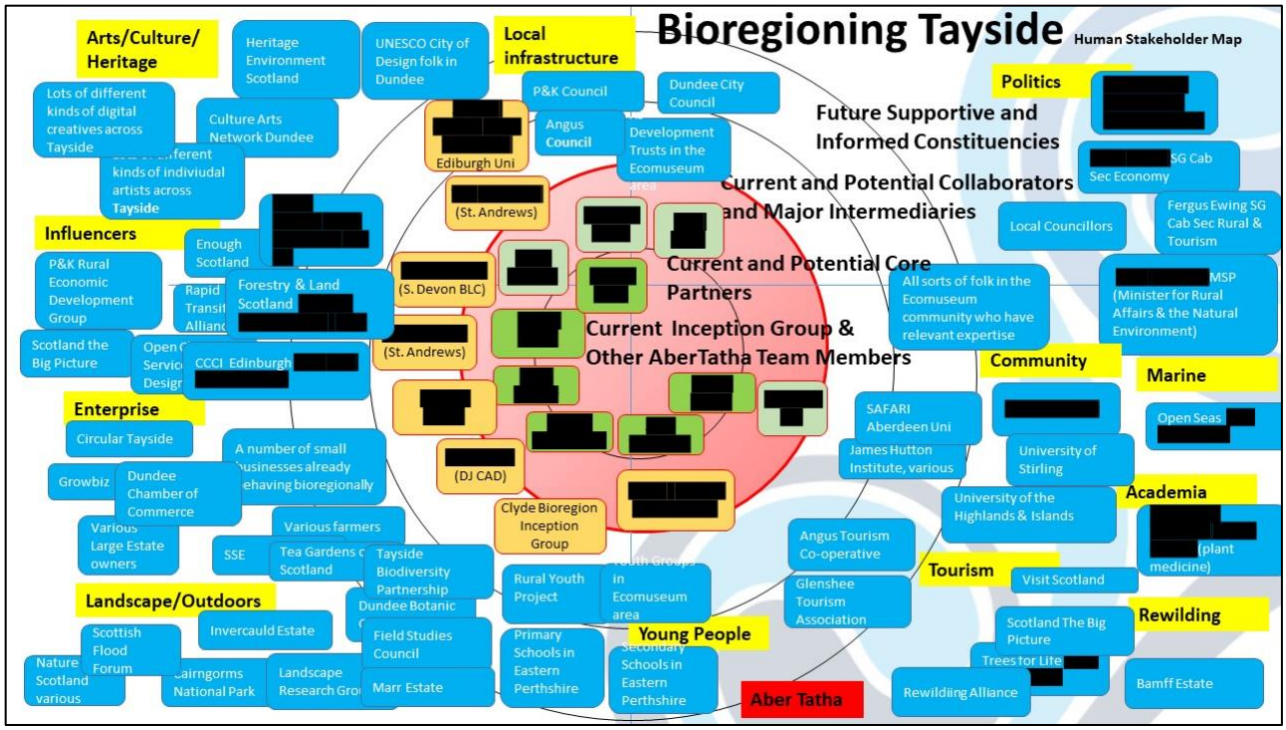

Figure 13: Bioregioning Tayside's stakeholder map from the Story of Place workshop. This stakeholder map was used to identify potential allies in different sectors, and to map out how Bioregioning Tayside might begin intervening in their bioregional system. Names have been removed for anonymity.

New understandings of place

On completing these five phases of learning, the groups write a final presentation and produce a StoryMap using ArcGIS. In this StoryMap, much of the detail is not presented, instead it creates space for the groups to tell the story that they find most useful.

The stories that are told create different understandings of their bioregion, as well as different conceptualisations of place itself. Place is understood as contingent on both spatial and temporal dimensions. It is created by interdependencies between human and non-human actors, including both material and non-material elements. Finally, rather than focusing on boundary-making as a way of defining place, boundaries are somewhat fluid. Bioregional place is in the process of becoming.

5.1.2. Learning Journeys

The second major strategy that Bioregioning Tayside and the Casco Bay bioregioning group use is *Learning Journeys*. These can be loosely defined as events that involve visiting sites in the bioregion, or other learning experiences such as seminars and workshops that focus on

issues related to the bioregion. They are facilitated and curated, again aiming to tell stories and provoke curiosity[48]:

> "By calling what we were doing a Learning Journey, by saying 'we are here to learn', by asking questions and then listening, through group witnessing of honest speaking and then reflecting back what we had heard, we aimed to soften prejudices and open up trust. Informal friendships and connections are powerful in creating spaces where conversations about the future can happen. Honesty about shadow and light, failure and success, fear and hope encourages an authentic response" (Bioregional Learning Centre, Carlisle and Brady, 2019)

Above is a reflection on a learning journey delivered by the Bioregional Learning Centre in Devon, including Isabel Carlisle (host of the UK Bioregional Community of Practice Group) and attended by George. In many ways, this learning journey in South Devon shaped the two discussed in this chapter. As the Bioregional Learning Centre describes, learning journeys are as much about generating questions as they are answering them.

COBALT and Bioregioning Tayside offered two different models of learning journeys. While in Casco Bay, there was one week in which a group travelled together in a period of intense immersion in the bioregion. In Tayside, the learning journey is an ongoing programme (beginning in 2021, with events continuing to the present) of events, bringing together diverse groups of people around particular topics. Below I outline each of the learning journeys and suggest how they contribute as a reframing device to tell different stories of the bioregion.

Bioregioning Tayside Learning Journey

Bioregioning Tayside's learning journey events took place between 2021 and 2022[49], and covered a range of topics. They defined their aim as follows:

> "Focusing on a series of topics that came up during the start of our mapping exercise in 2021, the aim of the Learning Journey was to find out what was going on on the

[48] It is important to note that 'learning journeys' is a phrase that does not originate from bioregionalism. It is a term that has been used in other contexts. Specifically, Indigenous learning journeys have been used as a pedagogical tool for integrating different forms of knowledge in the Mi'kmaw Nation (Bartlett, Marshall and Marshall, 2012).

[49] Bioregioning Tayside is continuing to deliver learning journey events in 2023, but by this stage I was in a 'keeping in touch' phase, rather than actively doing participant observation. The data in this thesis are from the time period of 2021-2023.

ground in our Bioregion and tap in to new energies that could help contextualise the actions we might take now to create a more liveable future" [Bioregioning Tayside newsletter, 7th November 2022]

As the newsletter states, the learning journey aimed to deepen the learning that had taken place so far, which was primarily online during 2020. More than that, it was to 'tap into new energies' by bringing new people along on the journey, and by finding motivation in the experience of being in place. This programme involved a series of events shown in Figure 13. The following sections include a brief description of two of the thematic events: *The Awakening* and *Change the Frame, Change the Story - What Will Be on My Plate in 2042?*

Event	Description
The Awakening	A COP26 event which included an art installation and storytelling (described further below)
Change The Frame, Change the Story - What Will Be on My Plate in 2042?	A tour of different food-related projects (including conventional agriculture) within the bioregion (described further below).
Can Tourism Help Tayside #RaceToZero?	This event brought together speakers from different tourism organisations in Tayside in an online discussion about the role of tourism in Tayside, and what tourism would look like in a net zero future.
What will I do when the waters rise?	An event focused on flooding, a major issue within Tayside. This was a participatory event to map out problems and community responses.
How Can Participatory Science Bring New Solutions to Ecosystem Restoration?	An event focusing on Issues relating to data sovereignty and access in community-led landscape monitoring.
Can Tayside Become a Climate Sweet Spot?	Dr Avit Bhowmik was invited to discuss the idea of 'climate sweet spots' presented in Bhowmik *et al*. (2020). For Bioregioning Tayside, the notion of communities with 10,000 people as a social tipping point

Figure 14: A description of Bioregioning Tayside's additional learning journey events in 2021-2022. More information about each of these can be found on their website news articles.

The Awakening

The Awakening was an event run by the Cateran Ecomuseum in November 2021. This was the week that COP26 was taking place in Glasgow. It involved the opening of an art installation of a giant hand coming out of the mountains in Glenshee along the Cateran trail (see Figure 14), with a walk up the mountain, a poem reading, the sound of the Carnyx, and the offering of rowan tree saplings by children from local primary schools. In my research diary, I wrote:

> "The art installation was a giant's hand in the mountain top. It is actually 2D, but an optical illusion makes it appear 3D, as if a giant is really reaching out of the mountain. The cloud cover was dense, and we couldn't actually see it at first… Eventually we got started. The storyteller stood in the front, dressed in a big heavy velvet cape. She told a story which was a reworking of the Tale of Finn McCoul, the Irish giant and his Scottish enemy, Benandonner.
>
> Her voice boomed over us all and the weather closed in. The story ended with the idea that the Giant would be woken up in a time of great need, and that now - with COP26 coming to Glasgow - was that moment. Just as we reached the climax of the story, the clouds opened ever so briefly, and the hand appeared before us, climbing out of the mountain, before the clouds moved over and it was gone.
>
> Then, a man appeared with a long, tall instrument, which has a kind of grotesque horse's head on top with a tongue that moves as air blows through it. It made a strange sound, which was more musical than you would expect" [Research diary notes, 6th November 2021]

The Awakening was a dramatic event, made even more so by the heavy rain and clouds. It utilised symbols of the Tayside landscape, myths and storytelling, planting native trees, and recreating lost sounds, such as that of the carnyx. The carnyx is a Celtic instrument (see Figure 15). It is tall and has the head of a horse (or sometimes a boar), and the head has a soft palette and moving tongue. The instrument recreated sounds that might once have been heard in this landscape.

This could be seen as an obsession with heritage (Massey 1991) that is used to establish boundaries and delineate between insiders and outsiders. However, Bioregioning Tayside used these symbols not to draw boundaries, but evoke a connection with place, land and

local practices. The result was the production of a kind of aesthetic experience of place that encouraged identification with the landscape, to mobilise a feeling of responsibility in the face of the urgency of COP26.

Figure 15: Photos from The Awakening (Author's own). The image shows the Awakening art installation in the Spittal of Glenshee. A giant's hand reaches out of the mountain, waking up in a time of crisis.

Figure 16: Photos from The Awakening (Author's own). The image shows the reproduction of the carnyx being played, with the storyteller watching on. Children from the local schools bring offerings of Rowan saplings to the giant.

Change The Frame, Change the Story - What Will Be on My Plate in 2042?

This learning journey event was a one day, on-the-ground tour of the bioregion, focusing on the food system. Rather than concentrating on heritage, like the Awakening, this event looked at the present. Participants were invited who had connections to the food system, for example running a community allotment. The event took participants on a 50-mile journey around different forms of food production, including conventional farms. Figure 16 outlines some of the organisations that were stops on the learning journey:

Name	Description
Upper Dysart Larder	A potato farm that is moving towards more sustainable methods. This talk navigated the challenges and trade-offs in providing affordable, high quality and local food.
Kirklandbank Farm	A small-scale farm in Alyth that is situated on the Highland boundary fault line. It produces non-timber forestry products. Kirklandbank Farm is also the site of the Highland Boundary distillery.
Highland Boundary distillery	Highland Boundary distillery that uses sustainably sourced, local botanicals.
Myreside Organics	A presentation on the role of organics and small-scale producers in sustainable food systems
Campy Growers	A community growing space in Camperdown Park, Dundee, aiming to demonstrate the social, wellbeing and environmental benefits of peri urban agriculture.

Figure 17: A brief description of the projects included in the Bioregioning Tayside 'What Will Be on My Plate in 2042?' learning journey.

While visiting these projects, the questions that participants considered were:

> "What are the conditions that are holding the problems in place?
> What do Hosts and participants in the Learning Journey think the 'adjacent possible' interventions might be?
> What do they need to happen to achieve the adjacent possible?
> Can we identify who is trying to make these 'adjacent possibilities' real in Tayside?"
> [Bioregioning Tayside Learning Journey planning document]

At each of the visits, participants explored these questions and considered what the conditions were that perpetuated the problems that they identified. This involved both analysing issues and imagining what would be needed to open up new possibilities for food in Tayside. Some examples of this are explained in the Bioregioning Tayside blog:

> "In addition to hearing about David's own very successful farm diversification story, and how their new food production ideas, such as the mashed potato range, were being shaped and driven by the younger generations of his family, we left with a much greater understanding of some of the severe challenges facing larger, commercial farmers like David in Tayside today. From their perspective, what was going to be on our plate in 2042 would depend very much on what could be done to address the issues at the top of their list right now which were costs of production, supply chain issues and labour shortages" (Bioregioning Tayside, 2022)

David ran a successful and conventional potato farm. He had begun to diversify the business in order to address a number of challenges both facing his own farm, and the bioregion more broadly. For example, he was concerned with soil degradation, access to cheap and reliable electricity, and storing food to extend its shelf-life. He also wanted to produce healthy meals for local consumers and had begun to diversify into pre-prepared food that could be accessed through a larder on the farm. However, he described some of the challenges that he faced in trying more sustainable practices. This included national and global regulation that shaped his work, and the continued day-to-day pressures of running a farm, like labour shortages and the mental health of farmers.

Through the day, the group drew together some of the common challenges 'roadblocks' to action in the food system:

> "Similar challenges faced everyone, from ensuring a broad representation of people in climate action initiatives to consistency of resourcing, from the big road blocks to change such as Local Authority procurement processes, to the complex stakeholder groups that needed to be involved in many nature restoration projects. There was also huge recognition of the need to develop new governance models to bring initiatives together. Models that could connect actors in civil society, the market and the state in new ways and at multiple scales and enable them to respond in an operating environment of constant uncertainty and surprise" (Bioregioning Tayside, 2022)

These examples show how the group reflected on the factors that shape and sustain threats to the bioregion. Again, this approach can be understood as a reframing technique that

shows the current state of the bioregion as contingent, and multiple points of intervention to open up new pathways of change.

As well as talking through challenges, it turns to generating alternative future pathways, or moving to the 'adjacent possible'. The 'adjacent possible' is a term that comes from a text called *At Home in the Universe* (Kauffman, 1996). It is a theory about how complex biological systems are always in the process of becoming, and generate their own future pathways for becoming (Van Der Merwe, 2023). The 'adjacent possible' is the space in which this becoming takes place. This idea was popularised in *Where Good Ideas Come From* (Johnson, 2011). For Bioregioning Tayside, it is a concept that is used to think about what alternative futures could exist. Inventorying the different projects and practices in the bioregion is a strategy used to create the conditions for the adjacent possible.

Casco Bay Learning Journey

The Casco Bay learning journey followed an entirely different pace, visiting nearly 20 organisations in five days, with one primary group travelling together (see Figure 17). Throughout the week, additional participants joined for parts of the journey, with George seizing the opportunity to build connections. As he describes below, the learning journey was intended to expose participants to a range of different projects, seizing informal opportunities wherever possible:

> "That's why the learning journeys are so powerful as a tool to go in and see and learn how to experience a good learning journey, you're out there, spending a little time planting trees, and somewhere you're spending a little time at a soup kitchen, you're spending a little time working with a local soccer club that has Indigenous and immigrant communities together. You're seeing into a system; you're asking questions that then can lead to action. That action really is about the kind of change that's coming" [George, interview]

Rather than a series of topics, the learning journey leant into complexity. Still highly curated, it moved at breakneck speed, making visible hundreds of different connections and potential connections, providing a dizzying insight into what working at bioregional scale entails. Figure 17 lists the sites and projects visited during this week:

Session	Description
Opening blessing and talk from Indigenous leaders	A blessing by Dwayne Tomah, a language keeper of the Passamaquoddy language. This was followed by a talk from Chief Hugh Akagi.
Taste of the Bioregion	A meal by chef Barton Seavor incorporating food from across the bioregion, from the coast to inland.
Fork Food Lab	A business incubator and kitchen space for food businesses in Portland. There is shared equipment, reducing the need for individual commercial kitchens.
Wolfe's Neck Centre for Agriculture and the Environment	A 'living laboratory' promoting agricultural education for ecosystem health.
Sea Meadows Marine Foundation	A boatyard bought in 2021 to provide affordable access to the working waterfront, and to offer social and environmental benefits
Osher Map Library	Visit to the Osher Map Library with entry into the archives, followed by presentations by eelgrass researchers.
Agri-Cycle	Meeting with Agri-Cycle, a business that uses anaerobic digesters and composting to produce energy and healthy soils.
Portland Paddle and kayaking to the Eelgrass meadows	Talk from the owner of Portland Paddle, a paddle sports rental company on East End beach. A kayaking trip to a seagrass meadow at the wastewater outlet point.
Portland Wastewater Plant Treatment	Tour of the wastewater treatment plant and explanation of how they reduced nitrogen output into the bay.
East End Beach Conservation Mooring Buoys and Role of Harbor Commission	Talk from the Harbour Master about the effects of mooring buoys on seagrass meadows, and demonstration of their prototype conservation buoy.

One Climate Future Plan and Policy	Talk about the collaborative Climate Action Plan for Portland and South Portland.
New England Ocean Cluster	Reception at the New England Ocean Cluster, a business innovation centre for Marine Industries.
Bristol Seafood	A commercial fishing company A certified B Corp that offers good working conditions and uses packaging technology to reduce waste.
Aqua diving academy	A talk about diving in Casco Bay and potential for citizen science.
Seafood as a Transformation System: Dialogue at Becky's Diner	Lunch at a famous Portland Diner, and presentations about Marine transformation systems by Seafood Source and Bounce Beyond.
Working Waterfront Tour with Bill Needleman	A tour of the working waterfront of Portland and discussion about the tensions between marine industries and tourism
Trip around Casco Bay and Women of the Working Waterfront	A tour of Casco Bay and two oyster farms owned by women.
Bioregional Feast	Sharing a meal made by the learning journey participants and chefs using bioregional ingredients

Figure 18: Descriptions of the sites and projects visited during the Casco Bay Learning Journey, 2022. The huge number and range of projects sought to highlight the manifold potential connections and possibilities.

Spending time with different local projects and actively listening to their understanding of the bioregion from the perspective of a learner was a technique that aimed to generate new narratives and understandings. In particular, this enabled a reframing of knowledge and an openness to different ways of knowing, without deciding in advance what would work and what would not.

For example, the knowledge of the dive shop owners and their experience of diving in seagrass meadows was equally valuable as that of the academics that presented their research. This troubled the idea that certain kinds of knowledge were more valid and useful. Practical, place-based knowledge was equally capable of generating sustainable livelihoods.

While academic knowledge was useful, its application within the bioregion itself was what was of interest.

Valuing different forms of knowledge was weaved into the learning journey from its outset. For example, the participant agreement asked participants to agree to a list of principles, one of which was concerned with being open to thinking and learning differently, and questioning our own mental frameworks:

> "These are the values and principles that have shaped this process and guide a few overarching questions that help to frame our Learning Journey… If a new social and ecological Enlightenment is underway, what would such an Enlightenment imply? What mindsets, practices, processes, and methods of analysis, cartography, photography and visualization can help us forward in transformative movements for social and ecological well-being?" [Casco Bay learning journey participant agreement]

In this agreement, developing new ways of seeing and understanding take precedence over offering solutions without knowing the context. The core approach of the learning journey was to radically open up questions, not foreclose them by offering solutions too soon.

5.2. What politics of language are mobilised?

Thus far, I have described the process of Story of Place and Learning journeys for the Casco Bay Bioregion and Bioregioning Tayside. In doing so, I have started to suggest some of the ways that these have been used to activate a politics of language by analysing and reframing the hegemonic narratives of each place.

Reframing is an essential technique in community economies research. Reframing aims to take the power out of the narratives that impede change, and to enable different forms of action by introducing or emphasising new framings (Gibson-Graham and Dombroski, 2020b). This is echoed in the words of Bioregioning Tayside themselves:

> "By challenging us to see a geographic area – our place – first and foremost through its natural infrastructure instead of the infrastructure humans have designed – turning shires and cities into biomes and watersheds - bioregioning offers us the opportunity to perceive our interdependence with the natural world in new ways and take the urgent action needed to bring human and biotic communities back into a healthy, balanced co-existence with each other" [Guidance for co-acting with Bioregioning Tayside, no date]

Through this definition offered by Bioregioning Tayside, reframing is situated as a central practice of bioregioning. It emphasises thinking, seeing and perceiving differently as the foundation for action to create 'healthy, balanced co-existence'. Through writing a Story of Place and experiencing Learning Journeys, the Casco Bay Bioregioning project and Bioregioning Tayside use reframing techniques to challenge the ways that seeing economy and place have generated unsustainable ecological relationships, and to offer new framings that enable action.

The following sections, Section 5.2.1 and 5.2.2 examine what specific politics of language are generated in Casco Bay and Tayside by asking what stories are told that make a certain regime of management possible? What motivations are foregrounded in such an assemblage (as that created in the Story of place)? Who and what are marginalised? How does this original framing uncommon what is not accounted for (Snyder and St Martin, 2015)? And crucially, how does this make people recognise the ways in which their interests are entwined with others?

5.2.1. Bioregioning Tayside

For Bioregioning Tayside, the hegemonic imagination of Tayside sustains an unethical economy and unsustainable ecological relationships. The way that Tayside is framed shapes what is visible, what can be measured and how it can be managed, and what forms of livelihood are marginalised (Snyder and St Martin, 2015). In their final presentation, the group reflected on this:

> "We began in September last year by talking about our history, and how it shapes the modern view that the world has of Scotland and that Scotland has of itself, and this has been the background, and the context for our learning on this course. This history weaves itself through everything we think about with regard to power structures, environmental change land and marine use" [AberTatha StoryMap, 2021]

The group problematised the hegemonic narrative, both that the 'world has of Scotland and that Scotland has of itself'. This view is of the bioregion as a place of wilderness, with small towns and communities nested within a largely empty landscape. This understanding of the bioregion has implications. The romanticised and iconic portrait of Scotland serves to naturalise the emptiness of landscape, rather than make visible the political processes that removed people from the land (see Chapter 3). Equally, it makes the stark landscapes of Tayside iconic, rather than degraded:

> “People think, oh, rolling hills and heather. Well, heather is a woodland plant, actually. You're missing the whole of the tree canopy that should be above the heather. It wasn't meant to be a moorland. It's been made into a moorland” [Marie, interview]

As Marie describes here, the heather moorland that is so strongly associated with the Scottish landscape only appears in this way because of the way that the land has been managed. This kind of imagery stands in the way of managing the landscape differently or interrogating why particular practices have become dominant.

At the same time as being held as a place apart from the global capitalist system, imagined as one of the places that still has untouched wilderness (Hunter, 2000), Dundee, the major city of the bioregion, was to be developed through establishing its status as an international city. The Dundee waterfront regeneration project hails the designation as the UK’s first UNESCO City of Design, the V&A Dundee being the first design museum outside of London (Discover Dundee Waterfront, no date), and large projects such as the Dundee Eden Project aim to attract visitors from beyond the local area.

The dominant story of Tayside is underpinned by a particular identity of the economy which shapes the pathways for future livelihoods in the bioregion. There is an assumed need for economic growth, an increase in waged employment, and a participation in the global market. In both rural and urban areas, economic development meant developing tourist industries, such as whisky and golf, as well as green tourism. To do so, there is a need to reproduce an identity of Tayside as ‘a place of its own’ (as Massey, 1991 writes), a single sense of place that is coherent and shared.

This understanding of the need for economic growth subordinates non-humans, using them for economic gain, by incentivising the production of ‘Scottish’ landscapes. It also naturalises the dominance of private property ownership that continues to reproduce the romanticised landscape. Alternative pathways for development, and economic practices that do not contribute to economic profit and growth are seen as less powerful.

For Bioregioning Tayside, this therefore creates unsustainable and unethical ecological relationships by creating a distance between the actions that build livelihoods, and their consequences. Plumwood’s (2002) concept of remoteness highlights some of the ways in which the hegemonic narratives in place in Tayside weaken ecological relationships by foregrounding capitalist practices and marginalising other practices.

First of all, Dundee is made remote from the wider watershed that it is a part of, and the wider Tayside bioregion is made remote from the other places that support their livelihoods.

Secondly, humans are made remote from their non-human kin in the bioregion. Development is understood as human development, or improved human livelihoods, and the pathways mapped are often at odds with non-human flourishing. The narrative itself creates a communicative remoteness, where problems are illegible.

Yet this framing fails to account for everything, and Bioregioning Tayside offers an alternative narrative:

> "I was trying to think of how you could change the frame… And you had this kind of image for example of a squirrel crossing the road. This isn't a squirrel crossing the road, the roads cut through the squirrel's tree top highway, so you completely flip the way that somebody is looking at something. This isn't a scenic natural wonder - it's a landscape deforested by humans and overgrazed by sheep and deer. This isn't a pleasant woodland walk. It's an access track through an industrial timber farm. This isn't a patchwork of beautiful Heather Moorland, it's carbon intensive muirburn to enable grouse shooting" [Carol, Interview]

The intention in writing a Story of Place and going on Learning Journeys was to reframe Tayside as a strategy for opening up new possible pathways for living in the bioregion. As Kate states here:

> "[We were] interested in the notion of looking at a different way of mapping the place where we all live, not in a proprietary way, but in a way of seeing it differently" [Kate interview]

It is also notable that Kate recognises that tools like mapping that are used in Story of Place and Learning Journeys have the potential to be proprietary. Cartography has been (and continues to be) a technique used in colonial practices of enclosure (Anderson, 1983; Dodge, Perkins and Kitchin, 2009). However, it is also used as a form of resistance and claim to sovereignty by Indigenous peoples (Wainwright and Bryan, 2009; Hunt and Stevenson, 2017; Kidd, 2019) and in research into a range of alternative forms of knowledge (Taylor and Hall, 2013; Counter Cartographies Collective, Dalton and Mason-Deese, 2015; Maharawal and McElroy, 2018), and can serve multiple liberatory functions. Here, mapping and seeing space is being used to "render the familiar unfamiliar" (Gibson-Graham, 2011, p. 15), and to

highlight the ways in which there are still spaces, practices and subjects that are not capitalist[50].

The counter-narrative that Bioregioning Tayside developed worked to minimise remoteness in numerous ways. Firstly, it challenged the idea that Tayside was a remote place. Instead, their Story of Place unpacked how Tayside was shaped by wider factors such as the Industrial Revolution, and in turn shaped other places:

> "It's amazing that you're only studying one place, but actually, the ties are global. So, you know, even hundreds of years ago, the connections were global. That has been huge to grow and influence the way that we live here… And what's really interesting there is you begin to see these incredible patterns of - it's as if things start to click and you begin to see 'ah I really get it, I get why this has been a force of colonialism for so long'... you begin to really start to see these patterns" [Marie interview]

Capitalist practices have transformed Tayside, but also has been transformed by Tayside. Such a reframing shows that although Tayside is specific as a place, this construction of place happens in relation to other places, such as England and processes of internal colonisation (Toogood, 2003; MacKinnon, 2018). It also helps to identify responsibilities to other places that have been constructed in relation to Tayside in "unequal power geometries of capitalist globalisation" (Massey, 2004, p. 14). In this case, how Tayside has been implicated in the colonisation of other places, such as North America; in particular, the displacement of Indigenous people in Maine.

Secondly, it draws attention to place-based practices and heritage. For example, we worked with a basket weaver and tried coracling, a form of paddle boat made of willow and cowhide. However, this is in contrast to the ways in which place is romanticised in order to attract tourism or imagined in ways that close its boundaries and defines 'us and them' (Massey, 1991). Instead, drawing attention to place-based practices is used to show alternative livelihood relations in ways that are specific to place. This opens up ontological horizons by showing potential sources of alternatives (Escobar, 2001). It also shows how practices and place-based knowledge are entangled with the natural world. In turn, this suggests that if

[50] This was also noted in the Casco Bay Learning Journey Participant Agreement: "We hold the process of bioregional mapping with the reality that the European Enlightenment era gave rise to prominence of the map, and it is not surprising that maps often appear to be "neutral" and objective. Yet, underlying worldviews shape both the creation of maps and their uses and interpretation. Historically, maps have been used to name and control territories and resources, often in service of colonial expansion and an extractive, exploitative economy justified by the "Doctrine of Discovery" and narratives of white supremacy." [Casco Bay Learning Journey Participant Agreement]

nature is dynamic and place is a process, then place based knowledge is equally dynamic and responsive.

Finally, it is used to create a sense of place as a strategy for activating responsibility and care (Ryan, 2012). Therefore, place-based knowledge and practices are not understood as somehow outside of history (Escobar, 2001), or essential (Massey, 1991); "alternative ecological practices cannot only be documented but are always being struggled for" (Escobar, 2001, p. 158).

