

Living well with water;
democratising Flood Risk
Management through
reconceptualising social values

PhD Thesis

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The candidate confirms that the work submitted is his own, except where work which has formed part of jointly authored publications has been included. The contribution of the candidate and the other authors to this work has been explicitly indicated below. The candidate confirms that appropriate credit has been given within the thesis where reference has been made to the work of others.

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¹ Please see Robert Powell’s beautiful book ‘Riverain’ – An expression for people who live or dwell around rivers.

Abstract

Amid climate and ecological crises, the likelihood of flooding and its devastating impacts increases. As a result, Flood Risk Management (FRM) recognises the need to adapt its management approach; it can no longer keep building higher walls and defences to keep water out. This reality has been recognised in policy paradigm shifts that accept, to certain degrees, the inevitability of flooding and look instead to find ways of learning to live with water. However, owing to the technocratic governance at the heart of FRM, it has been difficult to see how such a transition in governance approaches might be democratically enacted. Rooted in ecological economics, yet drawing on insights from environmental humanities, indigenous scholarship, cultural geography and anthropology, this interdisciplinary thesis looks to explore the potential of social values in this context, aiming to unsettle the technocratic governance of FRM, democratise decision-making and facilitate shifts towards worldviews that are reflective of this 'living with water' policy paradigm. Traditionally, social values have been conceived and explored through social science approaches based within a dualist ontology. This has been characterised through associations with much-criticised environmental valuation frameworks such as Ecosystem Services and Nature's Contributions to People. Recognising the shortcomings of social values in their current conceptualisations and associations with such frameworks, this thesis explores their potential in light of the Life Framework of Values (LFV). LFV builds upon the critiques of previous valuation frameworks and offers an expanded ethical and ontological framing of human-nature relationships. This thesis argues that social values can facilitate the shift from purely instrumentalist framings of nature, living from, and towards more relational framings, such as living with.

Situating social values between ecological economics and ecological democracy, I articulate how their potential lies at these intersections, what I refer to as the economy-environment-democracy nexus. I argue that this potential can only be realised by materialising social values in an ontological politics and design thinking responding to pluriversal ideas. This argument draws upon a variety of ethnographic approaches that trace social values across three sites of FRM decision-making in York, UK. Beginning with a critique of the current 'de-futuring' design of FRM governance, I turn to think through the materiality of water and the more-than-human, speculating as to how the 'social' of social values might be materially constituted through human and more-than-human relations. This leads to an articulation of social values as a 'fuzzy' conceptual tool that holds together different ontological, political and economic paradigms. This 'fuzziness' lies in the ability of social values to simultaneously i) de-naturalise economics as an obstacle to democratic possibilities, whilst ii) moving beyond the anthropocentrism and representational logics of liberal democracy, that can sometimes be slow and ineffective in bringing about environmental change, towards generating publics of resonance through everyday material practices. This 'fuzziness' is articulated through a 'pluriversal lens' that enables transitions between these paradigms resting on an understanding of the performativity of values and valuation methods; that values and the methods used to understand them aren't just about the world but make worlds too. Re-thinking social values in this way performs ecological democracy and enables the kind of socio-ecological transitions that contexts such as

FRM have been calling for; offering more generative possibilities of living well with water and socio-ecological flourishing.

Keywords: Social values, Ecological Democracy, Ecological Economics, Flood Risk Management, A Pluriversal lens

Contents

Acknowledgements	3
Abstract	4
Foreword	8
Living with and Living well	8
1. Introduction.....	10
1.1. Thinking differently about Flood Risk Management.....	11
1.1.1. From risks to values	12
1.2. Research aim and lines of inquiry	17
1.3. Thesis outline.....	18
2. Questions of what matters; researching messiness of social values and water.....	20
2.1. Economy-environment-democracy nexus	20
2.1.1. Outcomes versus processes	21
2.1.2. Including nature	24
2.2. Situating social values at the nexus	29
2.2.1. The promise of social values; outcomes versus processes	29
2.2.2. Research gaps; social values and including nature?.....	32
2.3. Researching messiness of social, values and water	36
2.3.1. Ethnography as a method.....	41
2. Tracing social values in Flood Risk Management.....	44
3.1. Living with water differently – early shared conversations	44
3.2. Flood Risk Management decision-making; material and political structures	47
3.3. Methodology: Actor Network Theory	50
3.3.1. ANT and following values as actors	52
3.4. Case studies sites 1 and 2.....	53
3.4.1. Site 1: Terry Avenue, Clementhorpe.....	54
3.4.2. Site 2: Rawcliffe Meadows, Clifton Ings	70
3.5. Discussion.....	83
3.5.1. Actor-Network Theory as a method in social values research	83
3.5.2. Flood Risk Management as a set of de-futuring practices.....	91
4. Facilitating transitions; Social values as a ‘fuzzy’ tool	95
4.1. Environmental to Ecological revisited.....	95
4.1.1. Embeddedness and social metabolism.....	96
4.1.2. Breaking glass ceilings	98
4.2. Social values as a fuzzy tool.....	100