This reframing is underpinned by a critique of the ways in which capitalist ways of thinking have made humans remote from their non-human world. For example, in their Story Map, the group said:

> "Might the biggest intervention we could make right now for example in relation to our soil story be to invest our time in bringing civil society into that story, one which has been dominated by the market and the state for so long?" [AberTatha StoryMap, 2021]

Reframing the story of soil degradation to include all of the factors that generated a system in which soil degradation is taking place is understood as an important intervention because it opens up new sites for intervention and possibility.

5.2.1. Casco Bay Bioregion

For Casco Bay, the ways of thinking about Maine that were troubled were the dominant narratives of it as "Vacationland" and "the way life should be". Drawing on its supposed wildness and natural beauty, it is represented as "a place apart" (Miller, 2019, p. xix). It is also a place that has been performatively marginalised as peripheral, or a place that is subject to 'internal colonisation' by a dynamic of supporting urban centres like Boston (Miller, 2019). These two framings produce particular ways of enacting livelihood in Casco Bay, situating the economy and environment as separate domains, and anaesthetising competing claims of belonging.

The very first session of the learning journey was a documentary on the Doctrine of Discovery, and a discussion facilitated by the Passamaquoddy language keeper, Dwayne Tomah. For George, this was an important way to start the learning journey:

> "We have here, in the Gulf of Maine, we've got Indigenous communities that have been facing 400 years of close to genocide, and urban communities that don't even have a

clue that there's Indigenous people left. And living within the same place, who don't know each other" [George, interview]

Beginning to 'know each other' was important in unsettling the way that Casco Bay is understood in terms of who inhabits the bioregion, but more importantly it was a way to begin to unpack the hegemonic narratives that shaped Casco Bay. For Diane, a Diné[51] participant who now lives and studies in Portland, beginning by learning about coloniality was essential:

"And also make that connection to be like, oh, there's like tribal people up here. I knew there was - but I didn't actually know there were five tribes before I came… So, I would say like really incorporating that Doctrine of Discovery, and I really appreciated how they had an Indigenous leader come in, an elder, and do a prayer and open it that way" [Diane, interview]

The Doctrine of Discovery not only enables and justifies the colonisation of Indigenous lands, but also acts to create and perpetuate racial hierarchies (R. J. Miller, 2019). This Doctrine has shaped the way that Maine has been governed since colonisation. The designation of land as *terra nullius*, or empty land, because it was not managed in ways that were legible in Euro-American law (R. J. Miller, 2019) has continued to shape what is understood as productive land use. This generates a form of systematic remoteness (Plumwood, 2002) in which Indigenous peoples are consistently marginalised. Without addressing the discourse and narratives that underpin this remoteness, it is not possible to build more just economies in Casco Bay. It was therefore a key framing to begin the learning journey with.

For George, another key framing that limits possibility in Casco Bay is the language of resilience, which is used by policymakers in Maine:

"Resilience then sort of wove into the paradigm as 'we can now weather the storm and come back, and then keep on' - but then weather the new storm, and then keep on. And then transformation was 'oh, wait a second. This is not about just weathering the storm and going back. It's about weathering storms, yes. And changing the very nature of the systems themselves'" [George, interview]

The idea of resilience prevented people from thinking about broader systems change and instead directed action towards managing symptoms of unsustainable ecological

[51] *Diné* is the term that Diane uses to identify herself as an Indigenous person to the Navajo nation.

relationships (MacKinnon and Derickson, 2013). It also shapes the forms of measurement and evaluation that can be used. In the reflection session on the closing day of the Learning Journey, one participant said:

> "It's important but the field itself it's so - it can be actually reductionistic in contributing to the growth paradigm and the dominant power structure and you know, all the things that we're identifying… and [forms of] evaluation can actually validate it and support it. So, do we break that? How do we take that system and see that system?" [Casco Bay Learning Journey reflection session]

The dominance of capitalist thought and the reliance on economic growth as a means for improving wellbeing meant that alternative measures of value were not legible. This is intertwined with the way that the economy and environment are framed as trade-offs in Maine (see Miller, 2019), rather than as co-constitutive of each other. During the learning journey, a trade-off that kept emerging again and again was the relationship between oyster farming and eelgrass.

> "I was talking to Paula yesterday about how the eelgrass meant that they had to move [their oyster farm] ... like that's a huge challenge. That's a huge economic frontload - like economic stressor - for the long-term benefit of eelgrass, but people are talking about - their timescales are so much shorter - we're talking about like, a lifestyle business versus the last 100 years of the Gulf of Maine." [Casco Bay Learning Journey reflection session]

Here, in the reflection session, a participant explains how she began to see a form of temporal remoteness. She is describing the pressure to move oyster farms as eelgrass beds began to flourish. We saw this several times during the learning journey; oyster farmers explained how they were noticing a positive symbiotic relationship between oysters and eelgrass. Yet the protection of the eelgrass meant that oyster farms had to relocate if eelgrass was present. For the oyster farmers, this had large financial implications that disincentivised them to report eelgrass when they found it, or to engage in practices that supported its growth. Seeing the economy as a separate sphere to the environment reproduced this form of temporal remoteness.

> "The almost leaden weight of history doesn't change things - Like, you know just this sense of capitalism at all costs. So, there's this really interesting dynamic that's occurring and we're seeing that true transformation, true systems change can really be seen through this bioregional lens" [George, interview]

For participants in Casco Bay, an alternative narrative was developed. This centred around thinking of the bioregion as an interdependent socio-ecological system rather than through separate domains of economy, environment and society. This reframing works against forms of epistemological remoteness, in which the impacts of livelihoods are made illegible through the ways of understanding the world. By understanding Casco Bay as the outcome of more-than-human co-becoming, the consequences of livelihoods were brought into focus and into spheres of responsibility.

It is important to note that not all participants felt that this reframing was successful. A Passamaquoddy participant reflected on the Learning Journey as follows:

> "There is a difference in cultural appreciation. Like and I don't mean that people don't appreciate it. I don't. I just think people don't realise what it is they're seeing. Because they haven't seen it in a way that I have" [Mae, interview]

Bioregioning has similar emphases to Indigenous ontologies in Wabanaki territory. However, after spending a week in the bioregion trying to develop new forms of appreciation, Mae felt that participants still didn't have a deep understanding of the relationship between culture and land.

> "Everything here is sacred, fish are sacred, waters sacred, it's higher power to us… It was here before us, and it's treated that way - as it is before us. But to not, I don't want to sound like this is rude or like people don't care. But when I went to Portland, it was very much like an enterprise, like a business" [Mae, interview]

For Mae, the capitalist perspective was evident, and despite participants attempting to form new understandings, this framework persisted. Understanding Casco Bay as an interdependent social-ecological system did not extend as far as recognising sacredness. The reframing of Casco Bay may come closer to Mae's Passamaquoddy ontology, shifting "relationships of power away from an (Anglo) human-centred dominance towards a reconceptualization of a co-emergent world based on intimate human-more-than-human relationships" (Bawaka Country *et al.*, 2016, p. 470), however, it does not become an Indigenous understanding of Casco Bay. Despite similarities in a focus on interconnectedness, bioregioning and Indigenous ontologies are different in ethical and politically important ways (see Chapter 7).

5.3. Discussion: The ontological moment of bioregioning

Thus far, I have described the tools that Bioregioning Tayside and the Casco Bay bioregion use to critique hegemonic narratives of place and the remoteness that they produce, and to rebuild narratives of place. These narratives centre around notions of interdependence and the bioregion as co-becoming. The following section addresses my second research question: How does bioregioning problematise discourse of place and the economy, and what new narratives does it offer? As Chapter 3 shows, bioregioning builds on the spatial critique of bioregionalism but focuses on the process of bringing the bioregion into existence. This research question could then be: how is the bioregion being brought into existence through a politics of language?

The politics of language suggests two things. First, generating a new language of economic diversity creates a new ontological horizon for enacting different livelihoods (Gibson-Graham, 2011; Gibson-Graham, Cameron and Healy, 2013). Second, it critiques how particular practices are marginalised, and how that marginalisation is conditioned by attributing a particular morality or identity to the economy (Madra and Özselçuk, 2015)[52]. The reframing that takes place is what Miller (Miller, 2013a) might describe as an *ontological moment*. For Miller (Miller, 2013a), the ontological moment of community economies is when concepts of the economy and community are understood in ways that are powerfully anti-essentialist: the economy is all of the ways that make a livelihood, and community is a condition of being in common (see Chapter 2).

I argue that the politics of language produced by bioregioning could be described as an ontological moment. Through Story of Place and Learning journeys, the groups highlight the contingencies that shape how place is imagined. This involves an active 'unworking' of understandings of space and place, "interrupting myths, undoing certainties and opening up closures" (Miller, 2013a, p. 521). By unsettling narratives of place, any sense of positive essence or 'sameness' of the subjects of the bioregion is instead undone.

[52] For example, how "is the marginalization of nonhuman populations a consequence of the normative anthropocentric association of the health of an economy with its rate of growth?" (Madra and Özelçuk, 2015, p.133).

This unsettling was achieved by discursive strategies that can be understood as forms of genealogy and deconstruction (Section 5.3.1), and a way of bringing the bioregion into existence by countering remoteness (Section 5.3.2).

5.3.1. Bioregioning as genealogy and deconstruction

Through creating a Story of Place, the groups mapped the history of how their place came to be, including how meanings were naturalised as truth (Foucault, 1991). By constructing timelines and mapping how the governance (as the relationship between humans and nature) of each bioregion has changed, hegemonic narratives of the bioregions were denaturalised, as well as concepts such as resilience and economic growth that constrained the possibility of different bioregional livelihoods.

The learning that they participated in showed place, including cultural understandings and ecological configurations, as contingent and dynamic. This not only troubled how place is understood, but also helped to denaturalise binaries including Culture/nature and Universal/particular (Plumwood, 1993). By rendering these categories as unstable, a space is opened for reconceptualising a "co-emergent world based on intimate human-more-than-human relationships of responsibility and care" (Bawaka Country *et al.*, 2016, p. 470).

Both Story of Place and Learning Journeys involve inventorying the materialities of the bioregion and existing (and historical) practices of living in place. This form of inventorying mirrors that proposed by Gibson-Graham (Gibson-Graham, 2011; Gibson-Graham, Cameron and Healy, 2013). It highlights the potential of more ethical ways of being that are already in existence, but also highlights the entanglements between ourselves and others (Gibson-Graham, 2011). In doing so, the groups draw on the tools of bioregionalism, such as the bioregional quiz, but use them in new ways to create more radical critiques of power. The quiz, designed to show the (lack of) knowledge we hold about place and to encourage inventorying, is oriented towards developing bioregional consciousness.

However, as Plumwood (2008) argues, developing a love and consciousness of place can actually generate a *false consciousness* of place (see Chapter 2), and erase other places and people that our livelihoods externalise negative consequences. It can ignore the question of whose place is made worse (Plumwood, 2002, 2008). Equally, a bioregionalism that draws on understandings of place that are rooted in heritage and an idea of a fixed and stable identity (Massey, 1991) would performatively limit what is possible and would eschew antagonism over being-in-common.

In contrast, the approach described in this chapter focuses on understanding how such ways of being in place, and the identity of place, are constructed. This can make visible the power relations that shape these relationships. It then aims to build a more progressive sense of place (Massey, 1991) that understands how the specificity of each bioregion is contingent on its connection to other places. Bioregioning revalues different forms of knowing that are particular to place as opposed to universal (Plumwood, 1993). Place-based knowledge and practices are understood as valid, regardless of whether they can be abstracted and commercialised (Chapter 7 discusses how such practices are mobilised in a politics of collective action).

5.3.2. Discursively countering remoteness

The politics of language mobilised in bioregioning can be understood as tackling remoteness. Remoteness is understood as a source of problems, preventing the accountability of decision makers and the visibility of downstream impacts (see Chapter 3). Remoteness prevents us from enacting care and "living in ecologically-embedded and responsible ways" (Plumwood, 2002, p. 16). The discursive strategy of bioregioning generates counterhegemonic stances to those that reproduce remoteness.

The ontological moment of bioregioning shows the bioregion to be always in the process of becoming. It does so in ways that make visible the ways that remoteness is generated, and to localise consequences. Firstly, it begins to expose the various kinds of remoteness that are produced and reproduced by the narratives that we tell about place, and instead offers alternative narratives that expose interdependence. This opens up opportunities to build solidarities and struggle over those relationships (Miller, 2019), make visible existing solidarities within and beyond the bioregion, and bring into question the 'we' that are living well together (see Chapter 6). This reveals multiple sites for intervention and place-specific pathways (see Chapter 7).

Secondly, this de-essentialising and denaturalising approach creates a framing that is attentive to others, as well as a recognition of humans and nature as heterogeneous (Plumwood, 2002). Bioregioning does this by drawing attention to the materiality of place:

> "I've now decided, if anybody asks me where I come from, I'm not going to say Alyth anymore. I'm going to say the Alyth Burn watershed. And imagine if you've got 400,000 people saying that where they, where they came from instead of Dundee… that immediately shows that you have a complete sensibility on one of the most important pieces of natural infrastructure that you're part of" [Carol, interview]

As Carol explains, bioregioning redirects focus to the material reality of place, opening up attentiveness to the non-human constitution of place. This represents a reunification of nature/culture binaries (see section 2.2.2.), with the human and non-human, nature and the social, intimately linked (similarly to Whatmore's, 2002, arguments in *Hybrid Geographies*).

Finally, the sustained recognition of interdependence itself is a strategy for countering capitalist hegemony (Miller, 2013a). Capitalism obscures the condition of being in common (Miller, 2013a) by generating forms of epistemological and consequential remoteness (Plumwood, 2002). This ontological stance provides an opening for thinking and acting, and a new language and awareness emerges (Werner, 2015).

5.4. Conclusion: The bioregional macroscope

This chapter opened with a story from the Casco Bay learning journey. We experienced a stark contrast between kayaking in the beautiful bay, and then watching the wastewater flowing out into it. This exercise troubled the image of Maine as a pristine landscape and raised questions of the negative consequences of our livelihoods, as well as how we construct livelihoods for others.

Through an analysis of the tools of Story of Place and Learning Journeys that the groups took part in between 2020 and 2022, I argued that techniques of reframing have enabled Casco Bay bioregion and Bioregioning Tayside to turn sense of place into a radical critique of power. By engaging in processes like Story of Place and Learning Journeys, Bioregioning Tayside and Casco Bay showed how the current ways of living in their bioregions are shaped by multiple forces and relationships. They are contingent and can be reimagined. This counters remoteness produced by the ways we think about ourselves in relation to place and more-than-human Others and multiplies pathways for development.

The way that Bioregioning Tayside and Casco Bay bioregion generate more relational understandings of place mirrors how place is being mobilised in contemporary human geography. Therefore, bioregioning may offer an example of what such a concept of place might look like in practice (see Hubbard *et al*., 2023).

The reframing discussed in this chapter can be summarised through the metaphor of the bioregional macroscope, used by COBALT. The macroscope is a way of looking at the bioregion that sees the past, present and future all at once. George described this to me as he told me about the aim of the Story of Place course:

> “We use the term of co-creating a bioregional macroscope - so you have to build that macroscope together, and it sounds like it’s a sort of cool thing like a gigantic thing that you look through, well no, it’s not really a built thing, but it sort of is in a way! It's a big thing you look through - but who is doing the looking, and through what perspective really really matters” [George, interview]

Unlike a microscope, which expands small parts of a system, the macroscope works across time and scales to make sense of the bioregion as a whole. Rather than simplification, the macroscope aims to make complexity and interdependence visible. It represents a movement from one particular mode of seeing and thinking about the world to another.

Yet the macroscope is not a tool or framework that exists ‘out there’ in the world to pick up and use. It is something that is built through the process of bioregioning. This is an active process of construction that involves reflecting on how one currently sees the world and rebuilding it piece by piece. Crucially, George emphasises that the macroscope has to be co-created. This rebuilding requires the messy work of navigating different understandings, facing contested histories and imaginations of the future. What you see through your macroscope is, therefore, always partial. It is an outcome of the people that build and ‘who is doing the looking’, and so has inevitable blind spots. It can be more or less democratic, but always involves decisions about what is made visible and what is excluded.

Reframing the bioregion does not create a ‘true’ account of what the bioregion is. The ontology of bioregioning suggests that there is no essential bioregional place, rather it is always becoming. However, as Werner (2015) writes, “language alone does not a community economy make” (p. 85). Although reframing and mobilising new discourse is a crucial part of building a politics and ethics of place, this needs to weave into the performance of new subjectivities (Roelvink, St. Martin and Gibson-Graham, 2015). The exposure of interdependence must be transformed into “a new ‘we’” (Gibson-Graham, 2011, p.2), and ways of acting together multiplied (Roelvink, 2015). The following chapter addresses my third research question: How does bioregioning produce new subjectivities for ecological livelihoods?

Chapter 6. Politics of the subject: Bioregioning subjectivity

In Chapter 5, I argued that Bioregioning Tayside and the Casco Bay bioregion had applied reframing techniques that unsettle narratives of place. This critiques how place has been understood, the conditions that have created particular ecological relationships, and affirms other ways of making sense of place. Although this is a powerful act in opening new ontological horizons, reframing alone does little to change such ecological relationships that are identified as being undesirable. Instead, it raises the question of how this reframing brings sustainable ecological livelihoods into being?

In this chapter, I consider the role that this reframing takes in resubjectivation, or the building of new subject positions. As Healey (2015) argues, creating new economies requires "shifting one's desires away from the usual way of imagining [and being] ourselves in relation to the economy" (p.105). Or, as Roelvink (2020) summarises,

> "Knowing that there is more to the economy than capitalism and seeing oneself as part of diverse economic relations are different things; changing the world through knowledge also requires a change in subjectivity" (p.428).

Resubjectivation goes beyond generating of new narratives. It is "something that takes into account the sensational and gravitational experience of embodiment, something that recognizes the… interface between self and world as the site of becoming of both" (Gibson-Graham, 2006, p. 127).

This chapter addresses research question 3: How does bioregioning produce new subjectivities for ecological livelihoods? I outline the process of resubjectivation taking place in Bioregioning Tayside and Casco Bay in three ways. First, noticing hegemonic subject positions and refusing them. Second, rebuilding new, more collective forms of subjectivity through recognising interdependence. Finally, creating spaces for identification with new subjectivities. In each of these steps, I describe moments that "signal the potential emergence of subjects" (Gibson-Graham, 2006, p. 134).

Following this, I reflect on the moments in which this resubjectivation is limited. I weakly theorise[53] this through questions of what is inherited? What pushes back? And what distances are maintained? I argue that recognising interdependence does not mean that the needs and desires of all constituents can be prioritised. Equally, while the process of resubjectivation is not 'complete', the emphasis on co-becoming always leaves space for new ways of being together.

In the last section of the chapter, section 6.3, I discuss how resubjectivation in bioregioning can be understood as what Miller (2013a) describes as an ethical moment. This is the exposure of interdependence and the commoning of a space of negotiation over livelihood.

6.1. Reframing to resubjectivation

In this chapter, subjectivity refers to the ways in which we understand ourselves in relation to the world and, in particular, the economy. Economic theories, both humanist and structuralist, "seal us into stable and hierarchical relations" (Healy, Özselçuk and Madra, 2020, p. 390) through the ways in which they situate subjects in relation to the economy. This is either through understanding the subject as an individual that is detached from and operative of the economic structure, or understanding economic structures as 'above', determining the economic subject (Healy, Özselçuk and Madra, 2020).

In contrast, the post-structuralist approach of diverse economies scholarship sees the subject as "emergent, contingent, and constituted within networks of discourse and power" (Roelvink, St. Martin and Gibson-Graham, 2015, p. 95). Instead of an individual, the conception of the subject centres around qualities such as a capacity to act ethically, an openness to affect, and an inclination to experiment in ways that enhance these qualities

[53] This refers to the weak theory approach advocated for in diverse economies research (see Chapter 2).

(Healy, 2020). Perhaps most importantly, post-structuralist approaches see the possibility for the coexistence of multiple subject positions (Gibson-Graham, 2006)[54].

Resubjectivation is the process of detaching from capitalist subjection (or identification) and transforming self-representations, habits and practices (Healy, Özselçuk and Madra, 2020). This is necessary to enact different economic practices or engage in ecological livelihood negotiations. The micropolitics of self-transformation are therefore a valid and important part of social change (Roelvink, St. Martin and Gibson-Graham, 2015). For bioregioning then, this raises the question of how the work of reframing of place activates a politics of the subject that allows this detachment and self-transformation. How does bioregioning bring new forms of subjectivity into existence?

When I began this research, I thought that most people would focus on the *doing* of bioregioning, and that the subjective dimensions would be something that I, the researcher, would have to draw out. I expected that within bioregioning groups there would be a lot of thought given to the bioregion itself, such as its boundaries and contents, but that the job of unpacking the subjectivities that are built and refused as part of this project would be left up to me. Perhaps even through the process of this participatory research project, we would work together to make sense of this, much like Cameron and Gibson's (2005a, 2005b) PAR project in the Latrobe Valley. I was mostly wrong. Subjectivity was woven into the language of bioregioning in ways I did not expect, such as this reflection in the Bioregioning Tayside StoryMap:

> "What kind acts could we make happen that would disrupt folks' mental models at an everyday level imaginatively enough for them to start seeing with new eyes just as I'm learning to do?" [AberTatha StoryMap, 2021]

Changing ways of thinking and subject positions was a key strategy. From our very first conversations, participants spoke of the 'internal dimensions' of bioregioning, 'scaling deep' and developing 'different ways of seeing' (see Appendix C for more examples).

If "traversing the distance from a more familiar world" to new ways of living (Gibson-Graham, 2006, p. xxx) requires ontological reframing, there first must be a recognition of what we are reframing from. The first job is, therefore, to make visible the current ways of seeing the world (as shown in Chapter 5), and the ways in which this situates people as

[54] For example, Gibson-Graham draws on Resnick and Wolff's (1989) understanding of class as a process to show how people may engage in multiple class processes, and hold multiple subject positions (see Chapter 2).

subjects. As I spoke with people involved in bioregioning, I was struck by the ways in which they described their personal journey. I listened for these stories during interviews because they often narrated the key critiques of the world participants made.

The reframing that each group took part in (see Chapter 5) allowed participants to disinvest from the subject positions that were offered in the hegemonic language of place, and instead understand themselves in relation to others. This unfolded in specific ways. I describe these as 'noticing', or beginning to see hegemonic understandings and subject positions, and 'refusal' of these.

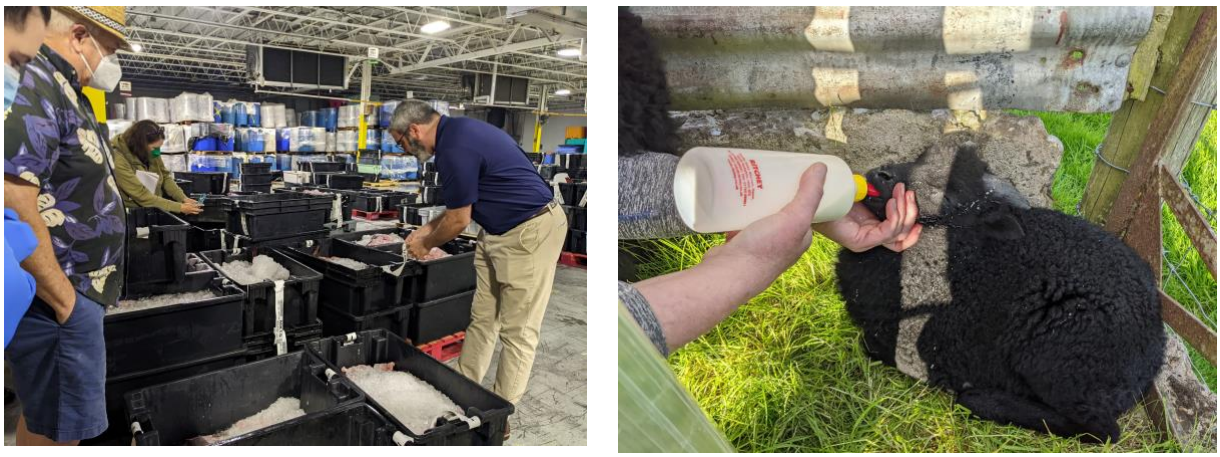

Figure 19: Photos of the Casco Bay and Tayside Learning Journeys (Author's own). Left - visiting the Bristol seafoods factory, Portland, on the Casco Bay Learning Journey. Here we learnt about how seafood was being processed, and how the fish market operated. Right – feeding Hebridean lambs in Tayside.

6.1.1. Noticing and refusal

For almost everyone I interviewed, their stories began with moments of *noticing* how they were positioned, and were positioning themselves through their own mental frameworks, in relation to the world. By engaging with bioregioning, through practices like writing a Story of Place, ways of seeing the world were linked with the subject position on offer.

In one conversation with George, he reflected on how thinking through the frame of bioregioning enabled him, and people that he worked with, to notice hegemonic understandings of the world.

> "The power of it [bioregioning] lies in its potential for what the concept can do, what it can unblock, what can change, how we can see our own thinking, but also seeing these - I'll use the term tacit agreements that we've made - things like we're part of a globalised economy. Oh, yes, of course, we don't question that" [George, interview]

There are several interesting aspects to George's statements. Firstly, it shows how bioregioning has enabled him to understand the hegemonic narratives that are rendered non-negotiable (or uncommoned, as Miller, 2019, would argue, see Chapter 5). Yet in particular, it focuses on how such narratives position people as subjects of the economy. George uses the language of 'tacit agreements' to describe this.

Tacit agreements include an understanding of Casco Bay as 'part of a globalised economy', and that development includes greater participation in the global economy. Describing this as an 'agreement' suggests a kind of complicity in enacting this agreement and reproducing the hegemonic narratives and possibilities that this narrative generates. Through analysing the governance of the bioregion, George was not only able to make sense of the contingency of the economy, and how this shaped his own subject position, but 'see his own thinking' and how it contributes to this. Yet by using the term 'agreements', George recognises that there is still remaining agency in this. Far from an economic machine that is controlled by experts, in which we imagine ourselves as "individual cogs" (Gibson-Graham, Cameron and Healy, 2013, p. 2), the economy is situated as the outcome of our decisions and actions.

For George, revealing the tacit agreements we enter into, and thus the contingency of the economy, is key to 'unblocking' new ways of seeing and being in the world. The economy starts to lose its character as a set of naturalised laws or the domain of experts and is opened up for negotiation (Gibson-Graham, Cameron and Healy, 2013). Noticing this provided the basis for building different subject positions.

In an interview with bioregional thinkers (see Wearne *et al*., 2023), a participant, Susan[55], had a similar realisation:

> "Westerners often have … this expansionist extractivist mode, we just do whatever we want. And when we run out, we move on… We talk about that first step, you know, 'think differently'. Oh my god, it's the hardest!" [Susan, interview]

This 'expansionist extractivist mode' of thinking shapes the ways in which people can relate to human and non-human Others. One particular assumption that troubled Susan was the ways in which non-human entities were understood:

[55] This interview was part of a project on bioregioning as a global movement, and permission was obtained to use this data in this PhD project (see Wearne et al., 2023). Susan is based in large Australian city and works in systems transformation using a bioregional perspective.

> "First white fellas see it [a tree] and they either want to cut the tree down or they don't see it at all" [Susan, interview]

Through these lenses, nature is only visible when understood as a resource. Such framings only open up particular subject positions, making any relationship other than one of extraction impossible. Susan recognises how difficult it is to switch mode and 'think differently'. It is taken for granted as reality, making the epistemic assumptions and performative effects almost impossible to challenge.

Carol had a similar experience. Engaging with ideas of place through bioregioning made her notice the way that humans were disconnected:

> "The problem is the disconnect from nature and the fact that we don't see ourselves as part of the rest of the natural world. And I think that's why bioregioning, for me, has the potential to be so powerful because it puts us it changes the frame and puts us back into that connected place" [Carol, interview]

This binary separation of humans and nature in Tayside limited the ways in which non-human Others could be accounted for. However, as Carol notes, thinking in terms of bioregioning enabled her to reject this separation and understand herself in new ways.

I describe this as refusal (drawing on the feminist politics of refusal). The term 'refusal' signals something different to resistance. Whilst refusal and resistance are related, "Refusal, instead, is a kind of abstention, a disinvestment from rules of engagement" (Bhungalia, 2020, p. 390). It is about rejecting what is currently on offer, and an "affirmative investment in another possibility" (Weiss, 2016, p. 352) through a form of ontological politics.

Affect

Noticing came not only through reading and learning, but also through affective experiences. Affect refers to the body's capacity to affect and be affected by the world around it. Although there is no single accepted definition of affect in geography (see Thrift, 2004), it broadly refers to the ability to move from one bodily state to another (Anderson, 2009). Diverse economies approaches have drawn on Spinoza's understanding of affect, in which:

> "Affect, defined as the property of the active outcome of an encounter, takes the form of an increase or decrease in the ability of the body and mind alike to act, which can be positive – and thus increase that ability (counting as 'joyful' or euphoric) – or negative

– and thus diminish that ability (counting as 'sorrowful' or dysphoric)" (Thrift, 2004, p. 62)

Affect disposes the mind in certain ways, and increases or decreases the body's abilities (Thrift, 2004), and importantly can create a shift in one's political position (Roelvink, 2020). Diverse economies research draws on affect as a way of understanding how micropolitics of self-transformation take hold. As Gibson-Graham writes,

> "If to change ourselves is to change our worlds, and the relation is reciprocal, then the project of history making is never a distant one but always right here, on the borders of our sensing, thinking, feeling, moving bodies" (2006, p. 127).

In diverse economies scholarship, affect is understood as a way of changing economic subjectivity. Roelvink (2020) argues that it can be difficult to see oneself outside of capitalism. Affect can "create a break in one's subjective attachment to capitalocentrism… and create the opportunity in which new relationships can be formed and new opportunities for being can emerge" (Roelvink, 2020, p. 428).

It is possible to see an affective register in George's comment earlier in the chapter:

> "The power of it [bioregioning] lies in its potential for what the concept can do, what it can unblock, what can change, how we can see our own thinking, but also seeing these - I'll use the term tacit agreements that we've made…" [George, interview]

Seeing your own thinking for the first time, as if from the outside, is uncanny. Seeing the familiar and implicit as suddenly strange acts as a moment of dislocation and estrangement. George was not the only person who described a moment of dislocation. Carol also told me about how learning about her bioregion caused the 'penny to drop':

> "I was actually beginning to see the patterns that emerge as a result of a big horizon casting back and pennies dropping and thinking, 'Oh my god, this has been going on for so long, how have we not done anything about it?'" [Carol, interview]

For Carol and George, there was an uncanny moment of seeing the world through a new lens. Others painted pictures of more visceral affective experiences. Jack[56] (in an interview for Wearne *et al*., 2023) described how he came to feel that something was wrong:

> "I grew up on an industrial chicken farm. And I hated it. So, I already knew there was something wrong with agriculture, from the point of view of a bunch of chickens in big

[56] Jack runs a bioregioning project in Colombia and convenes an online network of bioregionalists.

> barns that get slaughtered en masse in a factory... And when I went to graduate school studying complexity and earth system science, I sort of went through a year where I depressed the shit out of myself… I was like, 'Holy fuck, we are in a really, really bad place'… You map the supply chains just enough to be like: 'Impossible. This system needs to collapse'" [Jack, interview]

Jack's experience was less an uncanny realisation where capitalocentrism suddenly became visible. For him, disgust, depression, hopelessness and frustration, from both experiencing industrial agriculture and academic study of Earth Systems Science, enabled him to notice his frames of thinking. Jack's story, and the uncanny experiences that Carol and George describe, became the starting point for new habits of thought[57] and new forms of caring.

This is not to say that Jack, Carol, George, and others I spoke to didn't already care. As Roelvink notes, transformation does not begin from a "blank page", people are already affected and attached to the world in diverse ways (2020, p. 433). Carol, George, and Jack already practised some form of care. George, for example, has a long history of ecosystem restoration work. Yet these affectual experiences enable them to be open to different possible trajectories, and to refuse the subject positions on offer. In other words, it provided the grounds for politics of becoming (Connolly, 1995).

The subject positions that were available within hegemonic understandings of what it means to live in Casco Bay or Tayside only enable particular ways of acting in place. Once participants noticed this, they began disinvesting from such positions and rebuilding different identifications.

6.1.2. Rebuilding subjects

Bioregioning offered new ways of thinking about what it means to live in place[58], allowing people to refuse these positions and build new ones. Developing a narrative of the bioregion that is underpinned by the materiality of place (see Chapter 5) provided an opening for resubjectivation. In both Tayside and Casco Bay, there were two layers of resubjectivation. One was an understanding of self, and the subject positions that (human) individuals

[57] This is similar to the 'awakening' narratives that Barker (2022) found amongst preppers. Prepper is a contested term for people actively preparing for crises through actions like storing food and learning survival skills. For Barker (2022), an uncanny moment of realisation that the world was not 'as it seems' was a key motivation for prepping practices.

[58] As discussed in Wearne et al. (2023 - see Appendix B), bioregioning serves a range of different motivators.

occupy, and the other was a process of becoming communal and fostering collective subjects.

Individual subjectivity

During a conversation with Carol, she described a sense of renewed energy she felt when building the timeline of Tayside in their Story of Place.

> "There were 'aha' moments in that process of building the timeline… But then I think the other thing that the course gave me was permission" [Carol, interview]

The permission that Carol was granted was to begin intervening in the bioregion in specific ways, including creating Bioregioning Tayside. She was able to refuse the current subject positions on offer that positioned her as a passive object. Instead, she could see that although she is in part a passive consumer of a global economy, she also held other subject positions in which she could perform more ethical livelihood relationships. Marie had a similar feeling:

> "It forced me to really, I suppose, study, and learn and research and connect those pieces of the past that I knew about. I knew about the clearances, I knew about the industrial revolution, I knew about big estates, I knew about people bringing in sheep, I knew about all of that. I knew about deforestation even, but I hadn't really connected them all to understand the process or the political or cultural or societal changes that had happened… And by understanding the foundations of the problem, that allows you to tackle it in a particular way, which is what we're here to do" [Marie, interview]

When Marie says that understanding the problem "allows you" to address it, she means both that it gives you the tools and knowledge, but also the authority. She, and the others that created Bioregioning Tayside, became able to occupy a new subject position that creates more ecological livelihoods.

Throughout the learning journeys, this feeling was evident. The Casco Bay learning journey centred on the seagrass *Zostera marina* (L.), or eelgrass. Eelgrass is at the centre of many struggles in Casco Bay. It is shredded and uprooted by invasive European green crabs. The thousands of mooring buoys in the bay erode the seabed and leave large, empty rings in eelgrass meadows. The nutrients dumped into the water from the sewage works cause eutrophication, further stressing the eelgrass. But we also met with people coming up with solutions - the Harbour Master who had invented his own conservation buoys, and

academics working with oyster farmers to understand the potentially symbiotic relationship between oysters and eelgrass (see Chapter 7).

> "After we kayaked over the seagrass, we walked back up the beach and talked about all the things that we had seen. At one point, Lauren lifted up a piece of eelgrass that had washed up on shore. There it was - the shredded edges where green crabs had been. We all gathered round. There was a new energy in the air - people could see how positive change could happen, and how they might be a part of it" [Research diary, 10th August 2022].

This moment on the learning journey revealed the interdependencies within the bioregion. The relationship that we had discussed in the abstract was suddenly there in front of us (see Figure 19). This could be what Miller (2019) describes as an *encounter* in which people experience how they make their own livelihood, how it is made by others and how they make livelihoods for others. Crucially, it began to expand possibilities for agency (see Section 6.3.3).

Figure 20: Eelgrass that was floating in the water as we kayaked around East End Beach on the Casco Bay learning journey. There is visible shredding that evidences the invasive green crabs. (Author's own image)

Collective subjectivity

The appearance of cracks and spaces for active participation in livelihood negotiations did not result in only a shift in individual behaviours, or in ecological footprint narratives (see Huber, 2022). It also began to create the possibility of a collective subject, or a process of becoming interdependent, with both human and more-than-human Others, as a form of bioregional subjectivity.

Thinking through the frame of the bioregion enabled Marie, for example, to identify inhabitants of Tayside as commoners:

> "It [Tayside] doesn't just belong to the people who happen to have inherited or have the monetary ability to buy that land. The air doesn't belong to them. The biodiversity doesn't belong to them. You know, the sea doesn't belong to them, it belongs arguably to no one. And as humans, we have the ability to exploit it, or to use it or to use it sustainably. And actually, that's up to all of us who live in a place to have a contribution and a say as to how that should happen. And not just those people who happen to own the land, which in Scotland is a very, very few people who don't usually live there" [Marie, interview]

Marie is expressing a desire for bringing Tayside into the common. Commoning here could be both in a literal sense in terms of communal forms of ownership. However, there is a subtle shift in Marie's words here from typical language of the commons. Rather than a form of collective ownership, she says that the bioregional place of Tayside "belongs arguably to no one". It may, therefore, be more useful to consider Marie's words through Miller's (2019) use of commoning.

For Miller (2019), commoning is the process of bringing the very negotiation of questions of how to live in place into a common space. As literature on the commons and commoning suggests (see Chapter 2), commoning requires a more communal form of subjectivity: the exposure of a state of being-in-common (Miller, 2013a) that requires recognition of commonality (Diprose, 2016). Bioregioning enabled Marie to see Tayside as common, and to engage in commoning of ways of living in Tayside.

This is echoed in a newsletter for Bioregioning Tayside. Bioregioning was defined as follows:

> "[Bioregioning] is a 'community and participatory process that combines ecological and physical information with social and cultural information within a given place, as defined by those living there' And of course, mapping assets and resources, both

> human and biotic, can begin to exert new power and new agendas about their development" [Bioregioning Tayside newsletter, 7th November 2022]

In this definition, the bioregion is presented as the outcome of interconnectedness. The bioregional community, or subject, is not solely human. It is a hybrid subject made up of the human and more-than-human, including the physical landscape itself. Bioregioning Tayside argues that recognising this state of co-becoming allows this bioregional subject to 'exert new power and agendas about their development'. The bioregional subject is not tied into the positions assigned through capitalist lenses.

6.1.3. Creating spaces for identification

So far, this chapter has reflected on the personal journeys of participants in Casco Bay bioregion and Bioregioning Tayside. This process of resubjectivation was supported by the politics of language discussed in Chapter 5, as participants noticed the ways that the hegemonic framings of place and capitalocentric discourse positioned them in particular ways. They refused these positions, instead understanding themselves as occupying more than the role of capitalist consumer, and as part of a communal hybrid subject. This section turns to the ways that bioregioning creates spaces to support the identification with new subject positions[59].

Spending time learning together in place on Learning Journeys acted as a transformational practice of becoming which "subjects are made anew through engaging with others" (Gibson-Graham, 2006, p. 158). This happened through affective experiences of being in place, and through conversations and spaces in which collective subjectivity could be experimented with, and new ways of being together experienced.

Affective experiences

As shown in Section 6.1.1, affective experiences played a role in participants' disinvestment from capitalist subject positions. Through bioregioning, affective experiences (particularly during learning journeys) also created a space for identification with bioregional subjectivity.

As Jack describes (in an interview for Wearne *et al*., 2023), the purpose of learning journeys is to experience place and become affected by it:

[59] This draws inspiration from how Gibson-Graham (2006) describes the ways in which the Latrobe Valley project created new spaces for identification with alternative subject positions.

> “Look at all the dead rivers, walk the trails among them, pay attention to the migration of the birds. Notice the kinds of plants that are here and how they're interdependent with each other. Learn about the history of this place, and how the Indigenous people live here. Notice the tourism economy and how it is the key source of destruction of the territory at the moment… That was when these bioregionalism concepts were no longer concepts in the abstract, they were just readily available lived experiences” [Jack, interview]

Spending time in place with a focus on sense of place, aesthetics of place (as Ryan, 2012 advocates for), and knowledge of place, for Jack, develops a form of sensitivity that predisposes the body for a politics of ecological livelihood. Learning journeys and writing Story of Place are both centred on learning. However, as Jack notes, this is more than building a knowledge base of facts and histories of the bioregion.

Instead, developing sensitivity in this way can be understood through Latour’s concept of *learning to be affected*. This is a form of bodily learning in which we become more sensitive to difference (Latour, 2004). Latour gives the example of training perfumiers:

> “It is not by accident that a person is called “a nose” as if, through practice, she had acquired an organ that defined her ability to detect chemical and other differences. Through the training sessions, she learned to have a nose that allowed her to inhabit a (richly differentiated odoriferous) world. Thus, body parts are progressively acquired at the same time as “world counter-parts” are being registered in a new way” (Latour, 2004, p. 207).

For Latour (2004), bodies can learn new capabilities, just as the perfumier develops the capacity to differentiate odours. Bioregioning can be understood as learning to be affected. It centres on developing skills and capacities to recognise bioregional specificity, the relationships that create the bioregion, and to notice changes.

Ryan (2012) makes a similar argument that aesthetic experience is a catalyst for the conceptualisation of bioregional place. Particular sensory qualities help humans to navigate space, noticing as they move from one bioregion to the next. As Ryan (2012) writes:

> “Aesthetic response or reaction follows perception with some kind of outcome; I proclaim “How beautiful!” or just silently have the feeling of joy. Aesthetic response leads to aesthetic appreciation, the more enduring after-effect of the sensory stimuli, which carries the element of care and attachment augmentative to the goals of bioregionalism” (p. 90).

However, this aesthetic response can be tempered or amplified by natural science knowledge (Ryan, 2012). Marie gave an example of this:

> “You know, people think, oh, rolling hills and Heather. Well, heather is a woodland plant, actually. You're missing the whole of the tree canopy that should be above the heather. It wasn't meant to be a moorland. It's been made into a moorland” [Marie, interview]

The knowledge that the landscape was highly modified impacted the aesthetic appreciation. The vibrant purples and greens of the heather, and the starkness of the treeless landscapes which her body had been trained to see as beautiful, became indicators of degradation. The body becomes affected in new ways. Through spending time learning about the bioregion and spending time in place, observing and noting changes, participants were sensitised to the specificities of place. Crucially, rather than seeing the bioregion as coherent and homogenous, they developed capacities to sense difference.

Returning to the Casco Bay Learning Journey Participant agreement, this attention to affect is outlined:

> “Curiosity, compassion, and courage are not mere feelings: they are forms of systems-awareness that cultivate knowledge and power for regeneration in living systems. Contemplative practices of wisdom traditions can support us in these endeavors” [Casco Bay Learning Journey Participant Agreement]

Experiences of ‘curiosity, compassion and courage’ were reframed as forms of systems-awareness, a kind of bodily knowledge that can be cultivated. Kate noted this growing capacity in the Tayside Story Map:

> “I'm reconnecting and connecting a new to a veritable cosmos, or maybe chaos of other ways of knowing and restoring my own capacity for perceptual diversity, all of which is of course enabling me to see the bigger system, of which I'm part and begin to understand where Bioregioning Tayside might intervene in order to shift the conditions that are holding the problem in place” [AberTatha StoryMap, 2021]

Kate’s ability to perceive diversity was being trained, opening up her ability to sense difference within the bioregion. It is notable that Kate speaks of restoring her capacity for seeing diversity, understanding it as a skill that has been lost, or at the very least not practised. Equally, rather than thinking bioregionally limiting her attention to the local, it enabled her to think across scales, about the responsibilities and solidarities that extend beyond her bioregion.

Learning journeys create opportunities for encounter, facilitating this learning. Many moments of encounter occurred outside of the scheduled visits, in serendipitous moments that took place due to the fact that we were looking in new ways. Mae described one such encounter:

> "Mae: There are different aspects of life and nature that I learned that I have never seen before. I saw a tuna fish for the first time in my life.
>
> Ella: I didn't realise how big they were!
>
> Mae: They're massive! Massive! It blew my mind" [Mae, interview]

It was a moment that was impossible to choreograph. As we stood waiting to board a boat, a fishing boat came in, and they began to haul a tuna fish over the deck. We had seen the tuna fins which were displayed along the waterfront, but it was difficult to get a sense of scale until we saw the whole fish being brought in. We all gasped and pointed. Even for Mae, who had grown up in Casco Bay, its sheer size was a surprise (see Figure 20).

Figure 21: Large tuna fins displayed in Portland waterfront. The tuna's large size surprised learning journey participants who had never seen one before it had been prepared for eating. (Author's own image).

These kinds of encounters develop what Gibson-Graham describes as an "experimental orientation" towards the world in which there is an openness to being "receptive in a way that is constitutive of a new learner-world" (2011, p. 4).

Over time, repeated encounters offer the possibility of widening the circle of responsibilities and the knowledge of care and restoration (in line with Plumwood, 2008). June gives an example of this in the Tayside Story Map:

> “In part, I read and navigate my way around my landscape according to my observations of the materials that I use on a daily basis. From the resources that I glean from a wooded copse or hedgerow, I look to the health of these natural assets and their associated fauna and flora… And I watch closely any changes in their resilience, over time” [AberTatha StoryMap, 2021]

Here, June is reflecting on her craft of basket weaving. Spending time getting to know the natural materials that she uses and watching them day to day enables June to learn indicators of health and flourishing and monitor how they are responding to changes in their environment.

Through experiences like learning journeys, there was the creation of opportunities for positive affective experiences that enabled a ‘bioregional consciousness’ (Sale, 1991) and love for place or sense of place (see Figure 21). This predisposes the body for politics through a positive experience of place. As Gibson-Graham (2006) writes, “the affects associated with this becoming community are not those traditionally linked to left politics—the outrage and anger” (p. 18). It is through sensing difference rather than sameness as well as recognising interdependency and solidarity.

However, these affective experiences were not solely uncritical love for place. They were modified by knowledge to generate a more critical understanding of bioregional place (Ryan, 2012). This also produces affective responses, those more akin to grief, disgust or anger that can generate political action.

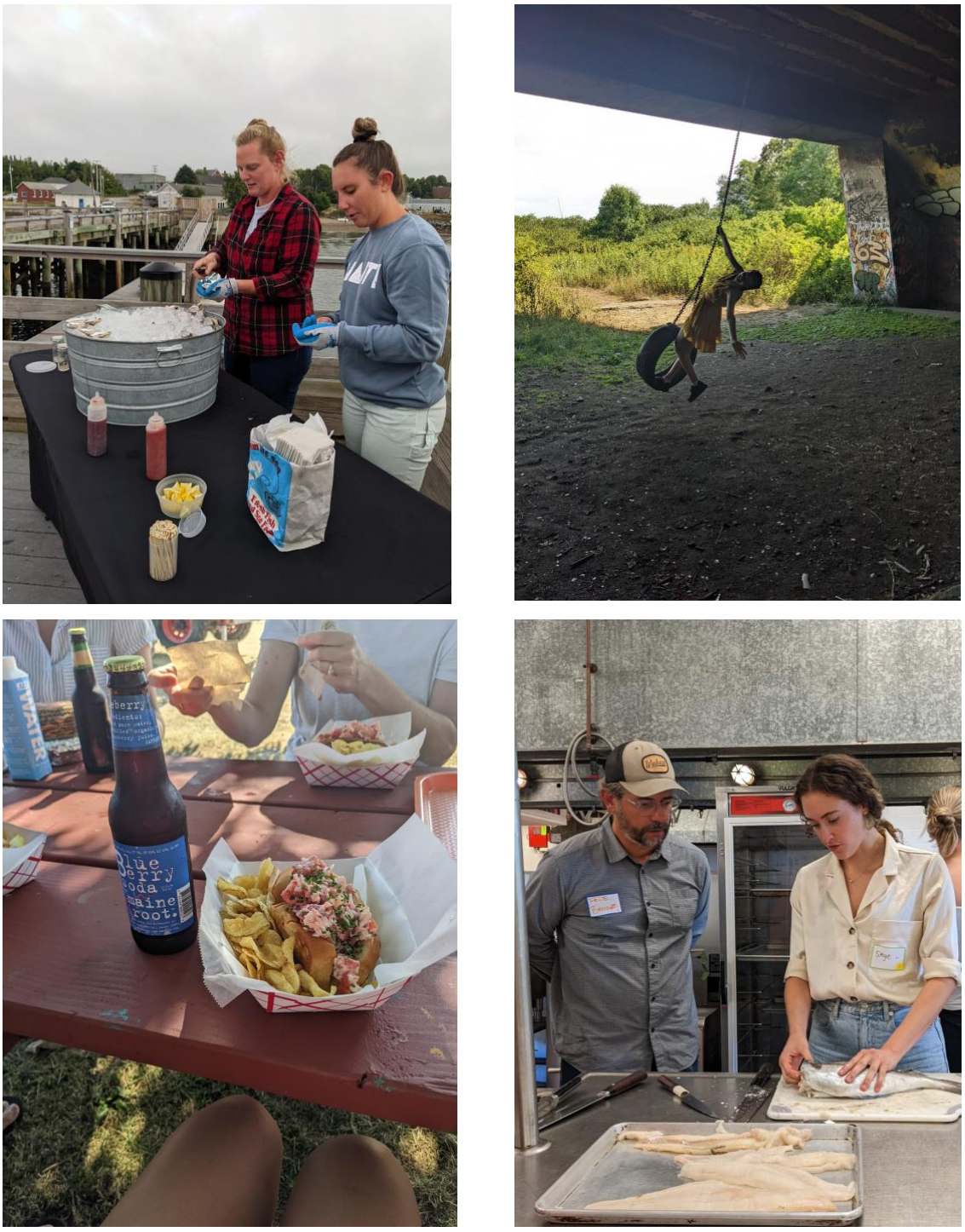

Figure 22: Images from the Casco Bay learning journey (Author's own). Top left – Two oyster farmers shuck oysters. Top right – A member of the learning journey plays in Battery Steele, Peaks Island. Bottom left – Lobster rolls and blueberry soda being eaten by learning journey participants. Bottom right – Cooking a meal with ingredients from the bioregion. Each of these were sensory experiences which were undertaken with a sense of curiosity and openness.

Being together and trying things out

Alongside developing a sense of place through affective experiences, another way in which space was created for new subjective identifications was by opening up spaces for experimenting with collective identities. This collective identity was not arranged around commonality of values, but around a recognition of being-in-common (Nancy, 1991).

One way of doing this was through an openness to difference. Both Casco Bay and Bioregioning Tayside embarked on learning journeys without a prescription of what the destination of such a journey might be. For example, the first principle of the Casco Bay Learning Journey participant agreement was:

> "Principle 1: Unity in Diversity of Perspectives. We trust that we are all on this Learning Journey to serve a common purpose to better see the interrelationships… in Casco Bay. In pursuit of these goals, we will need to learn to see together and find strength in our different views and experiences. We honor such differences, and share a group commitment to understand perspectives, welcome different ways of interpreting the same problem and to work cooperatively toward deep listening that may offer opportunities for work ahead" [Casco Bay Learning Journey Participant Agreement]

This agreement (signed by all participants before the learning journey) involves commitment to both being together and honouring difference. Yet recognising difference was partnered by an aim to expose already existing interdependence:

> "Given the nature of living systems, that we are part of the systems we study, and that we are all profoundly interconnected – how we show up in our Learning Journey shapes the transformational potential of our work together" [Casco Bay Learning Journey Participant Agreement]

Being together, therefore, did not mean sharing the same values, forms of knowledge or interpretations of the problems faced. Togetherness was defined by interconnectedness, and the learning journey aimed to make this form of being-in-common explicit as a strategy of bioregioning. Learning journeys, then, provided a space for exploring subject positions through a form of solidarity "that is based not on sameness, but on a growing recognition that the other is what makes self possible" (Gibson-Graham, 2006, p. 20).

One participant on the Casco Bay Learning Journey explained how this felt during a reflection session at the end of the week:

> “What I loved was the coming together of all of the - We come from such incredibly rich backgrounds and have so much that sort of sparks new understanding and new thoughts. And I think that the people we were interacting with on the ground here, also saw that and they were also seeing themselves and there's - you could see the sort of pride that was coming out as they were telling their story. So, it's like you're unlocking their potential and you're creating the conditions for our own learning. And there's something that's sort of just so rich and juicy” [Casco Bay Learning Journey Reflection Session]

The learning journey’s approach to difference ‘created the conditions for learning’, enabling participants to experiment with new ways of being together, without determining outcomes, or seeking consensus. It acted as a space for trying out new communal subject positions and experimenting with holding difference and tension. In my own research diary, I reflected on this:

> “In the closing session, one of the questions was ‘what is exciting you?’ and George said something interesting which was that the point isn’t to learn everything but to learn to hold complexity. After such an intense week where we tried to take in so much, this does seem like a skill you have to learn - just to accept complexity and resist simplifying everything back down” [Research diary notes, 13th August 2022].

By coming together on learning journeys and through events, in Tayside and Casco Bay, there were opportunities to explore ideas of new ways of being in place and enacting these subject positions, without offering a blueprint. As Kate explains:

> “I think that is a really profoundly effective public classroom. Programming that helps people not bite off all of it, right? But that allows people lots of portals into the ways that bioregioning can be relevant to them having a quality of life, of being more at peace with nature, understanding shared assets and resources. I think that Bioregioning Tayside can be this lovely kind of lending library of ideas” [Kate, interview]

Rather than working towards generating a singular theory of change or imaginary of what Tayside should be, Bioregioning Tayside sought to generate ideas that could be explored, tried out and discarded. Learning journeys participants engaged with each other and began to identify themselves, with others, as actors attempting to build something new. In both Tayside and Casco Bay, new groups and projects began to form (see Chapter 7).

6.2. Incompleteness of resubjectivation

So far, I have shown how a bioregional subject is made, through noticing and refusing existing subjectivities, and by exposing interdependence as means of building new, collective bioregional subjectivities. However, this is not to say that through this process, a fully formed subject emerges, nor that this subject can perfectly account for everything. There remain cracks, erasures and slippages. The bioregional macroscope, as argued in Chapter 5, can only produce a partial and situated narrative of the bioregion, and therefore the collective subjectivities produced are also partial and situated.

The following section outlines what is *inherited* in subjectivation, what *pushes back* against subjectivation, and what *distances are maintained.* Although this departs from Gibson-Graham's approach that seeks to move from capitalocentric discourses that situate alternatives in relation to capitalism, there is still value in interrogating how alternatives relate to capitalism (Alhojärvi, 2021), how alternatives navigate "everyday ethical dilemmas" (Diprose, 2016, p. 1411) and the role of strong theory in understanding power in alternatives (Naylor and Thayer, 2022). My purpose is not to argue that this partiality is a failure, but to show how this negotiation of subjectivity forms the basis of the bioregional politics produced.

6.2.1. What is inherited?

Alhojärvi (2020, 2021) poses a challenge: "our tools and capacities for making 'postcapitalist' presents and futures are inherited" (p. 25). Although participants began to refuse the subject positions on offer to them, the ones that they were building were inevitably tied to those which they were refusing. Therefore, any resubjectivation is going to involve some inheritance that will "delimit the sensibility of more-than-capitalist economies and thus the prospects of post-capitalist construction" (Alhojärvi, 2021, p. 15). Alhojärvi (2020, 2021) describes this as the 'postcapitalist problem'.

Although participants refused the narratives of place and their own subjectivity that they felt constrained the possibility for living sustainably in place, there were still moments in which such hegemonic framings were inherited. One key example of this was the ways in which global extensiveness of bioregioning was positioned as a measure of success. Despite bioregioning being inherently about action at a particular regional scale, participants said things like:

> "We understand that large-scale systems transformation is borne from small-scale transformations, all the way down to the individual and their commitment to self-transformation" [Casco Bay Learning Journey participant agreement]

> "It's vital to have that regional scale. And we need to have that conversation of how to nest local community action in regional context, because from a day to day lived experience, of course, where -bad metaphor- the rubber meets the road, is the human community of human scale, smaller than the whole regional work" [Dennis, interview]

> "So, it takes momentum, right? So, if one person or one organisation does that, you know, I think it will scale up, right?" [Diane, interview]

Although those involved in bioregioning attempted to begin with their own local context, conversations often turned to global aims, or large-scale transformation. 'Scaling' was considered a measure of success[60]. Bioregioning, unless it becomes a global movement or way of organising, could therefore be seen as marginal. This reflects the capitalocentric thought that considers practices which are local, or particular to certain contexts and people, as less powerful than those which are globally pervasive (Gibson-Graham, 2006). Following the performativity of capitalocentrism, this has material effects. The global is understood as a more causal force, effectively "neutralising the agency of the local" (Blakey, 2021, p. 628).

But, perhaps more interestingly, this also reveals another concept which is inherited in bioregional ontology: scale itself. Scale came up again and again, particularly through ideas of 'scaling up' and 'scaling deep'. Zooming in and out, and "bouncing between scales" as one participant described, was a key way of talking through the relationship between the bioregion and other spatial imaginaries. The quotes above show an imaginary of the world as made up of nested scales. At one end, is the global scale, at the other, the human.