4.2.1.	Nature and Culture.....	100
4.2.2.	Stasis and Change.....	111
4.2.3.	Is and Ought.....	115
5.	Grounding social values; introducing a pluriversal lens.....	124
5.1.	Expanding the design of social values; identifying ‘possibility spaces’.....	126
5.1.1.	Perspective on rationality.....	128
5.1.2.	Appeal to legitimacy.....	130
5.1.3.	Sites of valuation.....	132
5.1.4.	Pluralising value indicators.....	135
6.	Performing social values through a pluriversal lens.....	138
6.1.	Social values to work with water?.....	138
6.2.	Speculative methods; intervening with care.....	141
6.3.	Case study 3: Osbaldwick Beck, Hull Road Park.....	143
6.3.1.	Research phases.....	145
6.3.2.	Discussion.....	162
6.4.	Social values as a re-directive practice.....	164
6.4.1.	Practicing radical ecological democracy; social values and the paradigm of sustainable materialism.....	165
6.4.2.	From ‘value for money’ to ‘money for values’.....	169
7.	Conclusion.....	179
7.1.	Implications for Flood Risk Management.....	179
7.2.	Implications for future social values research.....	180
7.3.	A pluriversal lens towards a world where many worlds fit.....	181
	References.....	183
	Appendix.....	196

Foreword

Living with and Living well

Living with an increasingly turbulent climate requires urgent political responses yet ensuring these responses are democratic can at times seem an insurmountable challenge (Pickering and Persson, 2020). Governments around the planet make calls to adapt and live with the ever-exacerbating impacts of the climate and ecological crisis; from increasing likelihoods of global pandemics such as Covid-19, more severe droughts, increasingly devastating floods and ever more rampant wildfires. This appeal to adapt and ‘live with’ such phenomena marks calls for socio-economic and political systems to become more ‘resilient’ to such transformations (Folke et al., 2016, Cretney, 2014). Such calls towards resilience indicates a desire for ‘bounce back ability’, a return to normal, as though to continue on our current trajectory, dependent on this one path (Dryzek and Pickering, 2018). Yet the unprecedented times we live in call for radical sustainable transformations especially as we enter ‘code red’ for humanity (IPCC, 2022). So how might we square this demand for sustainable transformations, to get away from our current trajectory, whilst ensuring this takes place through democratic processes? James Lovelock, who coined the ‘Gaia Hypothesis’, damningly responds to such a question in a way that ought to raise concern; ‘Even the best democracies agree that when a major war approaches, democracy must be put on hold for the time being. I have a feeling that climate change may be an issue as severe as a war. It may be necessary to put democracy on hold for a while’ (Hickman, 2010). This response can be seen to play out across the globe from movements towards eco-modernism where technocrats are desperate to cling on to the centre stage of decision-making; doubling down on a faith in technologies and innovations not yet invented to save the day (Kallis and Bliss, 2019, Kallis, 2021). Meanwhile even more worrying trends begin to emerge on the political Right where those who have been quick to dismiss climate change, begin to utilise the crisis through narratives around ‘overpopulation’ to impose even more aggressive racist measures such as stricter border control (Dyett and Thomas, 2019).