Scale is a common-sense ordering the world and governing it. It can be understood either ontologically as an actually existing spatial configuration, or epistemological: a way of making sense of the world that is taken for granted, (Blakey, 2021). As outlined in Chapter 2 however, the concept of scale shapes roles played in society and capitalist discourse mobilises scale to shape economic subjectivity. In Casco Bay and Tayside, the concept of

[60] Although, this was not always in terms of scale as spatial hierarchy. Participants in Casco Bay referred to Lam et al. (2022) which describes 'amplifying actions' that include scaling up, scaling deep, speeding up. These are different approaches to amplifying 'out, beyond and within' initiatives (see p.2383 for example), underpinned by a logic of growth (see also, Appendix C)

scale persists and therefore could be understood as what Alhojärvi (2021) would call inheritance.

However, scale is used in flexible and critical ways:

> "[Bioregioning] allows for a sort of a fuzzy line to be drawn for whatever purpose that's needed. And therefore, it allows for scale. It allows for the nested system - what's then downscale? What's then upscale? If we were to use the One Earth perspective, how does that bioregion concept overlay with this? If we were to overlay the political boundaries, how does that overlay with that?" [George, interview]

As George describes here, the bioregion isn't understood as a fixed scale, but a boundary that can be drawn and redrawn to make different relationships visible (see Chapter 5). Scale is produced by humans and can be used in bioregioning to evoke particular political effects. However, it is also possible to read an essentialist tendency in this quote as well (and in other quotes such as the Bioregioning Tayside definition of bioregioning referenced earlier in this chapter). Ecological systems have their own spatiality, beyond the concepts that humans use to make them legible.

Bioregioning is therefore tied to the concepts and frameworks of thought that it works against[61], including scale and its potential for producing undesirable forms of subjectivity. However, it reworks them to meet new aims and in new relations to subjects.

Another example of how concepts that have already been refused are (at least partially) inherited is the blurring of the 'hegemonic trio' of economy, environment and society (Miller, 2019). Despite working against the separation of economy, environment and society as categories of thought, the categories do not always remain undone. Often this came through in discussions of 'trade offs':

> "If you're going to do those, more environmentally conscious practices, you're gonna make less money and or, as of now, and if you make less money, your name won't be as prominent… So, it kind of destroys itself while it's meant to be sustainable" [Casco Bay Learning Journey reflection session]

Here, a participant named Michael is reflecting on the projects we visited in Casco Bay and was concerned about how considering sustainability impacted goals of economic independence for Maine. Michael's concern centred on the trade-offs between the

[61] This is not to say that such a conception of scale is inherently bad, rather I am drawing attention to the concepts that are inherited.

environment and the economy. This concern highlights a reversion to treating the environment and economy as two discrete categories that the bioregional framing had been blurring.

This was brought into focus in my conversations with Indigenous participants on the Casco Bay learning journey. While settler participants spoke of seeing their interdependence with nature in new ways, for Mae, an Indigenous participant, the learning journey helped her to understand the ways in which settler ontologies viewed nature (see also Chapter 5):

> "Everything here is sacred. Fish are sacred. Water is sacred. It's higher power to us. It was here before us. It's treated that way as it is before us. I don't want to sound like this is rude or like people don't care. But when I went to Portland, it was very much like an enterprise, like a business… I don't mean that people don't appreciate it. I don't. I just think people don't realise what it is they're seeing. Because they haven't seen it in a way that I have" [Mae, interview]

For Mae, even the attempts to overcome the hegemonic articulations and refusal was nowhere close to her own understanding of human relationships with nature. What became visible to her was the limited ways in which other participants on the learning journey were learning to see this relationship and the habits of thought that followed them.

6.2.2. What pushes back?

As well as inheriting tools and ontological assumptions, there are also things that stand in the way of enacting new subject positions. The performative ontology that is being recognised does not mean that thinking differently is enough to change the world (Healy, 2009). Assemblages have some substance because of the ways in which they are drawn into webs or meaning and practice (Miller, 2019). Some are also more durable than others, and some are more powerful in their ability to order the world through becoming seen as "external or inevitable" (Miller, 2019, p. 20-21). In other words, the world "pushes back" (Gibson-Graham, 2006, p. 23).

In an interview for Wearne *et al*. (2023), Dennis[62] pointed out a way in which the world pushes back against the forms of subjectivity produced through bioregioning:

> "The global economic system actually stops healthy bioregional economies from evolving… it's not all bad that we globalise, but we have completely eroded local and

[62] Dennis is a systems change practitioner, interviewed in Wearne et al. (2023), see Appendix B.

> regional economies with a neoliberal kind of economic globalisation" [Dennis, interview]

Dennis argues that the foundations required for building new forms of being in the world have been eroded, making it difficult to build other forms of relationships and enact different economic practices. In this sense, the 'old' subject positions are durable, because they are tied up in material assemblages (as noted in Miller, 2019).

For Plumwood (2008), this is also an ontological challenge. Plumwood (2008) argues that the place attachment developed in bioregionalism is done so within the context of market cultures "that commodify land and place" as well as nature (p. 143). In these contexts, "individual love for place is unlikely to be innocent" (Plumwood, 2008, p.143). Love for place and relationships to nature can only be understood through the lens of capitalist value. In this sense, bioregional resubjectivation is not possible unless wider capitalist cultures are unworked.

Hegemonic framings of the problem also push back. Returning to Michael's worries above about the trade-offs between nature and the environment, his words could be equally understood as a challenge to the hegemonic framing of trade-offs. Even if Michael's own thinking might have changed, hegemonic framings of the problem, which persist 'out there', limit the possibility of enacting different subject positions.

This was similar to the challenges faced in Scotland. For Marie, the policy context in Scotland offered opportunities for incorporating bioregional ways of thinking into policy:

> "There's been lots of legislation and even the RLUPs that have come in - so the regional land use partnerships. That's a new mechanism which actually fits with bioregioning incredibly well and is supposed to…So yeah, it's been disappointing that the funding for that way of thinking and the funding for what we have been working in that systems change has not followed the legislation" [Marie, interview]

First, Regional Land Use Partnerships (RLUPs) are initiatives designed to allow cross council work on broader issues like flooding. They are explicitly intended to address land use issues related to achieving climate targets (Scottish Land Commission, 2020). Second, Local Place Plans (LPPs) offered similar hopes. LLPs are community-led planning documents that set out aspirations for local places and involve mapping where development should take place (Allan, 2021). Finally, Community Right to Buy allows community groups to express interest in buying property before it goes on the market. Yet despite participant's spatial imaginaries shifting, this comes up against existing spatial models of governance. The RLUP pilots drew

on already established understandings of place, such as the Cairngorms National Park. Projects are constrained by the ways that place and community are understood by funding bodies. Even when there are possibilities and openings for operationalising the bioregion as a spatial unit, as in local place plans and RLUPs, the bioregion isn't often legible.

Therefore, as participants in Bioregioning Tayside and Casco Bay refused the hegemonic subject positions on offer and rebuilt new forms of subjectivity, the world 'pushed back' making it difficult to act (see Chapter 7 for discussion).

6.2.3. What distances are maintained?

As well as inheritance and 'pushing back', the collective bioregional subject is never completely whole. Even though it is defined by all those human and non-human things living in a place, some of those are understood as legitimate participants in negotiating livelihood, and others are not. The diverse economies approach begins with making interdependence visible and using this as a starting point for ethical negotiations. But in a mapping of relationality, it is equally important to attend to the distances between species and people, and notice how that distance is produced and maintained (Ginn, 2014). In bioregioning, this is expressed through different claims to belonging.

For example, although they too lived in Casco Bay, green crabs were considered as 'not belonging'. Through the lens of 'invasive' species, green crabs are kept out of the collective subject through framing as invasive, destructive to desirable kinds of world-building. This is inherently spatial. Green crabs are invasive because they are in the *wrong place*, or at the very least too prolific, taking up too much space (see Atchison and Head, 2013 for example of this discussion).

In contrast to the green crabs, lobsters and oysters 'belonged in place', and in fact, eating them is held up as an example of living well in place, as Finn explains here:

> "We're actually just talking with some friends of mine recently about the Maine lobster industry, and how in Maine, I mean, as you've learned, it's extremely sustainable and kind of self-sufficient in its own way… So, lobster might not work in California, but in Maine, it's one of the most efficient ways to get protein" [Finn, interview]

Lobsters are considered to be in their proper place, contributing to bioregional flourishing. Yet although lobsters and oysters are considered as belonging, their agency is limited in particular ways. Their interdependence with humans, and other non-humans (e.g., eelgrass)

is made visible, but the terms of that relationship are not necessarily brought into debate. Human understandings of what it means to live well in place are still prioritised.

These are key questions of what more-than-human bioregional flourishing looks like. However, drawing lines between who does and does not belong often feels more comfortable when considering non-human inhabitants of the bioregion. When these boundaries of who counts as legitimate inhabitants are applied to humans, there is a risk of more problematic politics (see Olsen, 2000).

The claims to belonging that result from bioregioning have potential to be based on problematic constructions of place and identity which enable particular distances to be upheld. Dennis recognised this tendency in his work (in an interview for Wearne *et al*., 2023):

> "You talk about honouring traditional culture in going into the story of place, enlightening, the connection with place...all those things make you feel like you're among your people. And then suddenly, somebody says, 'Yeah, and we need to get rid of the foreigners. And ideally, the Spaniards, too. And we should make it illegal to speak Spanish in public…' And then you go 'Wait, what? Sorry, not my crowd'" [Dennis, interview]

Dennis is describing how thinking questions of what belongs in place opens up exclusionary forms of politics. Through the focus on building love of place, Dennis felt like he found like-minded people ('his people'). But those same people take this connection with place and mobilise it as a means of delineating who does and does not belong. Rather than creating a collective subject based on co-becoming with place, instead, reactionary understandings of place (Massey, 1991) generate reactionary forms of subjectivity. This response resonates with the critiques of bioregionalism raised in Chapter 3. Claims to place are used to erase other claims to place. This could take the form of eco-fascism (see Olsen, 2000). It also could reinforce settler colonialism, like the language of 'becoming native' (Berg and Dasmann, 2015[1977]) that bioregionalism has drawn on (see Chapter 3)[63].

This is not to say that all of those involved in bioregioning draw on claims to belonging as a means to exclude people. In fact, in both Casco Bay and Tayside the frame of bioregioning made these exclusionary politics visible. One of the principles for the Story of Place workshops and the Casco Bay learning journey is "moving at the speed of trust":

[63] One participant in Wearne et al. (2023) described bioregioning as becoming the 'future Indigenous' after the collapse of society.

> “High performing learning networks are those characterized by high levels of trust and reciprocal vulnerability. We will become a learning community that is willing to share openly with one another. We acknowledge that vulnerability provides access to collective power that is generative for our communities. Yet, we also acknowledge we operate in a world structured by often oppressive power dynamics and uneven distribution of risk and privilege. As such, we are mindful of these unconscious patterns, and we go forth ‘moving at the speed of trust’” [Casco Bay Learning Journey participant agreement]

Learning at the speed of trust involves recognising that ‘oppressive power dynamics’ exist that shape both claims to place, and the ability to participate in projects like bioregioning. Rather than trying to settle a collective subject by drawing boundaries around it, Learning Journeys emphasise the process of addressing the power imbalances within it.

Yet learning at the speed of trust does not mean that power imbalances are erased. At points, they surfaced and pushed back against attempts to build collective subjects. One example of this happened right at the end of the Casco Bay learning journey.

Diane, an Indigenous participant, was asked to close the week with a blessing. This was intended to mirror the way that the week had opened with a blessing from the Language Keeper of the Wabanaki people. However, the invitation came on the morning of the final day. Diane reflected on this:

> “If you want to work with us on a one-to-one basis, you need to work with us from the beginning. It shouldn't be like an afterthought. Right? I know they had an Indigenous person in the beginning but to like, weave that through the week. And then somehow at the end - I think asking me beforehand would have been a little more appropriate considering that was the first-time meeting. And so, I think mostly, I just have that hesitancy because it's also like, I give, give, give. Right? And it's like you're taking, but are you giving back to me?” [Diane, interview]

Despite the intention to ‘move at the speed of trust’, for Diane, there was still work to be done to build a trusting and reciprocal relationship. By feeling like her blessing was an afterthought, there was the potential to reinforce colonial power dynamics.

Finally, through focusing on a bioregional subject, there is an inherent distance created between those which are situated in the bioregion and those that are not (however the bioregion is conceptualised). As Plumwood (2008) argues, there is a neglect for the:

> "*Denied or shadow places,* all of the places that produce or are affected by the commodities you consume, places consumers don't know about, don't want to know about, and in a commodity regime don't ever need to know about or take responsibility for" (Plumwood, 2008, p. 146-7).

In Tayside and Casco Bay, resubjectivation centred on those in the place in question. It developed a collective subject of a politics of ecological livelihood (Miller, 2019), in which livelihoods within the bioregion were commoned, but those outside of it were not. This risks reproducing what Massey (2004) describes through a metaphor of nesting dolls of care, in which places closest to home are cared for more, and those beyond remain abstract spaces to externalise the consequences of livelihoods (see Chapter 2).

In this process of noticing and refusal, there were glimmers in which "the discourse of economic interdependence and community… were transmuted into bodily desires and flows of energy" (Gibson-Graham, 2006, p.160) for new forms of livelihood in place. Yet there were also slippages and moments in which hegemonic subject positions persist. Subjects moved between the new understanding of themselves and the "dissatisfactions and disappointments with what they know" (Gibson-Graham, 2006, p. 162).

6.3. Discussion: The ethical moment of bioregioning

This chapter has discussed some of the ways in which resubjectivation is taking place in Tayside and Casco Bay. The politics of the subject discussed in this chapter (and expanded upon in Chapter 2) are based on an understanding of the subject as always capable of changing into new modes of being (Gibson-Graham, 2006). I also draw inspiration from Barron's (2020) interpretation of the politics of the subject. This rests upon the recognition that "nature and society do not exist independently of each other; thus, a politics of the subject must be extended beyond society to include non-human community members" (p. 177). I asked how those involved in bioregioning have engaged in the work of constructing new forms of subjectivity, going further than "discursively enabled shifts in identity" (Gibson-Graham, 2006, p. 127).

Through bioregioning participants notice the ways that they are positioned in relation to the economy, often as passive consumers, and begin to form new understandings of themselves and their relationship to others. Gibson-Graham might describe the kind of thinking that suddenly becomes visible as 'capitalocentrism' (1996). Capitalocentrism is a

performative process which centres capitalist practices and ways of thinking in such a way that “the economy (or reality for that matter) becomes primarily associated with a narrow set of sites, relations, and practices” (Alhojärvi, 2021, p. 290). All other relationships, practices and ways of thinking about the world are marginalised, situated as inferior or contained within capitalism (Gibson-Graham, 2008). For example, being part of a globalised economy, as George suggests, is more powerful and more legitimate than localised production.

Mapping different relationships and ‘tacit agreements’ that constitute togetherness within the bioregion transforms the economy into livelihood relations, rendering them as contingent and potentially transformable. This opens up a moment for negotiating terms of togetherness (see Miller, 2013a), in which questions about how to live together (or Gibson-Graham’s ethical coordinates) can be negotiated. This could be understood as the ethical moment of bioregioning, drawing on Miller’s (2013a) ethical moment of community economies (see Chapter 2).

An ‘ethical moment’ refers to the ways in which interdependence is exposed, and this recognition begins to render the terms of that interconnectedness negotiable (or *common*). Miller (2019) argues that the ethical moment includes 1) recognising particularly and contingency in negotiating togetherness, 2) respecting otherness and difference as multitude sites of negotiation, and 3) cultivating capacity to act in the space of negotiation exposed.

In Section 6.3.1., I discuss the ways that bioregioning in Tayside and Casco Bay navigate particularity and contingency, otherness and difference in the exposure of a collective subject. Section 6.3.2 turns to the question of agency (as the capacity to act in this space of negotiation) and the process of resubjectivation in Tayside and Casco Bay.

6.3.1. The collective subject

Bioregioning enabled the creation of a collective subject. By exposing interdependencies, the co-constitution of bioregional place, individual subject positions were refused. Building on the politics of language described in Chapter 5, this tended to begin with a rejection of the separation of economy, society and environment into distinct spheres. As Miller (2019) found,

> "It is as if, despite the grip of hegemony, "everybody knows" that these categories [economy, society and environment] no longer (or perhaps never did) adequately name the processes and dynamics in which we find ourselves" (p.93).

This was expressed in different ways. For some people, this began with a recognition that 'economy' usually excludes the material world that the economy is based upon. Mae, in Casco Bay, states:

> "When you think about 'economy', you think about gas and you think about oil, think about money and taxes and you think about the government - that's what you think about when you think about the economy. You don't think 'oh trees, fish, plants'." [Mae, interview]

The economy, as Mae explains, is usually thought of as the realm of the human - industry and money. The ecological world is rendered its own separate domains. Similarly, Dennis (in an interview for Wearne *et al*., 2023) notes that:

> "People talk about economics, well, they're trying to make *human* economics, they're not talking about *bio* economics… we need to think we need to start thinking about us as part of the system and not apart from the system" [Dennis, interview]

Dennis describes the framework of thought that separates human economies from what he calls 'bio economies'. Thinking in terms of the bioregion as a bio economy, for Dennis, shifted his understanding of his subject position to being part of a bioregional system, which is more-than-human.

Jacob (in an interview for Wearne *et al*., 2023) blurs the distinction between economy, environment and society even further, by adding that the human body is not only human:

> "I think the other transformational thing for me in the last two years has been that life operates at multiple different scales. And so, this whole thing about microbial life is also extraordinary… you know, in ecosystems, there are multiple scales. That is part of the story of connecting with life" [Jacob, interview]

Recognising that the human body itself makes a livelihood for microbial life, and that in turn this microbial life makes a livelihood for humans, suggests that the human subject is not entirely human. This reveals a new form of togetherness that Jacob found 'transformative'.

For some, noticing the blurring between economy, environment and society went beyond a discursive unsettling to seeing the economy, environment and society as more-than-human

endeavours. Susan (in an interview for Wearne *et al*., 2023) considers how human bodies are constituted by the non-lively aspects of the place in which they inhabit:

> "I'm not just an atom floating in the in the space of the Universe, I have my feet on the ground, and I'm here, I'm part of this place, the water that I drink is in me, you know, the molecules of the soil are in me, you know, I'm here" [Susan, interview]

Susan's understanding of herself as made of the place she lives reflects the idea of *the places that 'grow us'* (Neidjie cited in Plumwood, 2008, see Chapter 3). This mirrors Jean-Luc Nancy's conceptualisation of community, as a state of 'being-in-common' (1991). Community isn't something that can be built or lost, and it doesn't have any form of normative content. It is a state of existence. In this case, a bioregional community would include all things, human and non-human, which are exposed as being-in-common through their interdependence within the bioregion. Again, this suggests a reunification of human/nature binaries, troubling notions of individual agency. Instead, it calls to what Haraway describes as *sympoiesis*, or 'making-with' (see section 2.2.2.).

Thinking bioregionally, therefore, enabled people to see human economies as entangled with others in many different ways, generating collective subjectivity. It did this in ways that recognised contingency and specificity, and respected difference and otherness (Miller, 2013a).

Contingency and specificity

Recognising interdependence draws attention to the contingency and specificity of the collective subject. As Healy *et al*. (2020) suggest, economic subjectivity cannot be divorced from where we are. The bioregional subject is the specific configuration of more-than-human relationships and livelihood making that have co-become in place.

Miller (2019) argues that this state of interdependence invokes a process of negotiating togetherness and collectively imagining and enacting desirable futures. Community "calls us to continually ask and struggle over questions of *who* to care for and *how*" (Miller, 2019, p. 118). The ethical moment that makes interdependence visible is when these relations are "rendered into shared spaces of mutual exposure and negotiation through which living singularities actively respond to the ethical demands… of an ontological being-in-common" (Miller, 2019, p. 189).

Crucially, this is in ways that seek to name and enable particularity (Miller, 2013a). The interconnectedness of each bioregional subject is contingent and specific to place. Therefore, the responses to the question of what we need, and desire will be specific.

Respecting difference and otherness

The ethical moment also demands a sensitivity to otherness and difference, rather than working towards creating a collective subject based on sameness. One way that this took place was through embracing different ways of knowing. In the Casco Bay Learning Journey Participant agreement, a key principle reflected this:

> "Second, we recognize that 'seeing' socio-ecological systems requires not only technical expertise, but situated, ethical judgment and wisdom. The scientific method is not enough to enable transformation" [Casco Bay Learning Journey Participant Agreement]

Different ways of making sense of the world were valued, rather than organised into hierarchies, or discounted *a priori*. Learning journeys and Story of Place created spaces for practising different ways of being and exploring other forms of knowledge.

Another way that difference and otherness was attended to was by recognising the ways in which the bioregional subject was more-than-human (discussed further in section 6.3.2). By focusing on the interdependence within place, we can no longer consider human wellbeing in isolation from that of other beings. Our shared survival cannot be taken seriously without paying attention to other forms of life (Healy, Özselçuk and Madra, 2020). Rather than humans accounting for non-human Others, they are accounting for themselves in webs of life that "(some) of them (us) have attempted to deny" (Miller and Gibson-Graham, 2020, p. 407).

Resubjectivation that respects otherness and difference, without seeking to establish an essential bioregional subject. This resonates with the Connolly's (1995) words: "A generous ethos of engagement between a plurality of constituencies inhabiting the same territory" (p. 36), or with the pluriverse approach that seeks "a world where many worlds fit" (Escobar, 2018, p. xvi).

6.3.2. Agency

The questions of subjectivity and resubjectivation addressed in this chapter also raise questions of agency. Agency can be understood as the capacity to act and in particular, following Miller's (2019) conceptualisation of the 'ethical moment', the capacity to act in the space of negotiation of livelihood. As Miller and Gibson-Graham (2020) write, "Economic agency, in particular, is the power to shape the processes, relationships and outcomes of economic life" (p. 402). In capitalocentric frames of thought, agency is enacted by individual consumers seeking to maximise their benefits and through objective laws of supply and demand (Miller and Gibson-Graham, 2020).

Through bioregioning, participants began to understand themselves as having agency in a range of subject positions. In Section 6.1.2, I highlighted occasions where participants talked about feeling permission or authority to act. Resituating their role as *already* making the bioregion through bioregioning, unlocked different forms of agency.

It also decentred human agency in the making of bioregional place, situating it as the outcome of multi-species worldbuilding. In the Bioregioning Tayside newsletter, this is alluded to:

> "And of course, mapping assets and resources, both human and biotic, can begin to *exert new power and new agendas about their development*" [Bioregioning Tayside Newsletter, 1st August 2021, emphasis added]

The bioregion is created by human and non-human agency, and a process of bioregioning enables that agency to be recognised and cultivated. Livelihood making cannot only be understood as human, or as Whatmore (2002) writes, we cannot "presume that socio-material change is an exclusively human achievement, nor exclude the 'human' from the stuff of fabrication" (p. 604).

Miller and Gibson-Graham (2020) argue that different moves have been made to engage questions of human agency. One is *inclusion* (Roelvink and Gibson-Graham, 2009) that apply ethical coordinates to non-humans. Another is through *extension* in which categories typically understood as applying to humans, like labour, are extended to nonhumans (Barron, 2015; McKinnon, 2020). Finally, there are strategies of *distribution* that understand agency as produced through contingent forces pulling in all directions. As bioregioning decentres the subject and allows for non-human subjects and multispecies assemblages to emerge and be recognised, it raises the question of who or what is the source of changes in the ways that we make livelihoods.

Although it is not explicitly stated here, such logic could also be extended to the abiotic. In writing a story of Place, both groups spent time understanding the geology and geomorphology of their bioregions and how this has shaped human cultures and livelihoods. This offers agency to bioregional space: rather than seeing humans as masters of landscape, landscape itself (as geology, topography, hydrology and so on) shapes possibility.

As Roelvink writes, reflecting on Weir's (2009) text *Murray River County*, "rivers have a pattern of life or self-realization" (Roelvink, 2015, p. 237). Rivers shape landscape and soil, they have sensory qualities that shape place, they shape ecological relationships. Therefore, they can be understood as producers of surplus (Roelvink, 2015).

This is a much more active view of the environment, not as just something that we take from and add to, but as something that is an "active agent and co-constituter of our lives" (Plumwood, 2008, p. 145). Carol affirms this agency, by recognising that non-human life also has its own goals. Returning to her words in the newsletter:

> "[Bioregioning] is a 'community and participatory process that combines ecological and physical information with social and cultural information within a given place, as defined by those living there' And of course, mapping assets and resources, both human and biotic, can begin to exert new power and new agendas about their development" [Bioregioning Tayside newsletter, 1st August 2021]

This goes beyond understanding more-than-humans as entangled in human economies, or even the human body as being more-than-human. Here, Carol is recognising that other-than-human entities (or the 'biotic') have their own agendas, or "might also be economic subjects in their own rights" as Roelvink (2015, p. 229) suggests. In line with Whatmore (2002) and Haraway (2016), this challenges the assumption that socio-material change is solely a human achievement.

6.3.3. Ecological livelihood

The politics of the subject addressed in this chapter can be understood through Miller's (2019) concept of ecological livelihoods (see Section 2.2.4). For participants, bioregioning made visible the way that human livelihoods are not solely of their own making. Neither are they controlled by 'the economy', with individuals only able to participate via capitalist consumption. Instead, they are the outcome of more-than-human co-becoming in place, or what Miller (2019) describes as a triad of autopoiesis (self-making), allopoiesis (being made

by others) and alterpoiesis (the livelihoods we make for others). Rather than individual subjects, this triad only produces relationships of interconnectedness. This way of viewing subjectivity "acknowledge[s] and expand[s] possibilities for agency while also refusing to affirm a lone human subject as standing, premade and presumed, at the centre" (Miller, 2019, p. 176-177).

Exposing this triad through the lens of the bioregion opens up the possibility for remaking these relationships in more ethical ways is opened up. This chapter has traced how in both Tayside and Casco Bay, participants went through a process of resubjectivation (Gibson-Graham, 2006). They began to understand themselves as a collective subject, constituted in place by a dynamic, more-than-human relationality, and enrolled in experiments in being together in new ways. The form and relationships of interdependence themselves were rendered negotiable, and bioregional livelihoods became a site of active struggle. As explained in Section 2.2.4, Miller (2019) understands this as *commoning*.

By transforming the framings (as in Chapter 5) and ways of thinking (in this chapter), questions of how to live together are broached, and the capacity and skills of being together are cultivated, creating "new possibilities for identity, alliance, and collective action" (Miller, 2019, p.187). This way of viewing subjectivity opens up new sites of collective action and generates new understandings of what it means to act collectively. However, the openings created by exposing this interconnectedness are not yet politicised. Politicised here means when the "particular orders of and life and power are produced, challenged, made and unmade" (Miller, 2019, p.187)[64].

The following chapter, Chapter 7, discusses the ways in which participants in Casco Bay and Bioregioning Tayside are beginning to enact a politics of collective action, or compose ecological livelihoods, through bioregioning.

6.4. Conclusion: From resubjectivation to collective action

This chapter has mapped some of the ways in which bioregioning activates a politics of the subject. The concept of the bioregion, and the idea of bioregioning enabled participants to

[64] This understanding is similar to that of Rancière (1995) who understands politics as a disruption to the usual order of things.

first notice how they were currently positioned in the economy and how this limited the potential for transformative politics. Once this analysis of capitalocentric discourse took place, it was then possible to refuse such positions and rebuild different more collective subjects. Through learning journeys, Bioregioning Tayside and Casco Bay bioregion created space for resubjectivation.

Drawing on affective experiences and creating the space to experiment with new subject positions, the subjects produced were more communal. Yet this collective subject was not based around same-ness. Bioregioning offered a way of recognising how livelihoods are the outcome of those we make for ourselves, those made for us by others, and those that we make for others (Miller, 2019). In doing so, resubjectivation was based on the exposure of interdependence which is contingent and specific, and containing radical difference.

This process of building positive investment in other ways of enacting livelihood does not provide a blueprint for what livelihood relations in Tayside or Casco Bay *should* look like. This is somewhat different from what is commonly understood as bioregionalism. As shown in Chapter 3, bioregionalism had tended towards strategies of self-sufficiency and autonomy (Hubbard *et al.*, 2023). Yet here, there is no push for closure around some positive essence of what the bioregion is or should be. Instead, there is an ethical moment that exposes interdependence, and begins to open up livelihood relations for negotiation.

In the Community Economies Research Network, many have come across people that are unable to let go of capitalist subject positions (Cameron and Gibson, 2005a), or to imagine different ways improving livelihood beyond capitalist development (Healy, Özselçuk and Madra, 2020). Through noticing this position, refusing it, and building new forms of subjectivity, those involved in bioregioning have begun to open up spaces of possibility. However, as Healy, Özselçuk and Madra (2020) note, this raises the difficult question of desire: what do we want to be, or what livelihoods do we want to create?

Chapter 5 explored how bioregioning is being used to generate new narratives of place. This chapter has examined how bioregioning has enabled a process of resubjectivation. What these chapters have worked together to show is the possibilities that "could emerge from dialogue rather than conforming these possibilities to a predetermined ideal" (Roelvink, 2015, p. 241), such as that of capitalist development. In Chapter 7, I turn to the question of what forms of conscious and collective efforts to create new forms of livelihood are being built in Tayside and Casco Bay.

Chapter 7. Politics of Collective Action: Bioregioning as doing

> “I'm reconnecting and connecting a new to a veritable cosmos, or maybe chaos of other ways of knowing, and restoring my own capacity for perceptual diversity, all of which is of course enabling me to see the bigger system of which I'm part and begin to understand where Bioregioning Tayside might intervene in order to shift the conditions that are holding the problem in place” [AberTatha StoryMap, 2021]

In their StoryMap presentation, Kate reflected on how bioregioning enabled her to see Tayside, and her role within it in more critical ways. It developed her skills and capacities for ‘perceptual diversity’, or sensing difference and specificity of the bioregion. In this space produced by reframing and resubjectivation, new political possibilities began to come into view.

Chapters 5 and 6 explained how bioregioning brings the bioregion into existence (Tyler, no date) as a way of understanding the world and the place you live, and through a bioregional subjectivity. This brings the bioregion, the physical realities that support livelihoods in a particular place, into visibility. It makes the bioregion real as a site of negotiation, and its inhabitants as active subjects in its creation. Bioregioning, then, emphasises co-becoming between humans and more-than-human place. This generates the possibility of becoming differently by enacting these interdependencies in new ways and composing new forms of ecological livelihood (Miller, 2019).

In this chapter, I turn to the third dimension of bioregioning outlined in Chapter 3: bioregioning as a way of bringing the bioregion into existence through collective action. I look at the ways that Bioregioning Tayside and the Casco Bay bioregioning project are engaging in experiments to "compose new modes of collective life" (Miller, 2014a, p. 30), building on the discursive and subjective processes explored in Chapters 5 and 6. In doing so, I address research question 4: What forms of collective action are being realised through bioregioning?

This chapter begins by explaining how I conceptualise collective action and describing some of the diffused and distributed projects that are being generated in Tayside and Casco Bay. These are nascent projects, where action is beginning to be tested. In Section 7.2, I then discuss the limits of this collective action. In Section 7.3, I draw on Miller's (2013a) political moment, and unpack how the collective action in this chapter draws on plurality and radical difference and offers a different spatiality of collective action. I conclude by arguing that the collective action in Tayside and Casco Bay can be understood as ongoing livelihood negotiations that seek to reduce a range of forms of remoteness.

7.1. What forms of collective action are emerging?

By collective action, I mean the ways in which collective subjects[65] are mobilised to act together. This builds on the understanding of the ontological and ethical moments outlined in Chapters 5 and 6. As the interdependence of those sharing a place is rendered negotiable, the politics of collectively enacting more ethical relationships is made possible (see more in Section 7.3).

This differs from an understanding of collective action as a single movement with a clear pathway for change. As Escobar (2018) argues, the impulse to create a single, grand strategy for change is the same universalising framework that has generated many of the problems in question (see also Gibson-Graham and Dombroski, 2020b). Equally, as argued in Chapters 5 and 6, bioregioning engages with the discursive and subjective politics of particular places and seeks place-specific pathways for flourishing.

[65] Or "associations, assemblages or agencements", as Roelvink, St. Martin and Gibson-Graham (2015, p. 20) writes.

I do not mean to imply that political action is distinct from thought and subjectivity. Thinking through the lens of a politics of language, the subject and collective action (Gibson-Graham, 2006), the potential sources of politics are expanded (Roelvink, 2016). The ways in which I have separated thinking and becoming from *enacting* bioregioning in this thesis is somewhat artificial. In both Tayside and Casco Bay, thinking and acting are often spoken of together. For George, learning about your bioregion is intended to drive some form of action:

> "You're seeing into a system; you're asking questions that then can lead to action" [George, interview]

The process of learning and questioning that George engages in is always active, political, and oriented towards generating change. Similarly, for Bioregioning Tayside, learning journeys were not simply an exercise in generating knowledge:

> "The aim of the Learning Journey was to find out what was going on on the ground in our Bioregion and tap into new energies that could help contextualise the actions we might take now to create a more liveable future" [Bioregioning Tayside newsletter, 7th November 2022]

The aim was to create a 'more liveable future', even if the pathway and destination of the future have not yet been determined. For both groups, collectively learning and changing their way of thinking about the world was a political act in itself. However, the critical energy generated through Story of Place and learning journeys needed to take some positive form.

In both Tayside and Casco Bay, practices of genealogy, deconstruction and resubjectivation made visible potential (and existing) alliances, as well as pathways forward (Gabriel and Sarmiento, 2020a). The 'green shoots of change' (see Chapter 5) that acted as case studies early on in their process became sources of alternative pathways for wellbeing and development (as Escobar, 2001, suggests), that could be collectively fostered. The following sections map out some of the forms of collective action that began to emerge then, in Section 7.1.3, discusses how these can be understood as strategies for reducing various forms of remoteness.

7.1.1. Bioregioning Tayside

Members of Bioregioning Tayside began to explore different ways of creating more sustainable livelihoods in Tayside through collective action. On their website, they describe this as 'creating possibility' and 'sharing and connecting' (Bioregioning Tayside, no

date b). The forms that this took were mapping and building networks, experimenting knowledge, leverage existing governance structures, and developing more formal community-led projects.

Mapping solidarities and making collectives

The first action that the group undertook was to map projects in Tayside that complemented following the aims of bioregioning. They define practices that align with bioregioning as follows:

> "Bioregioning in action:
> - Values natural assets as the building blocks of life
> - Works at the interface between the urban and the rural
> - Makes a region distinct and visible through a coherent narrative of geography, geology, land use, history, culture
> - Reinforces identity through a bounded sense of belonging to a place
> - Sources solutions from the place itself
> - Gets sectors out of silos and collaborating on a co-created resilience strategy
> - Prototypes and learns continuously
> - Addresses conflicts as an opportunity to take the work to the next level
> - Builds collective will to action and telling a 'can do' story of resilience and possibility" (Bioregioning Tayside, 2020)

This broad definition encompasses a range of actions and values. Some centre on questions of scale and scope (that which is regional and place-based), some on the relationship between humans and nature (understanding them as one system), and others are approaches to action (iterative, experimental, emergent, and place-specific).

Through identifying projects that already exist in Tayside that follow these principles, speaking to them about bioregioning and putting them on the map, Bioregioning Tayside created a network of potential solidarities. This was a central aim of the map:

> "Our aim is to bring everyone working in this way together, however formally or informally, large or small, to foster connection and grow bioregional activity in the area" (Bioregioning Tayside, no date a)

Rather than creating a movement of self-proclaimed bioregionalists, the group identified existing alignments and transformed them into a network of solidarity. This is a similar process to the strategy of inventorying that is developed in Gibson-Graham, Cameron and

Healy, (2013). Inventorying acts as a political intervention that records all ways of making livelihoods, enabling the negotiation of which practices we desire and which we do not. The projects that are already invested in building alternative livelihoods in Tayside become a source of potential pathways:

> "Across this growing Storybank you can find powerful examples of how folk are growing a 'sense of' and 'care for' their place and of how they are going about restoring, regenerating and reconnecting us to our natural systems so that both human and biotic communities can be brought back into a healthy, balanced co-existence with each other" [Bioregioning Tayside newsletter, 1st August 2021]

The process of mapping brings plural projects of place-based development into a collective network of solidarity. The concept of solidarity has been closely associated with labour movements as a key strategy for taking seriously the agency of distributed working-class people, and with anti-colonial movements to describe how relationships are built across difference[66] (Kelliher, 2018). It has also been used by geographers interested in the spatiality of social movements. For example, Nicholls (2009) explores how the proximity of place generates particular forms of solidarity that can be either based on strong ties bound by shared worldviews, or in which place acts as a form of 'light institutionalism' that allows diverse actors to come into contact with each other (Nicholls, 2009).

In this case, mapping projects with loosely shared practices or values creates a network that does not require complete agreement over aims and strategies. Yet rather than assuming a strong tie generated by reactionary or hegemonic understandings of place (see chapter 5), there is space for different approaches. As their list of practices aligned with bioregioning states, conflict and disagreement is valued rather than avoided.

Experimenting with collective knowledge

The second way in which Bioregioning Tayside sought to intervene was by reducing the remoteness produced by a lack of collective knowledge. They argued that the community could not effectively monitor or respond to landscape-level change respond (for example, by preparing for flooding, or replenishing the degraded soil), because knowledge had either

[66] The concept of solidarity also helps to analyse power in social movements, and the way that solidarity can entrench as well as counter power hierarchies (Kelliher, 2018). For example, Bressey (2015) argues that exclusionary solidarities formed through working-class movements are responsible for why the working class intellectual movement has no anti-racist underpinning (see also Kelliher, 2018).

been lost or was inaccessible. One approach to composing ecological livelihoods, therefore, was to experiment with creating collective knowledge that reduced epistemological remoteness and enabled action. This took the form of a community science project, as well as through efforts to revitalise other ways of knowing such as local knowledge and practices.

During 2022, Bioregioning Tayside began a project with the aim of enabling communities to monitor landscape change and allowing data to enhance community resilience. Known initially as the 'citizen science project', it involved a complex task of researching different citizen science projects that had taken place in Tayside. Beyond simply creating a list of projects, it involved trying to find out who held the data produced to create a picture of the data that existed, who had access to it, and what the spatial extent of the research was.

I supported the group in this by helping to find and log relevant projects:

> "As I helped to collect examples of community science in Tayside, it threw up lots of interesting questions to talk through with Carol. Often these were things like 'do you think this counts?' For example, if a school is doing a butterfly count as a way of teaching children about biodiversity, do we still include that as a form of community monitoring?" [Research diary notes, 31st March 2022]

We reflected on the balance between recognising academic criteria for quality community science, but not discounting forms of community monitoring and action that do not conform to this. For example, there was a litter picking project that recorded the weight of litter at each event. Although this did not have an academically rigorous methodology, it could still be understood as data collection. The weight of litter collected acted as campaign material by highlighting the issue and acting as a provocation to reduce littering. Participants also used the weight to monitor change in levels of litter as an indicator of how successful this campaign was. For Bioregioning Tayside, this data could also be used in other ways too, such as to examine the composition of waste to target sources.

Through these conversations, Carol widened her definition of citizen science, and instead began using the term *community science*:

> "It is useful to note the difference between community science with the more commonly used concept, citizen science. Citizen science is typically instituted not by a community but by a researcher or team of researchers outside the community – i.e., it is driven by scientific professionals and experts. In contrast, community science is led by the community, which chooses whether or not to engage with any given scientific

experts, whether internal or external" [Bioregioning Tayside newsletter, 7th November 2022]

While citizen science can involve a range of different levels of participation, from using volunteers to collect data or interpret large volumes of data to participation in the planning (Sauermann *et al.*, 2020), the aim is rarely to enable community members to act on it directly (although there are exceptions such as Coulson and Woods, 2021)[67]. In contrast, community science was a way of encompassing a whole spectrum of different ways that people were gathering information about Tayside. For Bioregioning Tayside, this helped to highlight forms of knowledge that were useful to people living in Tayside, regardless of academic rigour. It allowed them to begin inventorying the multitude of ways that people were already engaged in monitoring and acting together in Tayside.

Through the community science project, a complex picture was revealed, with a range of different methodologies, topics of research, and forms of data governance. A key outcome of the initial stages of this project was the sheer range of community science taking place. Archaeological and archival projects generated historical knowledge about Tayside; there were projects related to growing food; people contributed data to participatory budgets and planning processes. By expanding the definition of what counts as science, other ways of generating knowledge were made visible.

A second finding was that much of the data generated through community science (including that produced in academic institutions and that of small community-run projects) were not accessible, or at least, the terms of access were unclear. This prompted Bioregioning Tayside to explore the creation of a platform that could either host data about Tayside directly for community members to access, or make existing data accessible by recording explaining if and how it could be accessed. Although this project hasn't been completed yet, the group has received some funding to begin the process (see following section).

Bioregioning Tayside, therefore, have begun using community science as a strategy of commoning data to reduce epistemological remoteness and enable new forms of collective action. Yet, they also understand it as a political act itself:

"Further, the context in which community science emerges is strongly associated with the social-ecological system in which a community is embedded, including a strong

[67] Beyond extending the knowledge of the scientific method in non-specialist community members (Bonney *et al.*, 2016).

> connection to place and the self-organizing properties of the community from which iterative social learning arises" [Bioregioning Tayside newsletter, 7th November 2022]

As this newsletter excerpt explains, community involvement in monitoring the health of the social-ecological system suggests a strong connection to place, and collective autonomy. This is a counter-hegemonic action that represents a different way of collectively acting in the world, one which is situated, embedded and underpinned by knowledge and responsibility.

By making a network of community science projects visible, where previously such projects were understood as individual and disparate, this mapping reframes community knowledge production as a site of possibility and action. Rather than 'citizen science', which connotes an individual subject and a some form of external governance, community science emerges from and is entangled with concerns of the community itself[68].

Another way in which practices of collective knowledge generation were experimented with was through reviving various forms of local knowledge:

> "They [historical inhabitants of Tayside] did not need deliverables and impact measurements to know that the seasons were changing, or which species would be abundant or sparse in the coming year, they could read the conditions of the environment, the nuances of the leaves, texture of the dirt, the timing of the flowers and birds. The ancient ways of not knowing were in fact ways of knowing" [Carol, Interview]

In similar ways to her conceptualisation of community science, Carol argues that place-based ways of knowing in Tayside did not require academically rigorous methodologies or measure of success. Instead, they were valued by their application within Tayside. Reviving place-based knowledge like this is used as a strategy to connect people with place (see Chapter 3 for the motivations for this in bioregional thought), and as an intervention that highlights non-capitalist practices that have contributed to living well in place. For example, alongside the Cateran Ecomuseum and other practitioners in the area, Bioregioning Tayside have been working to revive local crafts such as basket weaving and coracle making (see Figure 22).

[68] See St Martin's (2015) work on the mapping of fisheries as a performative action that reframes fish and fishers and ensures the success of the development of community supported fishing.

Place-based practices like these can be considered "'traditional', 'rural' and largely superseded" (Gibson *et al.*, 2018, p. 3). However, by revaluing them, these practices could provide the basis for alternative forms of development (such as tourist activities that are not contingent on a concentration of land ownership). By making such practices visible, it opens up negotiation about which forms of livelihood we want to foster, and which we want to disinvest from. Rather than only capitalist forms of development being possible, and applicable everywhere, reviving place-based practices shows how livelihoods are entangled in material realities of place, and are dynamic.

These two different ways that Bioregioning Tayside have begun to intervene with knowledge production and access in Tayside has sought to reduce epistemological remoteness that separates livelihoods from their consequences. It also centres on remoteness produced by the distance between decision-makers and the consequences of their decisions by making

Figure 23: The coracle (authors own). The coracle is a form of paddleboat that has been used in parts of Ireland, Scotland and the West Country. It also became a metaphor for learning together used by Bioregioning Tayside (see Chapter 8).

sites of decision-making more collective, because it is enabling others, beyond the group themselves, to take new forms of action.

Leveraging existing governance

In their second form of action, Bioregioning Tayside identified existing forms of governance that were complementary to their own spatial strategy that could be leveraged to support their aims. Some of these were related to the state, others were non-governmental, but all drew on regional or extra-local scales. For example, Bioregioning Tayside initially identified regional land use partnerships (RLUPs) as a governance mechanism that could support bioregioning. RLUPs were piloted by the Scottish government as a way of optimising land to meet biodiversity and climate targets (Stevens *et al.*, 2022; see also Chapter 6):

> "Regional land use partnerships - That's a new mechanism which actually fits with bioregioning incredibly well and is supposed to - and there are pilots at the moment that are running, five across Scotland. One is the Cairngorms National Park. They're not necessarily bioregions as such, although they may arguably - the Cairngorms can be a bioregion itself" [Marie, interview]

For Marie, the RLUPs offered a unique opportunity to work at bioregional scales, even if the motivations for working at this scale were different[69]. However, the RLUPs in the pilot project were often areas that were already somewhat defined and had some pre-existing governance (for example the Cairngorms National Park). The RLUPs therefore built on existing organisations that were more institutionalised than Bioregioning Tayside.

Bioregioning Tayside instead turned to Local Place Plans. Local Place Plans were introduced through the Planning (Scotland) Act, 2009, and are intended to give communities an opportunity to put forward proposals for the development of land (Our Place, 2023). Bioregioning Tayside saw an opportunity to feed into Local Place Plans and use their place-based approach to leverage funding.

Bioregioning Tayside received funding from NatureScot to use findings from the community science project to inform Local Place Plans[70]:

[69] In the final report for the RLUP Phase 1 review, the motivation for working at this regional scale was described as, "The regional scale allows for a balance between sensitivity to the needs of local stakeholders and maintaining accountability to national targets" (Stevens et al., 2022).
[70] Flooding was an example of how community science could inform Local Place Plans from monitoring to implementing mitigation strategies.

> "Thanks to support from NatureScot we have embarked on a new project mapping participatory science projects across Tayside. This includes investigating how to bring people involved in those projects together online and offline in new ways, considering how this kind of work can feed into Local Place Plans" [Bioregioning Tayside newsletter, 7th November 2022]

As well as orienting their activities towards existing forms of state governance that complement a bioregional understanding of place, Bioregioning Tayside sought out partnerships with other organisations that they felt supported their approach. One of these was the charity Riverwoods.

Bioregioning Tayside won a bid to the Riverwoods Investment Readiness Pioneers project for a restoration project of the River Ericht. The Investment Readiness Pioneers project aims to generate alternative forms of financing restoration work beyond grants. This could include a range of options, including forms of payment for ecosystem services:

> "This group will engage landowners, farmers, businesses, communities, educational institutions, and relevant statutory bodies in co-designing an approach that will restore biodiversity, sink carbon and enable the sustainable livelihoods that depend on the salmon and the river to thrive now and in the future… Work will also be undertaken to design a new dedicated investment vehicle for the restoration initiative that will also involve local communities in its ownership and governance and enable investment from community groups and individual community members." (Bioregioning Tayside, 2023).

Working with Riverwoods was an opportunity to explore a different approach to restoration work that involved more communal decision-making and distribution of surplus. The project involved participatory science and community monitoring to tackle dual issues of flooding and biodiversity loss. The group proposed a catchment partnership as a way of overcoming the governance issues that prevented action (particularly by the community) on biodiversity and flooding.

Bioregioning Tayside's proposal also drew on the idea of developing love for place (see Chapter 3):

> "It will also provide a huge learning platform to show how, if we all get involved and we all work together, we **can** mitigate and adapt to the climate and biodiversity crises **in 'our place'.** As the Regeneration Designer Pamela Mang has said 'What makes a shift to true sustainability possible is the power of the connection between people and

> place. Place is a doorway into caring. Love of place unleashes the personal and political will needed to make profound change. It can also unite people across diverse ideological spectra because place is what we all share: it is the commons that allows people to call themselves a community.'" [Bioregioning Tayside Proposal, original emphasis]

Bioregioning Tayside used the catchment-level interest of Riverwoods Investments and integrated it with their own understandings. However, they did not require complete agreement over their underpinning philosophy: Riverwoods would not describe their work as bioregioning. Yet, Bioregioning Tayside were able to see shared motivations.

By finding ways to leverage existing forms of governance at similar spatial scales, or shared approaches, the group began building the foundations for greater collective influence over landscape governance. They are involved in Riverwood's programme to trial alternative ways of funding and enacting river catchment restoration and have created new ways to collectively develop Local Place Plans. In doing so, they target forms of remoteness from decision-making.

Developing new community-led projects

Finally, interest groups began to form to act collectively in Tayside. Most significantly was a network of people concerned with food in the bioregion. This built on the initial energy of the *What Will be on my plate in 2042?* Learning Journey event. Participants, and those that were 'snowballed' through their networks, hosted a conference in Dundee titled *Feeding Tayside through the Climate Crisis.* This community-led event that brought in academics and people involved in food provisioning in the bioregion (for example, community allotments, researchers and conventional agriculture).

During the conference, participants analysed the issues that they saw facing the food system in Tayside (see Figure 23). These included cultural and social norms; accessibility; performance; economic competitiveness, and capability. Following the conference, a smaller working group formed to find ways that Bioregioning Tayside could intervene in the food system. Initial ideas included mobilising connections with organisations such as the Eden Project Dundee, as well as University of Dundee to identify points of influence and potential interventions that emerge from their multiple perspectives.

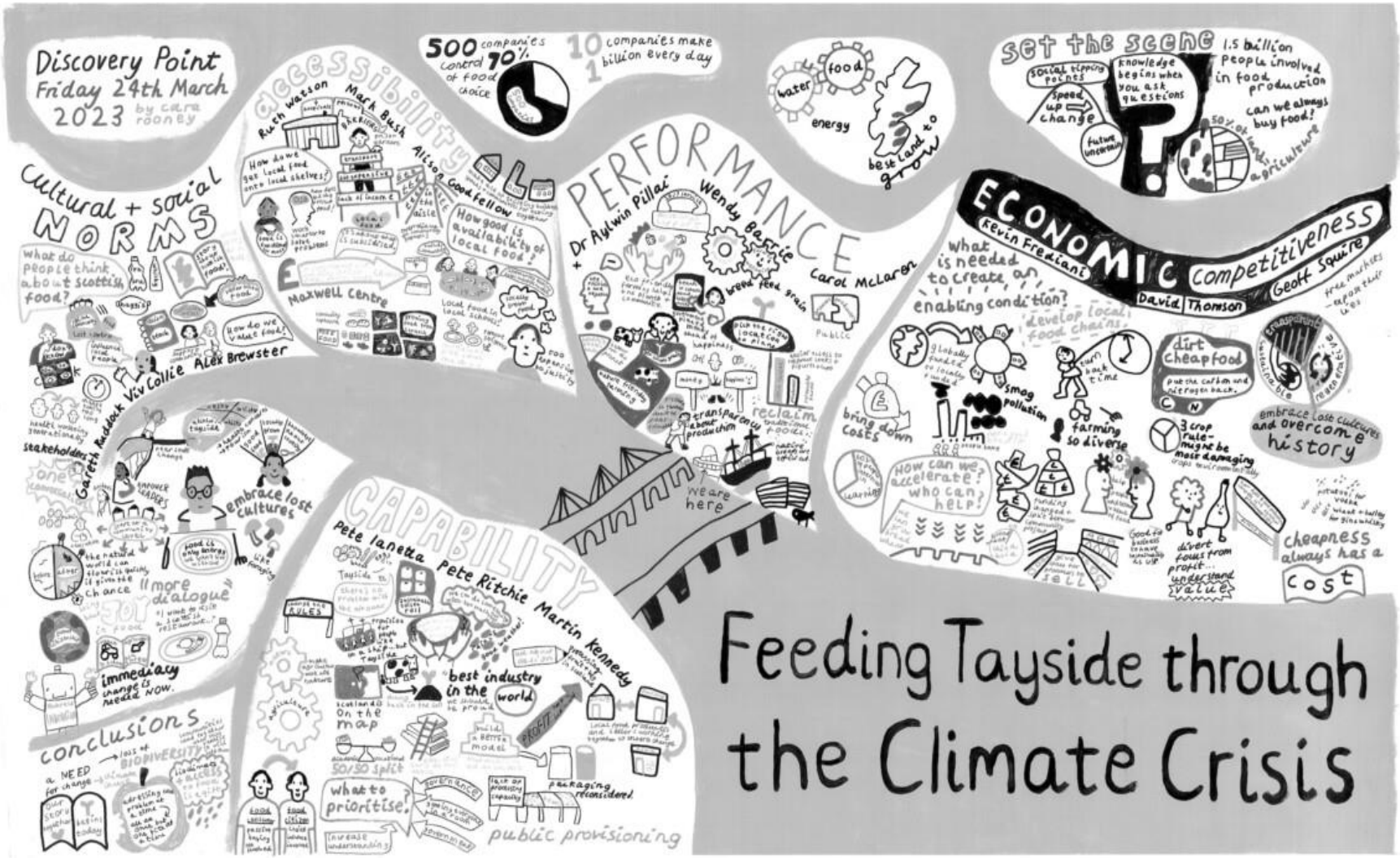

Figure 24: Illustration of Bioregioning Tayside's conference proceedings by Cara Rooney (Bioregioning Tayside, 2023)

The group is also working on two further projects. One centres around regenerative tourism, and the other is called the Carbon Collective. Both of these centre around finding new ways in which communities can manage their own natural assets (and share in the surplus) at a landscape scale. In these kinds of community led projects, Bioregioning Tayside are exploring new ways of creating more collective bioregional livelihoods.

These community projects brought together people that were both within Bioregioning Tayside and other organisations. Bioregioning Tayside opened up the space for political intervention and created the foundations for themselves and others to act within it.

7.1.2. Casco Bay

In Casco Bay, similar forms of collective action formed, with both informal connections that were developed during learning journeys and mapping exercises, as well as more formal projects. Such formal projects shared a similar emphasis on community access and creation of knowledge. Like Bioregioning Tayside, often the collective action was taken by others outside of the group themselves.

Informal connections and trust

Throughout the Casco Bay learning journey people began to come together in new ways, creating new collaborations. These kinds of small-scale connections started to build the foundations for collective action:

> "In the end when we were at map library, they had this talk about eelgrass and how you have oysters on top and then you have seagrass underneath, how there's that symbiosis… and then you see these different actors who live in the same area, but they've never met before and then they suddenly are like, oh, we can collaborate. Yeah, that was definitely memorable" [Freija, interview]

What Freija is describing here was one of the most memorable moments of the Casco Bay Learning Journey. An oyster farmer that we had met at Sea Marines Meadow Foundation, Ed, chose to join us for the evening event with researchers from the local university. He attended the talk by the researchers about the relationship between seagrass and oysters. The researchers were describing their methods, and how they had sent out surveys to local oyster farmers about seagrass. Ed put up his hand. He told the researchers that he had received the survey, but had not filled it in. As Elizabeth remembers:

> When we had the presentations about the eelgrass, and was it Ed? He said, “Oh, you sent that survey. Well, no one was going to fill that in!” [Elizabeth, Casco Bay Learning Journey reflection session]

If seagrass is found close to an oyster farm, the farmer has to relocate their farm. Ed would not fill in a survey, despite any promises of anonymity, because he could not risk mentioning if seagrass meadows were growing under his farm. There were no seagrass meadows when Ed had begun farming in the area, but he did not want to monitor seagrass and risk having to move his business. That’s why he, and other farmers, would not fill in the research surveys that were sent to them.

It was a sticky moment, which was perhaps why Freija and Elizabeth remembered. The researchers tried to explain that the data was protected. It didn’t matter now though. Ed had not filled in the survey, and now it was too late. But then, as we all sat in the library classroom, a new partnership began to form.

Ed understood, by sitting and talking with the researchers, that the researchers were trying to show how oyster farms like his might be beneficial to seagrass. He invited the researchers out to his farm to meet more oyster farmers and explain what they were doing. He would show the researchers how the farmers at Sea Marine Meadow Foundation had floating oyster farms that moved around above the seagrass beds (see Figure 24). The researchers could build trust with the oyster farmers. Maybe then they would fill in the surveys.

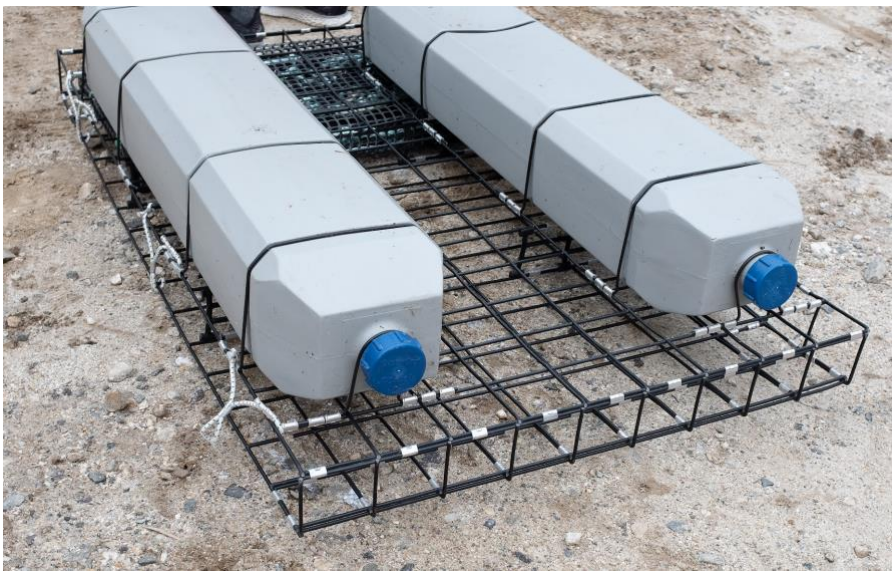

Figure 25: A floating oyster farm at Sea Marine Meadows Foundation during the Casco Bay learning Journey, 2022 (authors own image)

There were many interactions like this in the learning journey. The harbour master showed his new, open source, design for mooring buoys that did not erode seagrass, and the owner of local paddleboard company shared his own knowledge of how people used mooring buoys in the bay. Researchers spoke with the farmers at Wolfe's Neck Park about how they were using the invasive green crabs as fertilisers. These small exchanges sparked conversations and new relationships that were impossible to choreograph[71].

Citizen science and 'digital twins'

As well as these spontaneous connections, participants developed a project to specifically respond to the issues identified in their Story of Place and Learning Journeys: the Team Zostera Citizen Science project. Team Zostera would monitor seagrass as an indicator for bioregional health, working alongside existing organisations such as Friends of Casco Bay. This project was launched alongside the 2022 learning journey as a way to draw on the assemblage of researchers, community projects, businesses and users of the bay to monitor seagrass health. For example, the local diving shop could loan equipment, the paddleboat company could enrol volunteers, and those already 'on the water' (such as oyster farmers) could collect data.

Like Bioregioning Tayside's community science project, Team Zostera aimed to increase access to ecological data, create a sense of responsibility and stewardship, and to enable community participation in decision-making. Ontologically, Team Zostera demonstrates how seagrass health sits at the intersection between a diverse range of actors in the bioregion. It therefore makes visible interdependencies and creates a site of intervention.

Relatedly, a second project that is being developed in Casco Bay is to create a 'digital twin' of the bioregion:

> "The WG [working group] will explore the potential of bioregional digital twins to better see, connect and amplify transformation across a bioregion. Our work will focus on seagrass meadows in Casco Bay and how to inspire stewardship action… The WG will be among the first in the world to explore integration of big data, user interface,

[71] It was beyond the scope of this chapter to reflect on how bioregioning could work with researchers acting to create new research and assemblages for collective action in the ways suggested in Roelvink (2015, 2016). However, calls for bioregional learning centres (Wahl, 2016; Brewer, 2021) and the focus on learning in bioregioning more generally have potential for exploring the role of the academy in producing place-based knowledge and action.

> cinematic 'Triple-A' videogame quality, rich living 3D maps where every piece of knowledge about the place and its entities is holistically embodied or accessible to the explorer" [COBALT, 2022]

The aim of the digital twin is to enable people living within a bioregion to access data about bioregional health. In being able to access this kind of information, the intention is that it will help to 'inspire stewardship action', as well as potentially providing a future platform for participatory decision-making. This was inspired by Ball's (2002) participatory GIS methodology for 'regions of sustainability'.

Drawing on bioregionalism and the concept of the bioregion as a spatial unit for sustainable living, Ball (2002) offers participatory GIS as a response to the challenges of integrating scientific and local knowledge, and of community participation in landscape ecology. Ball's (2002) methodology involves using virtual 3D models of landscapes, with geospatial data layers and community map layers. These could include things like qualitative data, popular routes through the landscape, such as commutes to work. This form of mapping is participatory in the sense of enabling people to define their own landscape, and share "local or qualitative, intuitive cultural knowledge" (Ball, 2002, p. 105).

The digital twin concept was also inspired by the 'ocean data portals' in Boucquey *et al*. (2019). Data portals are data systems that are used to visualise spatial data (see Figure 25 for an example of Casco Bay bioregion's mapping of data). They are created to aid decision makers and stakeholders in marine spatial planning (Boucquey *et al.*, 2019). At first, this paper seemed to be a strange fit with the aims of the 'digital twin' project.

> "George had sent us a paper beforehand about data portals. I was kind of surprised - it actually is a community economies paper, with Kevin St Martin on it. The paper does talk about data portals, but what it is doing is showing how ocean data portals are doing ontological work to make particular kinds of marine spatial planning visible. I didn't really expect this kind of paper - and it seems to contradict what George is talking about" [Research diary, 28th July 2022]

The paper shows how data portals are simplified versions of reality that are designed to make particular forms of decision-making and planning easier (Boucquey *et al.*, 2019). Using this paper as the inspiration for making more data portals seemed at odds, then, with the aim of creating new forms of community governance. However, following some reflection, the use of this paper began to make more sense to me:

> But then when I read it again, it made more sense. The paper takes a diverse economies approach [reading for difference] to talk about how the "performances can 'slip', thereby creating space for enacting marine spatial planning differently" (p.484). The point for Casco Bay is to create a portal that is enabling people to intervene and act politically, not to reproduce the ways it [the bioregion] is already being managed. [Research diary, 28th July 2022]

As Boucquey *et al*. (2019) point out, data portals could either maintain an "order of things"[72], or "create new and more emancipatory opportunities for social-ecological communities" (p. 488)[73]. Therefore, creating the digital twin as a data portal can act as a way of generating difference in the way that marine planning occurs, a form of counter-cartography (for example Dalton and Stallmann, 2018), or even a form of commons itself (Boucquey *et al*., 2019).

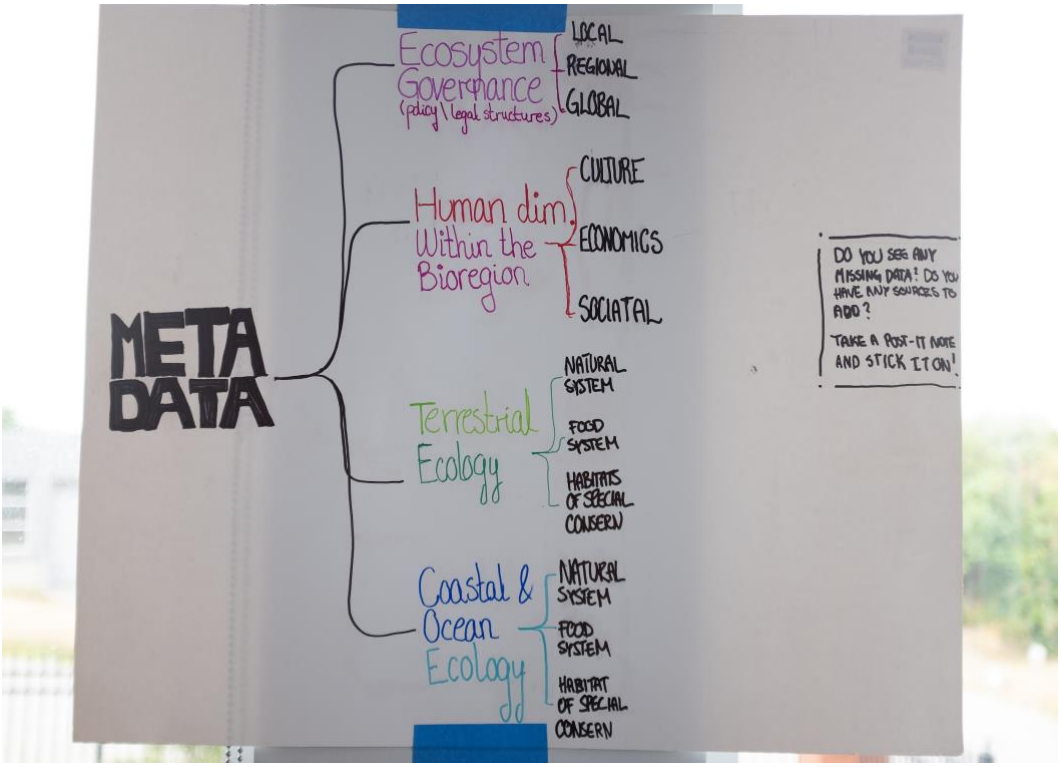

Figure 26: A poster made by a learning journey participant asking for data sets for the data portal. The data they are asking for is not just ecological, but also includes the 'human dimensions', as well as different forms of local, regional and global governance

[72] This is in reference to Latour's (2005) concept of matters of concern.
[73] This is related to the concept of commoning, which requires the constant constitution of communities and their commons (Huron, 2015); such forms of mapping can either drive enclosure or commoning of ocean space.

7.1.3. Minimising remoteness through collective action

The preceding sections have shown how in Tayside and Casco Bay, participants began acting together in new ways and enabling others to act by creating new networks of solidarity, generating new community action groups and experimenting with different forms of data and knowledge.

Miller (2019) might describe the forms of collective action that I have described here as experiments in composing ecological livelihoods. Bioregioning makes visible the ways that livelihoods are the outcome of livelihoods we make for ourselves, those we make for others, and those that are made for us (see Chapter 2). Drawing on Plumwood's thinking on remoteness (2002), I argue that the forms of action taken by Bioregioning Tayside and Casco Bay bioregion seek to minimise the remoteness in this triad of relationality.

As I argued in Chapter 2 and 5, remoteness from the impacts of lives is understood by thinkers like Plumwood (2002) as something that prevents ecological livelihoods. However, this is beyond a simple spatial remoteness addressed through a localisation of the bioregion (as in earlier forms of bioregional thought outlined in Chapter 3). The collective action in both cases tackled multiple forms of remoteness.

The first form of remoteness that the collective action in Tayside and Casco Bay works against is a kind of subjective remoteness, in which we made remote from others that we share a homeplace with. Mapping and spending time in place (as described in Chapter 5) becomes an act of recognition of all of those that constitute the bioregion. Being-in-place can therefore be understood as a form of collective action itself, not just an alternative discourse.

Alongside this is a recognition of different forms of agency, human and non-human, lively and non-lively. Through bioregioning, participants developed an attentiveness to the more-than-human. Team Zostera asked, for example, 'what would the eelgrass meadows say?' (see Figure 26). This turns attention from being-in-place to questions of being-in-relation with bioregional others, recognising that our livelihoods can contribute to or undermine the flourishing of others. This involves taking an ethical stance that "counters deafness and backgrounding that obscures and denies what the non-human other contributes to our lives" (Plumwood, 2002, p. 194-195). Reducing subjective remoteness therefore can be understood as ongoing experiments of acting collectively with the more-than-human of the bioregion.

Most significantly, both groups worked against the epistemological remoteness that stands in the way of knowing the ecological consequences of livelihoods and from imagining alternatives. In Chapter 5, I showed how the new narratives of place generated in Learning Journeys and Story of Place reworked hegemonic understandings of place. In this chapter, I unpacked some of the ways that both groups put an emphasis on collective knowledge that created new sites for political intervention.

Both groups also recognised consequential remoteness, in which decision-makers were remote from the consequences of their actions. Strategies of generating more communal governance of the bioregion, whether it be through leveraging things like Regional Land Use Partnerships or Local Place Plans or by creating new spaces for participation via a digital twin, work against this remoteness. The collective action brought people closer to consequences by more communal forms of ownership, governance and distribution of surplus.

Surprisingly, spatial remoteness (understood as physical distance from the ecologies and forms of labour that sustain our lives) was not a major focus of either Bioregioning Tayside or Casco Bay. While there was a general orientation towards the local as the focus of action, strategies of localisation were not being mobilised. For example, although a major concern that emerged in Tayside was around food, this did not result in calls for a local food movement. Local food production was one part of the conversation, not a silver bullet to solve the complex issues that the group identified. This appears to be a shift from the forms of bioregionalism criticised by Plumwood (2008) and Whatmore (Whatmore, 1997, 2009), that only tackle spatial remoteness and the strategies of which fail to account for power.

Figure 27: Team Zostera poster asking, "If our seagrass meadows could talk, what would they say?".

7.2. Limits to collective action

As in all attempts to build alternatives, there are things that stand in the way of collective action, or, at the very least, shape the ways in which people come together to act in new ways. An understanding of the world as discursively constituted does not mean that it is easy to simply act differently. As Miller (2019) argues,

> "Some assemblages are durable than others, and some are also more potent in their ability to articulate myriad beings and relations into webs of mutual influence and interdependence that come to seem eternal and inevitable" (p. 20-21).

In other words, the ways that discursive frameworks like that of the economy, environment and society (see Chapter 5) order relationships and resources, and are stabilised and institutionalised, makes them durable and difficult to reimagine. Some ways of thinking are able to render themselves natural, making it difficult to build collective action oriented towards different ways of being in the world.

Despite the reframing and resubjectivation that I have described in Chapters 5 and 6, in the following sections, I offer some of the obstacles to collective action in Tayside and Casco Bay. The first is the ways in which collective action involves drawing boundaries and introducing closures. The second is the pragmatic concerns of resources and leadership, and the capacity to participate in the building of alternatives. Finally, there are particular forms of remoteness are (necessarily) reproduced in bioregioning.

By highlighting some of the limitations of the collective action in Tayside and Casco Bay, my aim is not to suggest that they are 'doomed to fail' (Gibson-Graham, 2008). Instead, it is to "make a realistic assessment of what might stand in the way of success" (Gibson-Graham, 2006, p. xxxvi).

7.2.1. Introducing closures

The first thing that is limiting the collective action that takes place in Tayside and Casco Bay is the way in which various forms of closure are introduced. Although bioregioning turns attention to the various forms of interdependence that we are enrolled in, when the groups turn towards collective action, this requires some boundary work. The process of defining boundaries and establishing values and norms shapes collective action.

As Miller (2019) argues, thinking through interdependence helps to explicate how our livelihoods may undermine flourishing for others. Yet recognising interdependence alone does not mean that more ethical ways of being are produced. Negotiating more ethical livelihoods requires defining who counts, and whose flourishing is being prioritised.

For example, as suggested in Chapter 6, the invasive green crabs in Casco Bay are understood as undermining other species flourishing, in particular the eelgrass. The future visions for the future of Casco Bay did not include green crabs, and therefore collective action focused on their exclusion. This is not problematic necessarily; however, such closures can become problematic when extended beyond their particular context. For example, in Casco Bay this invasive species is understood as undermining bioregional flourishing, but this could be universalised as a value of excluding anything that is not 'native' through bioregioning. This can signal more reactionary understandings of place that are rooted in particular imaginaries of nativeness and heritage (Massey, 1991).

Another example of this occurred in Tayside. In the research diary entry below, I am describing a dispute that took place between Carol and a visitor (who was influential in the area) about the wording of a display that she had created about the history of the bioregion.

> "There were some complaints over the wording of the display. Carol said that she has only had to deal with this once before, and that was in relation to the timeline [of climate and Tayside displayed in Alyth] and how they represented the impact of animal farming on carbon. [The visitor] had taken issue with the section on Scottish independence. The words in question were 'get' (vs. retain) independence, and the independence 'movement' (vs. debate). Carol said, 'I don't want to just skate over it, I want to have an argument because it's so interesting'. But the challenge of the funding shaped the way that this antagonism could be shown" [Research diary, 28th May 2022]

Through creating a Story of Place, Bioregioning Tayside had not only shown how Tayside is in relation with other places, and that livelihoods in Tayside are the result of interdependencies and contingencies, but also begun to determine a politics of what regenerative livelihoods in Tayside might entail. In this case, it included an independent Scotland. Again, this could be extended to a universalised value of creating autonomous states through bioregioning. This would undermine the local specificity of what a politics of collective action through bioregioning involves.

Gibson-Graham and colleagues recognise that any moment of exclusion created by introducing positivities, such as the examples here, as necessary and productive, but also as

inherently risky (Gibson-Graham, 2006; Miller, 2013a). There was one issue in particular that presented risks to ethical collective action: how bioregioning approaches Indigeneity.

Indigeneity and bioregioning

Recognising interdependence and generating a collective subjectivity does not mean that there are no existing power imbalances that can "limit the building of, or the inclusive or exclusive character of, liveable worlds" (Naylor and Thayer, 2022, p. 792), which need to be navigated. One such power imbalance includes how those involved in bioregioning act with Indigenous peoples. This took place in a range of (sometimes contradictory) ways.

On the one hand, Indigenous participants in Casco Bay felt that bioregioning was complementary to Indigenous thought. Indigenous people have knowledge and ethics of living in place[74] that are formed through an intimate connection to land, which also shape political practices "that contest the hegemony of settler governmentality" (Coulthard and Simpson, 2016, p. 254). For Diane, there were many points of resonance between bioregioning and Diné ontology[75] that enabled her to make sense of the Casco Bay learning journey:

> "And I didn't really know what bioregionalism is, until I looked it up and of course Wikipedia'ed it. And - but being here, it made me realise that this is like Indigenous thought. This is like, how we always thought, right? And so that was my learning is to take like a western concept, and then realise, oh, this is Indigenous?" [Diane, interview]

When I asked Diane what she meant by that, she explained:

> "So how I see bioregionalism is like connecting systems within the local area and using those resources… And tribes are their own sovereign nation, but in their way they make their own politics and their own policies. And they have their own - like - systems, way of thinking. But when they're making the systems, it's always like you always got to consider traditional ways of thinking and with Indigenous ways - and in Indigenous life, we're taught to respect Mother Earth. A lot are pretty much pro-environment, right? So, it's, like naturally incorporated into those systems already" [Diane, interview]

For Diane, the thinking of place-based ecological systems and the relationship between humans and the systems they inhabit that is central to bioregional thought had the potential

[74] Including, as Daigle and Ramirez (2019) point out, urban areas.
[75] *Diné* is the term that Diane uses to identify herself as an Indigenous person to the Navajo nation.

to support and complement Indigenous place-based practices in Maine. Diane was excited that Indigenous practices were being taken seriously in Casco Bay:

> "Sea Marine Meadows and it was interesting how he developed that concept [of the floating oyster farms]. He said he saw some Indigenous guys from up north. Yes, he wanted to do it in a sustainable method. But really, he adopted that method from Indigenous peoples. And that made me really think like, oh, a lot of… people are looking towards Indigenous ways of thinking" [Diane, interview]

The oyster farmers had learnt from Indigenous practices and were beginning to implement those practices in their own farms. For Diane, this was an example of how people were turning towards Indigenous thought as a way of learning to live sustainably in place. Bioregioning's focus on living in place meant that both specific Indigenous practices and broader understandings of interconnectedness and reciprocity as the basis for human survival were valued, enabling a complementary politics of place.

However, there were also risks of drawing on Indigenous thought in bioregioning. This was something that had felt uncomfortable for me several times during the Casco Bay learning journey. For instance, during the opening day of the Learning Journey, which had also included a presentation from the Passamoquoddy Language Keeper and a welcome speech from Hugh Akagi, the chief of the Passamoquoddy, one of the presentations, by a non-Indigenous speaker, described bioregioning as Indigenous thought:

> "In one of the opening slides [he] says 'This is Indigenous wisdom' - this is quite a bold assertion" [Research diary notes, 8th August 2023]

The assertion that the concept of bioregioning, that comes from a settler context of California, is the same as Indigenous thought was troubling to me. Drawing equivalence between Indigenous thought and bioregional ideas is appropriation (Wiebe, 2021). Bioregionalism has used the symbols and language of Indigeneity and incorporates them into a non-Indigenous context in ways that do not necessarily help Indigenous people[76]. It can mean that "one's own personal transformation… is complicit in the problems one is seeking to overcome" (Wiebe, 2021, p. 141).

Bioregioning, then, risks erasing Indigenous struggles by drawing them into their own political struggles that may not work towards decolonisation or extend care to Indigenous

[76] Wiebe (2021) offers the example of the ethnographic work of Bron Taylor (2000) but argues that what Taylor describes as Indigenous spirituality underpinning bioregionalism actually amounts to cultural appropriation and the legitimisation of settler claims to place.

inhabitants of the bioregion. Further, it can reinscribe the idea that Indigenous livelihoods are pre-colonial and can be learnt from but that do not actually persist (Wiebe, 2021; Menser, 2013; Hubbard *et al*., 2023).

Yet drawing on Indigenous ontologies as a source of inspiration was something that I saw repeatedly in both Casco Bay and Tayside. As one (non-Indigenous) interviewee in Tayside suggested,

> "So, I think there is a lot of an Indigenous understanding of the ambiguity around the boundaries that we create in nature. You know, if we want to take something from the land, we view the land very differently when we want to be thankful for the land or be in the land" [Bioregioning Tayside, Interview]

Here, Indigenous thought is used as an example for alternative ways of conceptualising nature. For another interviewee, thinking of bioregioning as a form of Indigenous thought helped them to understand how bioregioning was different to hegemonic understandings of making livelihood in place:

> "And if you're going to learn something, you have to stop and say which hooks am I going to hang this on? If you don't want it to be overwhelming. So, it became clear to me that the pattern of hooks that was going to make it easier for me… was to revisit what I already understood that the Indigenous spiritual and physical relationship to the land" [Bioregioning Tayside, Interview]

Bioregioning was attractive because of the ways in which it reflected Indigenous understandings of place (see ross, 2019), which were already understood as a meaningful alternatives. Bioregioning created a counterhegemonic stance towards eurocentrism and capitalocentrism (Naylor and Thayer, 2019) that could create new forms of politics, informed by Indigenous place-based politics and ethics. However, at times Indigenous thought was represented as equivalent to bioregioning, risking a shallow form of solidarity (Coulthard and Simpson, 2016)[77].

The second problem with this assertion is the idea that Indigenous thought is singular and carries an ecological innocence. For example, the idea of the 'noble savage', in which Indigenous people are free from corruption and live in harmony with nature has long been a

[77] Ellemor (2003) argues that claims to settler claims to place can be malicious as ways of gaining control; however, they can be well-meaning. Even the language of Indigeneity that they might mobilise can emerge through the lack of other frameworks for thinking through connection with place (Ellemor, 2003).

trope in conservation (Kalland, 2003). It has acted to generalise Indigenous ecological practices, and represents Indigenous as static, rather than contested and changing (Poata-Smith, 2013). As Diane reflected:

> "And we're all you know, we're not all like monolithic. We don't have like one way of thinking. But you do have that overall - and with other Indigenous across the world - We do have that concept of stewardship and really taking care of Mother Earth and environment being like in our communities" [Diane, interview]

Although many Indigenous ontologies might have similar concepts of the relationship between people and land, and of stewardship and responsibility, that does not mean that there is one 'Indigenous thought'. Describing them as such, and in particular then relabelling it as bioregioning, can be another form of ontological violence (Bawaka Country including S Wright *et al.*, 2016). As Diane said:

> "I think there's like two ways of thinking. One - I think it's cool that you know, non-natives are using that right way of thinking, because it is a way forward. Right? To sustain and help Mother Earth. At the same time, like you want to be careful because it's like, you don't want to exploit take from Indigenous thought without giving back" [Diane, interview]

Bioregioning offers a way of valuing Indigenous thought and practice, but it can also act to erase or co-opt it, especially when Indigenous people are not valued or, at worst, are not part of settler imaginations of the future.

Relatedly, then, bioregioning risks becoming a new form of state thinking:

> "I guess my first impression of bioregioning was, oh, you can actually partition the world into different regions and why do we have nationalities and political boundaries? That sucks… but at the same time, this is not how most people think of the world" [Freija, interview]

Freija points out that, once you begin thinking along ecological lines, political boundaries 'suck'. However, this comment raises another important question. What happens when bioregioning begins moving towards the creation of new political boundaries? If talks of governance become strategies of creating bioregional states (Berg, 2013), bioregioning becomes just another terrain of state-thinking, which asserts 'rightful' ownership of land. This imagines settler futures and inscribes Indigenous presence in place as historic (Tuck and Yang, 2012). Bioregioning then would simply appropriate Indigenous relationships to

land, without extending this to its politics (Coulthard and Simpson, 2017). This undermines an ethics of incommensurability at the heart of decolonial politics (Tuck and Yang, 2012).

7.2.2. Resources and leadership

Another key challenge that shaped collective action was that both groups faced familiar challenges of resourcing their action. The ability to mobilise and use resources has been theorised as one of factors that determines the success of a social movement (see Jenkins, 1983; Edwards and Gillham, 2013). This seems somewhat of a mundane obstacle, one that is faced by all change-making initiatives or community projects. However, it was also one that was most commonly emphasised to me, and that had real effects in terms of the form of collective action.

Bioregioning Tayside recognised that much of what they had been able to achieve was driven by their own existing skills and capacities:

> “There's a level of expertise that we all recognise that helps. There's a lot of heavy lifting that goes into making an event, but a lot of people aren't up for doing that. I think we've done what we can with what resources we have - it is amazing to feel a response to the whole bioregioning concept. You can sense if you were able to push energy into specific spots, with more resources, all sorts of stuff would begin to happen much more quickly and much more consistently” [Kate, interview]

Each of the members had some experience that helped them to deliver events and drive their work forward, but a lack of consistent funding and volunteer labour limited what they could achieve. The lack of resources meant that the group had to be pragmatic about what they could achieve. For Carol, this limited strategic thinking:

> “I'm very conscious that this whole Bioregioning Tayside thing is being done on the complete wing, with very little proper strategic thinking and just kind of going with the flow and finding the energy and being highly opportunistic, but there isn't an alternative to that, because we don't have the resources” [Carol, interview]

Rather than being able to plan and find the most effective actions they could deliver, instead Bioregioning Tayside often found themselves responding to the immediate problems and opportunities.

For Kate, the lack of resources held other risks:

> “And it's so interesting because how do you not replicate the same power structures and worldviews if you don't have the same resources as the people with the power in the rooms, and those are very simple resources?” [Kate, interview]

Lacking capacity and resources, and the inability to think and act strategically, made it more difficult to enact different power relationships to those that they were trying to challenge. For example, one way in which the group has attempted to tackle this is by registering as a Community Interest Company (CIC). Creating this formal governance structure has enabled them to apply for funding, rather than rely on goodwill arrangements with other organisations such as Alyth Development Fund. However, in doing so, they lost a degree of autonomy over their governance structures, such as having to specify a board of directors. This meant that, even if only in formal documents, the group had to create of a form of hierarchy that worked against their more communal principles.

For Carol, the size and relatively limited complexity of Tayside meant that even with limited resources there was greater capacity for action compared to other bioregions:

> “I've been thinking about poor Dave's conundrum, about 40% of Scotland living in the Clyde bioregion, and that that's stopping him from knowing what to do, essentially. And I was wondering whether if I was in that geography, whether I'd be feeling the same thing, because actually the two cities that are in the Tay bioregion are really, really quite small” [Carol, interview]

Dave’s ‘conundrum’ was an ongoing struggle discussed during a UK Bioregional Community of Practice meeting. He has been struggling for many months to drive action forward or even create a stable group of people to work with. Carol recognised that Tayside bioregion was comparatively straightforward compared to the Clyde.

There were similar challenges for those involved in the Casco Bay bioregion. For some that took part in the Casco Bay learning journey, they found it difficult to commit to further action beyond the week of learning:

> “You know my circumstances. I've got an awful lot to think about. And I honestly, I can't tell you how much I've valued being a part of this. But I'm not actually sure where I'm going to be and whether I am going to be in a position to contribute and I don't want to put myself in the way of all these great ideas and enthusiasm, so while I'm still around and connected, yes, I have the chance to follow through. But I'm just conscious that that might not be an option” [Casco Bay Learning Journey reflection session]

This participant's personal circumstances meant that they couldn't offer the level of commitment required to continue participating. Day-to-day priorities of work and family meant that they had less capacity to participate. This feeling was shared by others:

> "I theoretically, I completely know what I feel, at least what bioregionalism is, and I should know my place, but I put zero effort into actually learning anything about my place. Because I prioritise school… and because I have to do that to like, have a chance for a job or to finish my degree, you know? So, it's not on the top of my priority list and I wonder should it be? … I don't know what to do with that information. Because I don't act on it" [Freija, interview]

For Freija, competing priorities meant that she felt unable to act on the learning she had taken part in. The demands of her current life meant that it was difficult to imagine how to apply her new knowledge. The limited agency described in Chapter 6 persisted, despite the drive towards sharing and collective work emphasised within bioregioning.

Participants recognised that much of the project was driven by the leadership of George in particular:

> "It's the strength and amount of those relationships, which of course, obviously entail a pretty long period of system seeing, so George's involvement and love for this area, and just enthusiasm - I lost count on the people that said, 'you know, I've just met George kind of randomly, but I just said Yes', right? That's not down to chance. That's a way of leading that's intentional… So, there's something about a certain kind of leadership and a certain way of acting and seeing a system" [Casco Bay Learning Journey Reflection session]

For this participant, bioregioning requires a degree of longevity to begin to understand the place and to build the depth of relationships required for transformational work. Equally, the skills of creating networks, 'bioregional weaving'[78], and becoming a person that people 'just say yes to' are ones that need to be cultivated. Leaders, like George, were needed - yet also posed a challenge for maintaining the group.

Another participant recognised the potential for harm if bioregional leadership is not done well, and the networks that are build are not nurtured:

[78] 'Bioregional weaving' is a term that is used by the UK Bioregional of Practice and by other bioregioning projects. I have not explored it in this thesis because it isn't used by Bioregioning Tayside or in Casco Bay. However, it is a term that is in use to recognise that there may need to be leaders that drive networks and orchestrate bioregional work.

> “Sue: One of the things I think it's really important when people who are stuck in the system or working in a system, and they see that - they're like to trust to build the trust they also need to feel like there's actually - there's something going to happen with that information. So, it’s almost like a trust that’s being - yeah
>
> George: And just to build on that when you literally bring people together and they do open up if you don't do that, you can actually bring that follow up, you can actually bring the degree of resilience lower… When you do this it comes with a risk of creating more rigidity. If you don't honour what you've learned, and share it in a way that is -
>
> Sue: Yeah, there really is a lot of responsibility” [Casco Bay Learning Journey reflection session]

In this exchange, George and Sue identify that there is a degree of risk in bringing people together without plans for how to maintain those relationships. George notes that it ‘can bring the level of resilience down’, if there is an investment of time and resources into relationships that then cannot be converted into positive outcomes.

This resourcing has implications for who can participate in bioregioning. Even if conceptually, bioregioning can create space for the coexistence, antagonism and democratic, it may only reproduce existing power hierarchies if people cannot participate. This may be reduced by collectivity and sharing but requires careful attention.

7.2.3. Reproducing remoteness?

The collective action in Tayside and Casco Bay aims to reduce some forms of remoteness, but in doing so it reproduces other forms. In Section 7.2.1, I showed that despite bioregioning working to unmask interdependence at different scales that make livelihoods, composing more collective and ethical livelihoods requires making decisions on how that interdependence is enacted. Section 7.2.2 showed how pragmatic concerns about resources and leadership also made some forms of collective action more possible than others. There are differing capacities to participate in bioregioning (exacerbated by lack of resources) that shape the question of ‘who’ is in the collective.

These challenges inevitably mean that some flourishing is prioritised over others. In this sense, particular forms of remoteness are reproduced rather than minimised. For example, in Casco Bay, there was a risk of excluding Indigenous futures from settler future imaginaries. This reproduces forms of consequential remoteness (Plumwood, 2002) in

which Indigenous peoples are continually affected by the impacts of livelihoods in the bioregion.

Both Bioregioning Tayside and Casco Bay bioregion focus their action on their own bioregions, despite their Story of Place highlighting the ways in which their place is shaped by, and shapes, other places. As Plumwood (2008) argues, this form of bioregional action continues to negate other places that support livelihoods, even if it makes more radical critiques of power than the earlier bioregional thought that Plumwood (2008) references.

In drawing boundaries, even in counterhegemonic ways, there is a distancing between what is 'in' and what is 'out'. However, rather than understanding this as an inherent problem of bioregioning, instead it is a necessary part of articulating a political strategy. Yet, as Miller (2013a) suggests, such closures and exclusions can be made less risky by keeping some form of 'unworking' that maintains the ontological openness that counterhegemonic projects require. Bioregioning as a verb, I argue, invites the form of trouble that could do such unworking. Framing this as an ongoing process of bringing the bioregion into existence (Tyler, no date) keeps the understanding of bioregional place as contingent and always becoming (Chapter 5). It also keeps the ethical moment open (see Chapter 6), in which collective subjects are generated and interdependence with others is exposed.

In other words, by turning bioregionalism into a verb, it invites a continual return to the question of what the bioregion is, who forms the collective subject, and an ongoing experimentation in acting collectively.

7.3. Discussion: The political moment of bioregioning

This chapter has mapped out the forms of collective action, or the composing of collective livelihoods, which is take placing through Bioregioning Tayside and the Casco Bay bioregion. The politics of collective action that I have engaged in this chapter sees the possibility of radical transformation in the present, which can be mobilised by drawing on that which already exists (Gibson-Graham, 2006). It builds on politics of language (Chapter 5) and the subject (Chapter 6) to begin enacting new, collective ways of making livelihoods. Miller (2013a) might describe this as a political moment: when interdependence has been revealed, a space of ethical negotiation opened, and positivity can be collectively enacted.

This collective action is linked to the discursive and subjective work of participants that I have shown in Chapters 5 and 6. By generating new narratives of place, bioregioning brought the bioregion into existence as an imaginative space with multiple pathways for development. Processes of resubjectivation exposed interdependence in such a way that questions of livelihood were turned into collective negotiations, bringing the bioregion into existence as a site of politics. In the political moment, values of what it means to live well in Casco Bay and Tayside could be collectively interpreted and enacted. This can be understood as action that begins to bring the bioregion into existence as a flourishing ecological livelihood rooted in place.

I argue that such values are based on minimising remoteness. Yet, as shown in this chapter, this does not attend only to spatial remoteness, but epistemological, subjective and consequential forms of remoteness. Critically, much of the work focused on removing remoteness that prevented collective action, enabling others, beyond the group, to act.

I also highlighted how this collective action requires some closure of the radical openness that bioregioning introduces, posing new risks and limitations. This reflects a tension that is posed by Miller (2013a). For Miller (2013a) creating a community economy necessarily requires the movement to some form of positive value, or institutionalisation. Recognising interconnectedness raises the question of what do we desire? Who is in and who is out? Whose flourishing is prioritised?

Bioregioning, as a verb, is never complete, so collective action can only ever be tentative and experimental. It is a process of working out how enacting interdependence in new ways looks like in practice, turning the terrain back into one of negotiation, and commoning the process. In doing so, bioregioning renders livelihood into a site of struggle, countering anaesthetisation (Stengers, 2005) in which livelihood relations are uncommoned, or made non-negotiable (Miller, 2019). There are two aspects to bioregioning that achieve this: first a capaciousness that makes space for plurality and radical difference, and second, a critical spatial strategy.

7.3.1. Plurality, radical difference and ‘unworking’

Bioregioning draws on the specificity of place as a strategy for countering the remoteness from the environmental impacts of our livelihoods. In doing so, it makes space for plurality, radical difference and ‘unworking’ of positivities that undermine political action (Miller, 2013a). There are several aspects to this.

The first is by building collective action from what is already in place, bioregioning understands place as a source of alternative pathways for development (in line with Escobar's subaltern strategies of localisation, 2001). This can be understood as a counterhegemonic stance. It works against the One-World World (Law, 2015) that erases difference and presents a capitalist, globalised modernity as the one pathway for development. Bioregioning offers a way of valuing difference and unworking the ontological assumptions of such a perspective. Bioregional flourishing is, necessarily, different in different places, and can be achieved without waiting for capitalist development or a ruptural moment of revolution. Principles can be established for decisions to be made around, but that does not "constitute a set of 'model' principles to be universalized" (Miller, 2013a, p. 525).

Secondly, bioregioning acts as a conceptual 'unworker' (Miller, 2013a, see Section 7.2.3). Miller (2013a) argues that an unworker is something that is required to keep the radical potential of the ethical moment of community economies open. An unworker would maintain the exposure of interdependence and undo the hegemonic assemblages that shape our action. But Miller (2013a) asks what would such unworking look like in practice? How do we maintain a state of receptiveness to new possibilities and orient ourselves towards experimental action (Roelvink, 2016)?

Bioregioning offers one example of how a place-based collective action might begin to take shape without offering a blueprint or single theory of change. In this exchange during the Casco Bay learning journey, participants recognised that bioregioning is an interactive process of figuring out solutions and reworking relationships:

> "Bill: Well, I'll add something that I picked up on what you were saying. I don't know if it's an offering that's going to destabilise the conversation but, you talked about what you do with bioregionalism in terms of supporting people who have an immediate need right? A livelihood to make. That's a great question. And so vital to this planning is something we call in our practice an interim end state. That there needs to be these plateaus of achievement that allow life not to be so destabilised, right?
>
> Geeta: Right, you can't burn everyone's livelihoods… I mean, even I brought up offshore wind… but the sort of pull and push there is like the migration of whales, meets renewable energy standards and it's very hard to like - even among environmentalists there's a lot of tension there

> Bill: So how do you march forward in achieving an end state, that state of being that you want to realise without rocking the boat? And if you're intentional about it, that actually can be done.… But we're locked into dualism, an either-or situation, and we get stuck there without understanding that if we're, if we actually hold the larger system, the system wins right? The imperative are the whales, yeah. Not renewable energy. However, renewable energy is important. So how do you actually reconcile that? So, these are two opposing forces… It's remarkable how you can find a solution that actually ends up addressing both needs. If you have the long-term view of -because nature harmonises, it doesn't compromise... And so, we have to learn to adapt and yet without destroying life, that includes our lives, too" [Casco Bay Learning Journey reflection session]

For Bill, a journey towards a state of a flourishing bioregion is one that is characterised by moments of transformation, plateaus and iterative change. The language of bioregioning focuses collective action on the process, rather than the outcomes of change. In this conversation, it is also possible to see how bioregioning shifts the focus from a trade-off between the environment and the economy, to webs of interdependence. Bioregioning continually destabilises human/nature divides, positive understandings of community and narratives of place, acting as a conceptual unworker (Miller, 2013a),

Thirdly, engaging with examples of bioregioning also draws attention to the differing capacities to act in the collective space that is negotiated (Miller, 2014b). As well as drawing out questions of who's flourishing is undermined by that of others, it engages questions of how power operates in alternatives (as argued for in Gabriel and Sarmiento, 2020b; Naylor and Thayer, 2022). It also raises the questions of how the skills and capacities for negotiating in this space of an uneven interdependence might be cultivated, and what new forms of care might be enacted beyond a human/nature divide.

Finally, the concept of the bioregion is also one that is capacious enough to encompass different imaginaries and strategies for transformation. It could be described as a boundary object (as in Wearne *et al*., 2023, see Appendix B). A boundary object is something that allows different parties to collaborate without consensus. It must be a tool that is "both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity" (Star and Griesemer, 1989, p. 393). Or, as one participant described it, a "partially theorised agreement":

> And partially theorised agreement is when you're working with someone where you talk only about the things you agree about, and you make progress on those and you

> have a tacit agreement, that you're not going to put so much detail into this agreement that you get to the point where you disagree. [Kate, interview]

Bioregioning enabled people to agree on enough without being too prescriptive. This meant that people could begin acting collectively without struggling over definitions or closely prescribing values. It also keeps the productive disagreement about bioregional boundaries and livelihood relations in tension, resisting the need for closure around positive values.

Bioregioning therefore enables forms of collective action to be enacted without agreement, incorporating difference, and in ways that critique a One-World World (Law, 2015) or capitalocentric discourse (Gibson-Graham, 1996). In this sense, the bioregion becomes a particular spatial tool that can be mobilised in a range of ways. The following section expands on the spatial strategy of this collective action.

7.3.2. Scale and the spatiality of collective action

Bioregioning takes an explicitly spatial approach to collective action. Holding onto the provocations raised by the concept of the bioregion, even if this is stretched to its limits, bioregioning directs attention to the material places in which we live. Crucially, it does this in ways that are critical of the spatiality of power, rather than (as Plumwood, 2008 contends) neglecting power by elevating a singular home place through a spatial strategy of localisation (see Chapter 3).

I found that bioregioning was based on localisation as a strategy. However, for Bioregioning Tayside and Casco Bay, this does not mean creating a local economy or other forms of self-sufficiency. Instead, localisation can be understood as minimising all forms of remoteness from the consequences of livelihoods, not just minimising spatial distance. Localisation could also be understood as making visible understandings of wellbeing which are rooted in what flourishing means to those that live in a place. Localisation is therefore a way of seeing place as a source of alternative pathways for development (Escobar, 2001), and collective action as collectively nurturing those alternatives, rather than waiting for the circuitous route of capitalist development (Gibson-Graham, 2006).

This reworking of localisation enables bioregioning to account for both how place is shaped by global connections (Massey, 1991) including the fact that livelihoods in some places have greater effects than others, and thus greater responsibilities (Massey, 2004; Plumwood, 2008). It recognises how livelihoods are specific to place and shaped by the material limits and possibilities of that place. Equally, by raising the question of ‘where is my

place and who do I share it with?', the politics of collective action within bioregioning turns attention to the relationships that shape livelihoods in places. This includes relationships with other humans, non-human life and the non-lively materiality of the bioregion. This spatial question has a number of effects.

First, it shifts the target of action from both the global as an aspiration for progressive politics (Chatterton and Pickerill, 2010), and the citizen-consumer who is encouraged by the state to make responsible choices (Barr and Pollard, 2017). By making visible the many interconnections in place, a range of sites for collective action and political possibility are proliferated (Gibson-Graham, 2006). The terms of sharing a living place are opened for collectively enacting differently, and strategies for doing so are expanded.

This relates to the second point, that collective action through bioregioning disrupts concepts of place and scale. The collective action of Bioregioning Tayside and Casco Bay bioregion not only aims to transform relationships in place, but to defend the concept of place itself. Rather than dismissing ideas of place as having a form of unique identity, shaped by land and non-human life, as reactionary (Massey, 1991), bioregioning's strategy involves valuing the specificity of place and rebuilding livelihoods in ways that are sensitive to that specificity. At the same time, the resistance to drawing firm boundaries (see Chapter 5) maintains an openness and space for different understandings by seeking to understand how place is also contingent on other places, and always being transformed. Bioregioning therefore reworks the role of place in collective action.

Seeing bioregional place as contingent and dynamic in turn opens up the concept of scale as a relational quality, rather than a top-down flow of power (Leitner and Miller, 2007) in which the global is more powerful than the local (see Chapter 2). The bioregion is a pragmatic scale for action as an epistemological framework, but also one that emerges in relation to non-human ecological systems (see Wearne *et al*., 2023, Appendix B). Bioregioning therefore suggests that collective action does not have to be about scaling up (Chatterton and Pickerill, 2010), but can then take different spatial formations, such as ubiquity or horizontal networks (Schmid, 2020).

At the same time, bioregioning maintains a connection to the original eco-philosophy of bioregioning through its conceptual foundation of the bioregion (see Chapter 4). As Chapter 6 argues, bioregioning can be understood as commoning because it renders the terms of interdependence exposed through a bioregional lens as negotiable. Yet rather than commoning being understood as the opposite to enclosure, commoning always involves some form of boundary-making (Bollier, 2014, Bollier and Helfrich, 2019; Williams, 2018).

As this chapter has shown, the collective action taken in Tayside and Casco Bay prioritise some bioregional participants over others, and some 'tacit agreements' remain in place. However, compared to ontologising forms of bioregionalism that seek to reinscribe boundaries, drawing on reactionary understandings of place and fixed understandings of nature bioregioning keeps the question of boundaries in tension (Hubbard et al., 2024). The movement between an open-ended and relational understanding of the bioregion and one which is more bounded means that the political question becomes "*what enclosure, for whom, for what purpose and to what effect?*" (Miller, 2019, p. 190). This question can never be fully settled.

Bioregioning shows how collective action can have alternative spatial strategies that themselves challenge understandings of power. Collective action reduces remoteness from ecological consequences via localisation. Yet, localisation becomes a critique of the spatiality of livelihoods and the power relations of that spatiality.

7.4. Conclusion

This chapter has addressed research question four: What forms of collective action are being realised through bioregioning? It began by defining collective action as *acting collectively*, rather than as mass participation with a shared theory of change (drawing on Gibson-Graham, 2006; and Miller, 2019). Understanding collective action in this way shifts focus to the ways that people are enacting new forms of collectivity that make space for plurality and co-becoming. This breaks down human/nature binaries, enabling receptiveness to the agency of others (Roelvink, 2015, see section 2.2.2.). Simultaneously, it revalues small-scale ways of enacting change, without needing action to be large, scalable or transferrable to other places in order to be valid.

I then outlined some of the forms of collective action in Tayside and Casco Bay. This included creating more collective ownership of data and knowledge, reviving local practices, and creating specific projects (such as the *Feeding Tayside Through the Climate Crisis* conference and working group). Through bioregioning, the groups began "trying out combinations of knowledge and power, truth and practice" (Escobar, 2001, p. 158). This could be understood as bringing the bioregion into existence (Tyler, no date) as scale for political action, an object of care and responsibility, and by collectively composing ecological livelihoods in place.

This collective action built on the critique of place shown in Chapter 5, and the resubjectivation of Chapter 6. However, despite the separation into three chapters in this thesis, this was not necessarily a linear process. The learning about place, as discussed in Chapter 5, was understood by participants as a form of collective action itself. Chapter 6 also outlined some of the ways in which the two groups created spaces for experimenting in different forms of subjectivity. This is also a form of collective action in which participants explore their collectivity.

Often, the action was not taken solely by the groups themselves. People connected through the learning journeys, such as the oyster farmer and researchers in Casco Bay, went on to create their own projects. The strategy of bioregioning involved connecting to place and to each other, and to begin experimenting in different forms of livelihood negotiations. This focus on creating new networks, and an openness to collective action unfolding in unexpected ways, is different from social movements in which strong values and theory of change are determined in advance.

The collective action being taken in Tayside and Casco Bay aimed to bring the bioregion into existence as a flourishing ecological livelihood. I argued that to do so, the groups sought to minimise remoteness (Plumwood, 2002) as a strategy for composing ecological livelihoods (Miller, 2019). This did not centre around reducing spatial remoteness, as in bioregionalism's form of localism, rather it reduced multiple forms of remoteness. However, collective action does not (and cannot) remove all forms of remoteness. I argued that as those involved in bioregioning began to articulate a political strategy, boundaries we redrawn that reproduced remoteness. Both groups were also often highly pragmatic, drawing on what is already in place, such as existing energies and solidarities.

This does not mean that bioregioning is a failure, rather it emphasises the importance of unworking and maintaining bioregioning as a process. The concluding section of this chapter argued that bioregioning makes contributions to understanding social movements by its capacity to hold difference and unwork things that are anaesthetising, and by its spatial strategies and critique of power. The politics of collective action produced through bioregioning have the potential to keep unworking at their centre and value difference. This is always in tension with the need to build a political strategy that involves closures and boundary work.

The following chapter concludes this thesis by reflecting on my research questions as well as setting out the contributions offered to those involved in bioregioning and the theoretical contributions that I have made.

Chapter 8. Conclusion

> “We each had our own journey of learning. This is a picture that I think Louise gave me [showing group members coracling]. I guaran-damn-tee you I'm not one of the people in the boats! But we each had our own learning journey. We became a flotilla, not just a single ship, and we were all in the same water, we were moving in the same direction. Some of us were paddling faster at times than others, but the learning is going to resonate and endure for each of us in different ways” [AberTatha StoryMap, 2021]

In the quote above, Kate reflects on her experience of taking part in the Story of Place workshops that created Bioregioning Tayside. She is referencing a photo of some of the participants in the workshop out on a loch, trying out coracling (see Chapter 5). Although Kate herself did not want to go out on the water, the coracle became a symbol of Bioregioning Tayside. In fact, to be more specific, the *magic* coracle became a symbol of Bioregioning Tayside.

The magic coracle is a reference to *Stories from the Magic Canoe of Wa'xaid* (Paul and Penn, 2019). This is a text that George referred to in the Story of Place workshops. It is about the struggle for the restoration of Indigenous lands and culture in British Columbia, and the magic canoe represents a journey of learning. The canoe grows as those in solidarity with the struggle climb aboard. For George, this North American metaphor was fitting. However, in Tayside, turning the metaphor into their own customary boat made sense. The magic coracle came to represent the connection and exchange of knowledge between Casco Bay and Tayside in a journey of learning in place. As Kate reflects, the learning journey that they had embarked on turned everyone’s individual boats into a flotilla. They moved together, albeit at different paces and without a clear course charted.

On my first visit to Tayside, I was also taken to a loch to try out coracling (Figure 27). It was a beautiful November afternoon, with golden hour light, surrounded by trees. It was my turn to join the magic coracle, and to weave together the strands of place-based practice, global connectedness and the intimate experience of connecting to place. After spending time thinking about Tayside and talking about bioregioning, stepping into the magic coracle was a moment of enjoying being together on this journey. The laughter, chilly air and the setting sun anchored us in Tayside. We were bound together with the water, land and the willow and hide of the coracle. I felt connected to the landscape, and the human and non-human life that was there with me.

Figure 28: The magic coracle

This thesis examined bioregioning as a response to calls to envisage more ethical and sustainable ways to inhabit the Earth. The Anthropocene (Crutzen, 2006), and its contestation (Malm and Hornborg, 2014; Davis *et al.*, 2019; Jørgensen and Ginn, 2020), have made clear that we need find new ways of thinking about our relationship to the Earth and more sustainable ecological relationships. As Latour (2018) compels, we must come back down to Earth and the material places we inhabit.

Yet at the same time, disinvesting from our current ways of being is difficult work. Forming new thought patterns and enacting care and responsibility is challenging, particularly when the crises we face are complex and global. As Emergence Magazine writes, "You cannot be in relationship to the entire Earth. You can only be in relationship to places, to localities, to the ground under your feet" (2023). Beginning with the place that we live is one way forward.

Postcapitalist thought has similarly called for us to 'start from where we are' in building alternative worlds (Gibson-Graham, 2006). Bioregioning draws on place as both the source of alternative practices and knowledges that emerge from its uniqueness, and the human, more-than-human, lively and non-lively realities that must be accounted for. In this thesis, I have examined the ways in which bioregioning turns attention to the 'ground under our feet', and 'starts from where we are' as a strategy for generating more just and sustainable livelihoods.

8.1. Thesis summary

In this thesis, I examined what the emerging bioregioning movement might offer to those seeking more and just sustainable ways of being. I began with a literature review that situated bioregioning as a postcapitalist practice. It centres on the question of how we live together (with human and more-than-human Others) in place. This raised two broad bodies of literature: those on the relationship between economy, environment and society, and those on questions of scale, place and community in socio-ecological transformation. I argued that bioregioning sits at the intersection of these two fields and is therefore a useful empirical example for exploring these debates.

Drawing on community economies approaches, particularly the work of Ethan Miller (2019), I outlined my theoretical framework which mobilised a politics of language, a politics of the subject and a politics of collective action. Alongside this, my research brought in influences from the Environmental Humanities through thinkers like Val Plumwood (2002, 2008), to "resituate the human within the environment, and to resituate nonhumans within cultural and ethical domains" (Rose *et al.*, 2012, p. 3). I offered Plumwood's (2002) concept of remoteness as an entry point into analysing the politics of bioregioning.

The third chapter focused on bioregional thought and explained what bioregioning is by situating it in relation to other expressions of bioregional thought. I outlined the way that bioregionalism had emerged as a social movement in the 1970s, the criticism it faced, and then how it had been reinterpreted in different ways, such as through critical bioregionalism.

I suggested that bioregioning was a contemporary reworking of bioregional thought that focused on the process, not the outcome, of change (see also Wearne *et al.*, 2023, Appendix B). Bioregioning also uses the concept of the bioregion in looser, more tentative ways. Bioregioning, I argued, is a process of bringing the bioregion into existence (Tyler, no date) through language, subjectivity and collective action.

Chapter 3 then introduced the two case studies at the heart of this thesis: Bioregioning Tayside and the Casco Bay bioregion. I outlined the history of the groups and suggested some reasons for why they used bioregioning as their form of community action.

Chapter 4 introduced my methodology. Again, I built on community economy approaches. It was a participatory, co-productive piece of research. I described the methods that I used and my reflexive thematic approach to data analysis. The research was shaped not only by the COVID-19 pandemic, but also by the experience of researching place-based practices from the outside. In this section I highlighted some of the tensions and my approach to navigating them.

Chapters 5 to 7 were the main empirical chapters of the thesis. Each chapter followed a similar structure. They began with an empirical investigation in relation to the research questions, using the theoretical framework of the politics of language, the subject and collective action in turn to analyse Casco Bay bioregion and Bioregioning Tayside. This was followed by a discussion section which mobilised Miller's (2013a) ontological, ethical and political moments of community economies.

Within these chapters, I have attempted to present bioregioning in hopeful and affirmative ways. Informed by the performative ontology that understands that our research shapes the world in real and tangible ways (Gibson-Graham, 2008), I focus my attention on what bioregioning creates that is different from socially unjust and environmentally problematic ways of thinking and being. That does not mean that I avoid critique entirely. Throughout this thesis, I have pointed towards the limits, and even risks, of bioregioning. Yet I do not go as far as to position these as inherent failures. I argue that bioregioning is a process of co-becoming in place. Therefore, there always remains the potential to learn and realise more ethical ways of thinking and being.

The first part of this chapter will return to my four research questions and summarise in turn my findings. In doing so, I signal where in the thesis they have been addressed. Then, I turn to some of the broader themes generated in this thesis, and the contributions it makes to bioregional thought, community economies literature and geographical thought. Finally, I

close by highlighting some of the questions that have been raised. These represent potential avenues for future research, highlighting the relevance of bioregioning as a research topic.

8.1. Research questions

This thesis sought to address four research questions. Below, I summarise my findings for each question, and point towards where in the thesis they have been answered. While each question is the focus of a specific chapter, there are also conversations across chapters that I reference throughout the following sections.

8.1.1. What is bioregioning and to what extent does it challenge the spatial critique of bioregionalism?

Chapter 3 introduced the concept of bioregioning, comparing it to the bioregional thought of the 1970s, and mapping how this thought has developed over time and in response to criticism. I argued that bioregioning is a process of bringing the bioregion into existence (building on Tyler's, no date, definition) as 1) a discursive strategy that problematises how place is understood, 2) a subjective process that shifts how participants understand themselves in relation to others, and 3) a strategy of collective action that experiments with new ways of being together in place.

I found that bioregioning differs from 1970s bioregionalism in key ways. Firstly, it moves away from an understanding of the bioregion as an ontological spatial unit. Thinkers like Berg and Dasmann (2015[1977]), who defined early bioregional thought, conceptualised the bioregion as the combination of physical, ecological and cultural terrains. In contrast, bioregioning is less concerned with drawing clear boundaries, instead focusing on learning how bioregional place comes into being. Secondly, early forms of bioregionalism advocated for self-sustaining bioregional communities as a form of localised economy (Sale, 1991; Cato, 2012; Berg and Dasmann, 2015[1977]). Bioregioning instead resists offering a solution that can be abstracted to all places, or that is decided in advance. Instead, it sees place-specific pathways to bioregional flourishing.

Equally, forms of critical bioregionalism, like that proposed by Plumwood (2008), were more concerned with conceptualising the bioregion as the multiple places that support our lives, more akin to an ecological footprint. However, in doing so, the provocation presented by earlier bioregional thought (that we live in material places, but that we are remote from those

specific places and ecologies) is weakened. Instead, attention is focused on the spatiality of power relations, and problematising 'false consciousness' of place.

I argued that bioregioning holds on to the tension between the agency of more-than-human, physical place, whilst opening up the possibility of interrogating power dynamics within and across places. Rather than focusing on only reducing spatial remoteness as its strategy, bioregioning aims to reduce multiple forms of remoteness that distance humans from the consequences of their livelihoods.

Bioregioning, therefore, focuses not on the concept of the bioregion as an ontological category. It focuses on the process of bringing the bioregion into existence as a way of thinking about the world and the place(s) that support our lives, as a subjective state of interdependence and co-becoming with more-than-human Others, and as a form of collective action, in which new ecological livelihoods are being composed.

Chapters 5, 6 and 7 developed this argument by examining how bioregioning was being applied in Tayside and Casco Bay discursively, subjectively and through collective action. Through these chapters, I show bioregioning as something that, on the one hand, can only be understood and enacted in place, and on the other, can never fully capture already existing place-based ways of knowing and being (such as Indigenous thought). However, it points towards co-becoming with place and with more-than-human Others (Suchet-Pearson *et al.*, 2013; Bawaka Country *et al.*, 2016; ross, 2019).

8.1.2. How does bioregioning problematise discourse of place and the economy, and what new narratives does it offer?

This research question was addressed in Chapters 3 and 5. In Chapter 3, I outlined the overarching spatial critiques that bioregional thought makes and argued that bioregioning approaches the concept of place in new ways. Bioregionalism, as an ecophilosophy, critiques the way that political boundaries act as common-sense ways of ordering the economy, erasing ecological boundaries and producing a remoteness from the ecological foundations of human livelihoods. The alternative narrative that bioregionalism offers is of the Earth being constituted of ecological systems at a landscape scale, with human lives and cultures dependent on the bioregion within which they are situated. Chapter 3 explained that the contemporary form of bioregional thought, bioregioning, has reworked this

argument by focusing on how bioregional place is the outcome of human and more-than-human co-becoming.

In Chapter 5 I demonstrated how a politics of language are mobilised through bioregioning to make this co-becoming visible, bringing the bioregion into existence discursively. To do so, I examined two key tools of bioregioning: constructing a Story of Place and Learning Journeys. By learning about the materiality and ecology of their bioregion; mapping the present and historical 'governance' of the bioregion; and inventorying the assets that are already in place, participants in Casco Bay bioregion and Bioregioning Tayside showed existing livelihood relationships were contingent on a range of factors. This involved unpicking the narratives that underpinned these relationships such as the imaginaries of the Scottish countryside that underpinned how land was managed in Tayside, and the Doctrine of Discovery in Casco Bay. Such narratives shaped livelihoods in each bioregion by marginalising some livelihood practices and enabling others to become dominant. This discursive strategy shows how ways of living in place are always contingent on a range of factors and relationships (Gibson-Graham, 2011).

I found that unsettling narratives of place in this way has two key effects. Firstly, it problematises the ways that specific places, like Casco Bay and Tayside, are imagined. Bioregioning involves understanding the specifics of place, including culture and ecology, but without relying on reactionary understandings of place (Massey, 1991). Instead, this was used to generated critical politics of place, by asking how they had come to be dominated by particular relationships between humans and ecology. It also opens up the possibility of drawing on the specificity of place as the source of alternatives. Understanding about different practices within the bioregion (in the present and in the past) shows that livelihoods are always changing, and therefore have the potential to be different. This brings the bioregion into existence as a site of politics by inviting a collective remaking of the bioregion in an ongoing process of 'co-becoming' with place.

Secondly, bioregioning's politics of language challenges the spatial concepts and frameworks underpin how we think about our livelihoods. Bioregioning moves between relational and more essentialist conceptualisations of scale and place (see section 8.2.3). Bioregioning involves a concept of the bioregion as co-constituted by non-human nature and sustains the critique forms of human boundary-making which produces remoteness. However, it also understands the bioregion as a human imaginary with fluid boundaries, to be used in pragmatic ways. Bioregioning therefore offers the potential to critique power in

geographical imaginaries and makes space for other forms of attachment (Whatmore, 2002).

I closed this chapter by arguing that the politics of language and reframing that takes place within bioregioning could be understood as an ontological moment of community economies (Miller, 2013a). By unsettling narratives of place, and instead rendering the bioregion as the outcome of more-than-human togetherness, imaginative space is created for "*becoming* of new and as-yet unthought ways of being" (Gibson-Graham, 2006, p. 85). Bioregional place is specific, and therefore routes to flourishing are cannot only be achieved through a singular form of capitalist development.

8.1.3. How does bioregioning produce new subjectivities for ecological livelihoods?

Acknowledging that discourse alone does not mean that more ethical or sustainable livelihoods will be realised, in Chapter 6 I turned to the question of subjectivity. The politics of the subject is concerned with the ways in which we disinvest from the subject positions that are naturalised and shape action in particular ways, and begin reinvesting in new ways of understanding ourselves in relation to the world (Gibson-Graham, Cameron and Healy, 2013; Roelvink, St. Martin and Gibson-Graham, 2015).

I argued that bioregioning produces a form of collective subjectivity by exposing interdependencies, and the ways that the bioregion is contingent on the form of that interdependence. This is akin to the concept of ecological livelihood, in which livelihoods are the outcome of that which we make for ourselves, that which we make for others, and that which is made for us (Miller, 2019). In this view, our interconnectedness with others is inescapable; it is a state of being in community (Gibson-Graham, 2006; Miller, 2013a).

I described the ways that participants in bioregioning experienced this resubjectivation. This happened through noticing the ways that they are currently positioned (following the politics of language discussed in Chapter 6) and refusing this positioning. It was supported by both learning about their bioregion and affective experiences of place in learning journeys. Being in place and learning to be affected developed new capabilities to sense difference and become attuned to the interconnected relationships that formed bioregional place (see also Ryan, 2012).

Alongside resubjectivation, participants described changes to agency. Their bioregional understanding of the world with enabled them to envisage how they might affect change

(see also Wearne *et al*., 2023, Appendix B). Rather than their role being that of consumer citizen that can only affect change through making responsible choices (Barr and Pollard, 2017) they were able to directly intervene by enacting new forms of economic subjectivity (Gibson-Graham, Cameron and Healy, 2013). Equally, non-human agency in shaping bioregional place became visible. This included the lively, more-than-human Others, but also the non-lively, such as the landscape itself. Agency was therefore no longer a solely human characteristic (Roelvink, 2015), and the bioregion was the product of multi-species world building (Whatmore, 2002).

However, Chapter 6 also points out some of the ways in which 'the world pushes back' against resubjectivation (and this is also built upon in Chapter 7). Existing subject positions are durable because of the ways in which they become embedded in relationships and enrolled in institutions and technology (Miller, 2019). For those in Tayside and Casco Bay, despite attempts to disinvest from hegemonic subject positions, they inherited concepts (Alhojärvi, 2020), experienced slippages in ways of thinking such as thinking in terms of trade-offs, and continued to maintain distances between themselves and certain Others.

Finally, I drew a parallel between this resubjectivation and Miller's (2013a) ethical moment of community economies. This moment is the exposure of being-in-common and creation of the space for negotiating that togetherness. Bioregioning brought the bioregion into existence by rendering it a site of politics, commoning negotiation over shared livelihoods. By making bioregioning a verb, resubjectivation can be an ongoing process in relation with others, always maintaining the potential for becoming otherwise.

8.1.4. What forms of collective action are being realised through bioregioning?

The final research question was addressed in Chapters 3 and 6 and was concerned with how the politics of language and of the subject were then enacted through collective action. By drawing on the politics of collective action conceptualised by Gibson-Graham (2006), I used the term 'collective action' to describe acting collectively, rather than to suggest a mass social movement with a single, coherent theory of change.

In Chapter 3, I outlined how early bioregional thought centred on a strategy of reinhabitation, or 'becoming native'. In this form of thought, collective action means the building of self-sufficient and place-specific communities, with bioregional economies. By conceptualising bioregioning as a verb, the locus of collective action shifts to the process of acting together in new ways, rather than the outcome. Bioregioning refuses to prescribe what a place-based

politics would look like in advance, because this can only take shape in the place itself. Determining an overarching strategy of bioregioning that might introduce closures prematurely (Miller, 2013a).

Chapter 7 then explored the forms of collective action that are being realised in Tayside and Casco Bay specifically. I outlined the projects that the two groups were forming. This included, for example, citizen and community science projects, forming community interest groups and building networks of solidarity. I argued that collective action in bioregioning focuses on reducing various forms of remoteness, beyond the spatial remoteness of concern to early bioregionalism.

There were two aspects to the politics of collective action involved in bioregioning that were somewhat distinct from other social movements. First, action was often taken by those not directly involved in the groups themselves. I described oyster farmers who began working with academic researchers following the learning journey in Casco Bay. In Tayside, new community groups beyond Bioregioning Tayside emerged to tackle issues relating to food. The two case study groups' action to reduce remoteness fed new connections and enabled unexpected forms of collective action. Second, in bioregioning, learning itself is a form of collective action. As new understandings of place were generated (Chapter 5), and the connectedness of those living within the bioregion was realised (Chapter 6), those involved in Bioregioning Tayside and the Casco Bay bioregion experimented with alternative ways of living with each other. This itself can be understood as a valid form of politics.

There were limits to the collective action due to resources available, the introduction of closure around positive values and the reproduction of some forms of remoteness. However, these are still nascent projects and so it is too early to judge their effectiveness in transforming the bioregion, or their durability over time. Equally, bioregioning focuses on the process of change and keeping the tension involved in negotiating livelihoods at the forefront. While this tension is maintained, it is always possible for more radical and just forms of collective action to emerge.

My final response to this question involved calling forth Miller's (2013a) political moment of community economies. This is the moment in which values are collectively interpreted and enacted. I argued that collective action brought the bioregion into existence as a new form of ecological livelihood in place, as the collective subject began to affirm their normative commitments. However, this does not mean that bioregioning offers a theory of change for all bioregional places. This remains something to be negotiated in place. Instead, bioregioning offers a shared language that connects these diverse, place-based projects.

8.2. Conceptual building blocks

While Section 8.1 provided responses to each of my research questions, there were broader themes that were generated in this thesis that spanned across the research questions. In this section, I make these conceptual building blocks explicit, and note the contributions that they make to both bioregional thought and relevant theoretical questions raised in my literature review (Chapter 2).

8.2.1. Remoteness

The first is the concept of remoteness. In Chapter 2, I introduced Plumwood's (2002) notion of remoteness that describes the ways in which humans are distanced from the consequences of their livelihoods. This implicitly underpins Plumwood's (2008) critique of bioregionalism, which centres around the fact that developing love for a singular homeplace reproduces other forms of remoteness, eschewing responsibility for other places that bear the consequences of livelihoods.

Bioregionalism as an eco-philosophy, as I explained in Chapter 3, centres on reducing remoteness, however its strategies, as in Plumwood's (2008) critique, have focused on spatial remoteness. I have argued that making bioregioning a verb (bringing the bioregion into existence) offers a broader understanding of remoteness and strategies to reduce it.

Chapter 5 mobilised the lens of a politics of language, to understand how remoteness is discursively constructed through the ways we think about place. Our spatial concepts and narratives about specific places distance us from the consequences of our livelihoods. Chapter 6 then considered forms of subjective remoteness. It examined how people were constructing more collective forms of subjectivity based on making the interdependence, which is normally rendered remote, visible. Chapter 7 looked at the strategies that are being employed to reduce remoteness. Very few of these focused on spatial remoteness. Rather, they enabled collectives to act by reducing epistemological and consequential remoteness. Localisation, then, is still a strategy employed in bioregioning, but not one that refers just to spatial distance.

I join Plumwood (2008) in arguing that a radical bioregionalism cannot only focus on spatial remoteness. However, this thesis has demonstrated that by making bioregioning a verb, bioregioning has a degree of conceptual agility that enables it to be applied to multiple forms of remoteness. Therefore, bioregioning can still make useful interventions to theory and practice.

8.2.2. Ecological livelihood

The second crosscutting concept that this thesis built on was Miller's (2019) concept of ecological livelihoods. I introduced this in the literature review, Chapter 2, as a concept that acted as an alternative understanding of the world to the domains of economy, environment and society. Instead, Miller (2019) argues that a politics of ecological livelihoods emerges from a negotiation of how we make livelihoods for ourselves, how we make them for others, and how livelihoods are made for us. This reframes our lives as always in relation to others and offers multiple points of political intervention. However, Miller (2019) does not offer a framework for what composing ecological livelihoods might look like in practice.

I argued that bioregioning could be one example of composing ecological livelihoods. In Chapter 5, I mobilised Miller's (2014a; 2019) argument that the discursive categories of economy, environment and society stand in the way of alternative pathways for development, that are beyond the circuitous route of capitalist growth. Through a politics of language, bioregioning offers alternative narratives that show how livelihoods are contingent on a range of relationships. Chapter 6 approached this through the notion of subjectivity, arguing that bioregioning generates collective forms of subjectivity based on interdependence. Chapter 7 then begins a response to Miller's (2019) challenge of composing ecological livelihoods in practice, by offering some ways in which new forms of collective action can be used to negotiate the relationship between the livelihoods we make for ourselves, those we make for others and those that are made for us.

Bioregioning then might offer a politics of ecological livelihoods. However, it is worth noting that it is only one way that such a politics could take place. For those involved in Bioregioning Tayside and Casco Bay bioregion, bioregioning was a way of thinking that enabled such a politics. Alternative concepts, such as Dùthchas (Oliver and MacKinnon, 2021), Country (Suchet-Pearson *et al.*, 2013; Bawaka Country *et al.*, 2015, 2016), or even socio-ecological systems (for example Folke, 2006) exist that describe the relationship between humans, land and ecology.

8.2.3. Place and scale

Finally, this research into bioregioning spoke to questions of place and scale. In Chapter 2, I outlined some of the debates within geographical thought about place and scale. I argued that geographers have moved towards more relational understandings of these concepts that move away from essentialist definitions. In this thesis, I have shown how bioregioning adopts similar understandings, and thus examples of how they are enacted 'on the ground'.

Instead of understanding scale as an ontological category, scale is understood as a way of ordering the world (see Blakey, 2020). While geographers have disagreed about what this means for the concept (whether it still has utility or should be removed from geography as Marston *et al*., 2005 suggest), the notion of an essential hierarchical scale has been troubled.

In Chapter 3, I demonstrated that the spatial underpinnings of bioregional thought have been transformed. The bioregion was initially conceptualised as a naturally given, more-than-local scale, which could be objectively and definitively mapped. However, this has been reinterpreted in bioregioning, from the bioregion as ontology, to the bioregion as an epistemological tool (see also Hubbard *et al*., 2023). This does not form part of a spatial ontology in which the global is more powerful than the local. Instead, the bioregion is understood as a kind of pragmatic scale - the scale at which socio-ecological systems might operate, and also one that allows enough agency and can produce large enough effects.

In Chapter 6, I point to the ways that scale has been used in bioregioning. Although this could signal the ways that concepts are inherited in postcapitalist projects like bioregioning, I argue that scale is used in critical ways. It is at once seen as a constructed way of seeing the world, recognising its power in ordering relations and subjectivity, and pointing towards the possibility that ecology may have its own spatial orderings beyond human concepts. What might questions of scale still offer social movements, beyond notions of scaling up?

Bioregioning also draws on progressive ideas of place, in line with shifts in geographical thought explained in Chapter 2. In Chapter 3, I explained the spatial critique underpinning bioregional thought that advocates for a reconnection to place. but noted that bioregioning moves to a much more tentative register that does not seek to define boundaries *a priori*, and instead seeks to understand how bioregional place is a process of co-becoming.

Chapter 5 argues that bioregioning reframes place as the source of alternative pathways for development, rather than either already capitalist or not yet capitalist (as Escobar, 2001, suggests). Chapter 7 explores how these understandings of place (and scale) open up new sites for politics that are beyond the individual and beyond the state.

While place is thought of in anti-essentialist ways, there remains a provocation at the heart of bioregioning of what essentialist understandings of place still might offer. What livelihood negotiations are taking place without humans, and how do we account for the agency of lively and non-lively nature? While the idea of essentialist understandings having political

utility might seem controversial, the ways in which it is used to support human and more-than-human flourishing are, perhaps, more important than the perfection of theory.

8.3. Contributions

By addressing my four research questions, and building on concepts of remoteness, ecological livelihood and place and scale, this thesis makes a wide range of contributions. There are contributions for bioregioning as a social movement, for community economies research, and for geographers more broadly. The following section outlines such contributions.

8.3.1. For bioregioning

In this thesis, I have offered a hopeful view of bioregioning. I have argued that it is an approach that starts from where we are (Gibson-Graham, 2006), drawing attention to the question that is often ignored - where are we?

At the most basic level, this thesis acts as an archive of bioregioning as postcapitalist practice, an act which Zanoni *et al*. (2017) view as pluralising ways of life. Archiving,

> "inscribe[s] the complexity, multiplicity of activism, and diverse economic practices… This imagines and preconizes for example by making possible and favoring, theorizing, suggesting, advocating, legitimizing, and building specific visions, interpretations, linkages, articulations, agencies, and artifacts that participate in the co-constitution of an emergent new world" (Zanoni *et al*., 2017, p. 580-581)

By recording and conceptualising bioregioning, this research helps to situate it as something that can be improved upon, reworked and experimented with, rather than discarded as political misconceived (Whatmore, 2009). By building on Tyler's (no date) definition of bioregioning as bringing the bioregion into existence, I found that bioregioning had a lot to offer postcapitalist politics.

Firstly, bioregioning is a capacious enough to encompass a range of different motivations and visions for change. The bioregion acted as a boundary object (Star and Griesemer, 1989, see Chapters 3 and 7) that allows action without consensus. Compared to bioregionalism that centres on defines bioregional boundaries, often drawing on reactionary understandings of place (Massey, 1991), bioregioning's agnosticism about boundaries enabled collective action without defining too much too early.

Secondly, emphasising the process of becoming provides an opportunity for a radical critique of power. This makes bioregioning distinct from other forms of bioregional thought. Beginning with an understanding of place being contingent on global and local factors and relationships, yet still being specific and a source of alternatives, opens the opportunity for more radical critiques and strategies than a bioregionalism that is only oriented towards self-sufficiency and new forms of state.

Thirdly, bioregioning is at its most productive when it keeps an ontological tension at its heart. By resisting defining who does and does not belong by drawing on reactionary understandings of place, there remains a space of negotiation. Equally, unworking concepts like the economy to understand the multiple ways that we sustain ourselves and others (Gibson-Graham, 2006; Miller, 2019) multiplies political possibilities.

That being said, there are still findings in this thesis that offer more critical insights for those involved in bioregioning. In Casco Bay and Tayside, the focus was on action within the bioregion, even if their Story of Place did consider how that bioregion was shaped in connection with other places (see Chapter 5). As Plumwood (2008) argued, this can erase responsibilities to other 'shadow places', reproducing remoteness.

There is still a troubling relationship to Indigenous thought, despite not using the language of 'becoming native'. On the one hand, bioregioning's resonance with Indigenous ontologies and connection to place (Bawaka Country *et al.*, 2015, 2016; Larsen and Johnson, 2016; ross, 2019) offers a way towards more inclusive forms of coexistence. Yet, without careful attention to how Indigenous people imagine their own futures, and without maintaining the political, ethical and ontological differences between bioregioning and Indigenous thought, bioregioning risks appropriation and erasure.

Finally, bioregioning is just one approach to place-based work, yet its capaciousness means that it can have a tendency to swallow up other ways of thinking and relabel them as bioregioning. Leaving space for difference and recognising potential incompatibility would enable a more just practice of bioregioning.

8.3.2. For community economies research

Bioregioning provides an interesting context for community economies research. The structure of the thesis was based around the trio of a politics of language, the subject and collective action, but also Miller's ontological, ethical and political moments of community economies (2013a). The case studies of Casco Bay bioregion and Bioregioning Tayside

offer further examples of projects that are problematising capitalocentric ways of thinking and being, and seeking to build alternatives (in addition to those already documented through the community economies research network and Handbook of Diverse Economies, Gibson-Graham and Dombroski, 2020b). Yet by examining bioregioning, this thesis shifts the focus from 'starting from where we are' (Gibson-Graham, 2006), to the provocation of 'where are we?' This shift draws explicit attention to more-than-human interdependencies,

In doing so, my research takes community economies research in new directions. I have responded to calls from within the community economies research network to take on influences from the environmental humanities (see Roelvink and Gibson-Graham, 2009). I have mobilised the environmental humanities by drawing on thinkers like Val Plumwood (2002, 2008), and the more-than-human approaches of Roelvink (2015) and Barron (2020; Barron and Hess, 2020). I have shown how this may be operationalised in the study of alternative projects that rework human-nature relationships as part of their strategy for economic transformation.

Most significantly, I built on Miller's (2019) concept of ecological livelihoods and demonstrated what a politics of ecological livelihood might look like. Bioregioning is a useful case study for making the conceptual transition from 'community economy' to 'ecological livelihood', moving out of an economic register to one based on a fundamentally more-than-human form of interconnectedness. Miller's (2019) work poses a challenge of what a politics of ecological livelihood might look like in practice. Through this thesis, I have shown how bioregioning is one example of how ecological livelihoods might be composed.

8.3.3. For geographers

Finally, this research into bioregioning makes a useful contribution to geographers. The IPCC Synthesis Report (2023) has demonstrated the urgency of action both to maintain a liveable world into the future and in response to the damage that has already been caused by human activities. It also recognises:

> "The interdependence of climate, ecosystems and biodiversity, and human societies; the value of diverse forms of knowledge; and the close linkages between climate change adaptation, mitigation, ecosystem health, human well-being and sustainable development" (IPCC, 2023, p. 38)

Bioregioning offers one way to respond to this crisis in ways that centre interdependence, and that value diverse forms of knowledge and practice. This thesis therefore contributes to

geographers that are dedicated to tackling the climate and ecological crises in socially just ways.

In particular, through the examples of Casco Bay bioregion and Bioregioning Tayside, I have shown some of the ways in which the critical and anti-essentialist spatial concepts the geographers have advocated for are being navigated in particular places. Equally, this research has spoken to work on more-than-human geographies (Whatmore, 2006; Dowling, Lloyd and Suchet-Pearson, 2017; Robertson, 2018) and hybrid geographies (Whatmore, 2002) by offering examples of how such ideas shape the ethics and practice of social movements.

In a similar vein, by exploring bioregioning, I have contributed to the calls for attention to Indigenous ontologies of place and the relationship between humans and nature. In both Casco Bay and Tayside, Indigenous thought has been mobilised to rethink relationships to place and ecology. I explained how this prompted new ways of thinking, but also highlighted the tensions and risks of applying such lenses. This thesis has shown how bioregioning has been used as a way of taking Indigenous thought seriously, but yet bioregioning itself can never 'become Indigenous', and can also stereotype and appropriate Indigenous ontologies and practices.

Perhaps most importantly, bioregioning invites trouble to geographical thought. Despite moving towards relational understandings of place and scale, bioregioning holds on to the risky question of what do essentialist understandings of place and scale offer? How do we account for the ways in which place is not human through a radical non-human agency? And how far are we willing to go in exploring these ideas?

Bioregionalism has been rightly criticised for its potential to become environmental determinism or right-wing ecology (Olsen, 2000), and for its problematic appropriation of Indigenous thought (Wiebe, 2021). Bioregioning has the potential to do the same. Yet, in Casco Bay and Tayside, participants did not think or act in this way. For them, bioregioning invited antagonism, plurality and a sensitivity to difference that enabled a critique of power. This research, then, also contributes to geographers by its approach to empirical research into alternatives. While it is important to understand how problematic politics play out in alternative projects, the emphasis on the process of change in such movements always leave space for the possibility of becoming otherwise. This prompts a research ethics of generosity and reciprocal learning.

8.4. Questions raised

Throughout this thesis, additional avenues for research have emerged that were beyond the scope of my research questions. These fall into two broad categories. One is questions relating specifically to bioregioning, and the other is questions raised by bioregioning for other forms of place-based projects.

This research has only focused on two examples of bioregioning in practice: Bioregioning Tayside and the Casco Bay bioregion. Although I have drawn on interviews with other bioregional thinkers (building on ideas presented in Wearne *et al*., 2023), the main body of this thesis explores bioregioning in particular contexts. Bioregioning Tayside and the Casco Bay bioregion project despite being in different parts of the work often work together and share ideas and theoretical roots. How is bioregioning enacted in different places and contexts? What does a politics of language, the subject and collective action entail elsewhere? As a concept that emphases the plural possibilities of place, bioregioning could unfold in myriad ways, making it a fruitful area for further research.

In Chapter 7, I explored the forms of collective action that were beginning through the bioregioning projects in Tayside and Casco Bay. However, these were in the early stages. It would be interesting to take a longer view at how such projects develop over time and continue to navigate the discursive and subjective politics. This chapter also pointed out some of the potential for problematic forms of collective action that could be mobilised, such as bioregioning becoming another form of state-thinking, or countering a decolonial politics. A deeper exploration of this would contribute to a critical bioregioning.

In this thesis, my main theoretical influences were post-capitalist and community economies approaches, as well as the Environmental Humanities. Other theoretical lenses would offer different perspectives on bioregioning. For example, throughout this thesis, I have drawn on the work of Arturo Escobar and the notion of Pluriverse (Escobar, 2017, 2018), Indigenous assessments of bioregionalism (ross, 2019; Kimmerer, 2020), and even theological approaches to bioregioning (Carlin, 2020; Wiebe, 2021). Each of these theoretical approaches would elicit something different that would contribute to an understanding of bioregioning.

Further questions were raised for place-based projects more generally. Firstly, my methodology was based primarily around participant observation. Yet, an important theme was around how people came to be involved in bioregioning, and often this was through a series of important moments in their life. Further research could use life history interviews

as a strategy for understanding how participants take action, and interpret their own histories in the context of the movement they are part of (Hubbard, 2000; Jackson and Russell, 2010). This could shed light on how change happens, and add richness to how politics of language, the subject and collective action occur.

Secondly, bioregioning is just one approach that draws on the bioregion as a concept describing the relationship between humans, land and ecology. As suggested in Section 8.2.2, there are myriad other concepts originating from other places (such as Country, dùthchas, and Territory). Further research could bring them into conversation more explicitly with bioregioning. I do not suggest this as a way of erasing their difference under the banner of bioregioning. Rather, such an exercise could explain their different ontologies, epistemologies, ethics and politics. This would add nuance to the question of what it means to pursue a place-based postcapitalist politics.

The final question is one that was posed to me by a participant: what role does research into concepts like bioregioning play?

> "This is the topic of your doctoral research. How does this relate to your deeper life choices in your life pathway of service to the living biosphere that includes humans, in a time where humans ended the Holocene? Like, it is over. We're in this uncharted water. And so, I just wanted to give you that question" [Jack, in an interview for Wearne *et al*., 2023]

In this direct challenge to the role of research in a time of crisis, Jack asks how I see my research as actively creating change towards ecological livelihoods, whether I feel like it does enough. While I still see value in hopeful research and its role in contributing to more just and sustainable livelihoods, there are still questions to reflect on both personally, and for academic research more broadly. In particular, what role does research about place-based concepts do? How do we manage the increasingly urgent need for action in place, with the academic focus on abstract and generalisable knowledge? These are questions that geographers need to continue to grapple with.

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Appendix A – Hubbard *et al.* (2023)

Hubbard, E., Wearne, S., Jónás, K., Norton, J., and Wilke, M. (2023) **Where are you at? Re-engaging bioregional ideas and what they offer geography.** *Geography Compass* 17(10). e12722. doi:10.1111/gec3.12722.

Appendix B - Wearne *et al.* (2023)

Wearne, S., Hubbard, E., Jónás, K., and Wilke, M. (2023) **A learning journey into contemporary bioregionalism.** *People and Nature*. 2124–2140. doi:10.1002/pan3.10548.

Appendix C – A list of terms that are used to refer to subjective transformation by participants.

Inner dimensions

In both Tayside and Casco Bay, the importance of work on the 'inner dimensions' was highlighted. This meant working on understanding value systems, assumptions and identities that participants held and making sense of what needed to change to live better in place, or for reinhabitation.

Two-eyed seeing

'Two-eyed seeing' is a concept attributed to Mi'kmaw Elder Albert Marshall. It is an approach to weaving Indigenous and Western ways of knowing: "To see from one eye with the strengths of Indigenous ways of knowing, and to see from the other eye with the strengths of Western ways of knowing, and to use both of these eyes together" Automatic citation updates are disabled. To see the bibliography, click Refresh in the Zotero tab.. Two-eyed seeing was used in the context of Casco Bay and the Story of Place workshops.

Scaling deep

The language of 'scaling deep' stemmed from a paper written by Lam *et al.* (2022) which became a key reference during the Casco Bay learning journey. This paper presents a typology of different 'amplifying actions' that increase a transformation project's impact by either growing or stabilising the project. This includes speeding up (or accelerating the impacts felt of the project), scaling up (impacting at higher institutional levels) and scaling deep (changing mindsets and values). 'Scaling deep' became a key talking point during the Casco Bay learning journey.

Mental models & mindsets

Mental models and mindsets were commonly used terms to describe how participants were making sense of the world, but also often came as part of a call to action - to change

other people's mindsets. Interestingly, there was some questioning of where this idea came from. John asked me:

> "There's a whole kind of layer of people, in the UK especially, who talk about mindsets… Do you know about that narrative, and do you know where it comes from? Who - and is there a sort of book or person who came up with mindsets at some point which is now being very influential in this parallel way?" [Jacob, interview]

Horizon 1, 2 and 3

Drawing on the McKinsey model (2009), the concept of different 'horizons' was used to look at actions and evaluate how transformational they were. Horizon 1 is the current dominant system. Horizon 2 is when new innovations begin and start to disrupt ways of doing things, but without full transformation. Horizon 3 is when the new way of doing things completely takes over, radically changing the system itself. Interestingly, this model is based around how businesses sustain growth but is subverted by bioregional groups as a way of creating a typology for different actions. For example, on the Tayside learning journey, we discussed whether projects visited were Horizon 1, 2 or 3, and how to shift from horizon two to horizon three.