However as threatening and serious as these concerns are, one only needs to look elsewhere to see that alternatives exist; that other trajectories *can* happen and other worlds are *possible*. Alternative democratic traditions emerging across the planet present a rich ‘tapestry of alternatives’². Such an interconnected web of alternatives have been referred to as ‘the pluriverse’; typified by the Zapatista revolutionary movement that seeks to build ‘a world where many worlds exist’ (Kothari et al., 2019, Escobar, 2020, de la Cadena and Blaser, 2018). Pluriversal thinking is centred upon a range of indigenous ontologies and scholarship across the planet (de la Cadena and Blaser, 2018). In these contexts, ‘living with’ and ‘living well’ take on radically different connotations to the notion of resilience within what Law (2015) might refer to as the One World World (OWW); as reflective of the modern worldview that justifies ‘colonial

² <https://globaltapestryofalternatives.org/>

conquests and commodity economies' (Plumwood, 2007). I prefer the term OWW as it indicates that struggles to resist and build alternatives to the dominant world order are not categorised by global North versus global South or West versus East but instead movements towards solidarity that are emerging across the planet (Law, 2015). For example, '*buen vivir*' (living well) indicates towards the virtues of socio-ecological flourishing as constitutive of the good life (Kothari et al., 2014). 'Buen vivir' is a guiding philosophy that underpins social and economic notions around development in many parts of South America in ways that fundamentally challenge the centrality of Gross Domestic Product (GDP) that defines development in the OWW (Kothari et al., 2014). Similarly, degrowth and post-growth movements have developed within the field of Ecological Economics in Europe and USA. The origins of these movements are particularly relevant to this thesis; 'Reading just the word [degrowth], it has a negative, and for some, a non-ecological connotation. But the origin of the term is anything but that. It is to be found in Latin languages, where "la décroissance" in French or "la decrescita" in Italian refer to a river going back to its normal flow after a disastrous flood.'³. Degrowth thinking shares conceptual foundations with the work of Illich (1973) too who attempted to think through the notion of *conviviality* (living with) to imagine human-technology relationships that might be more conducive to a good quality of life. This notion of convivial thinking has informed approaches to multispecies thinking, particularly in thinking about design and planning in urban areas (Hinchliffe and Whatmore, 2017) as well as our relations with soil (Given, 2018). While de-growth may seem like a Euro-centric perspective, the concept attempts to support existing movements with which degrowth thinking might find resonance across the earth (Dengler and Seebacher, 2019); such as '*sumak kamsay*' (again translating to 'living well') in Ecuador and '*ecological sarvaj*' India (Radcliffe, 2012, Kothari et al., 2014); variations of '*ubuntu*' philosophies across many countries in Africa (Etieyibo, 2017, Konik, 2018); the Japanese philosophy of '*judo*' (Janz, 2013); as well as the Kurdish Women's Revolutionary movement that seeks to implement the notion of Democratic Confederalism and to 'Make Rojava Green Again' (Gerber and Brincat, 2021)⁴. All of these traditions centre on democratic transitions to foster more harmonious socio-ecological relationships and indicate towards more hopeful ways of people and nature 'living well' and 'living with' each other (Kothari et al., 2014). While this thesis does not make explicit references back to these alternative political trajectories throughout, they are the context lying in wait. These alternative political trajectories amidst today's troubling political context guide the motivations to reconsider how social values might be understood not just to facilitate decision making in Flood Risk Management but to support such pluriversal thinking across the planet.

³ Quote taken from - <https://degrowth.info/degrowth>

⁴ <https://makerojavagreenagain.org/>

1. Introduction

'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 struggle to adjust, because we're still largely trapped inside the enlightenment tale of progress as human control over a passive and "dead" nature that justifies both colonial conquests and commodity economies.' (Plumwood, 2007 pg. 1)

'...a revitalised experience of living in embodied and sacred relationship with a communicative and animate nature is a necessity if current alienations and violences are to transmute into democratic and vivacious socio-ecological sustainabilities.' (Sullivan, 2013 pg. 69)

We are living in times of unprecedented climate and ecological crises (IPCC, 2022). The 6th IPCC (2022) report declares that there is now more CO_2 in the atmosphere than there has been in the last 400,000 years; the last 6 years have been recorded as on average the hottest temperatures ever recorded. What such statistics effectively reveal is that every economic and democratic system on earth has been designed, developed and practiced in past environments that will be unrecognisable to the future ones we are inheriting. To demonstrate this point, in 2019 the wildfires in Greece destroyed an ancient olive tree that was 2,500 years old (Georgiou, 2021). This tree's existence *preceded* Ancient Greek philosophers such as Plato, Heraclitus and Parmenides, whose ideas formed the basis of Western Philosophical worldviews that we live with today. The loss of such a tree is an indicator of the fundamental and radical changes that the dominant economic and political systems need to be considering in society today. This task is ever more urgent as the impacts of the climate and ecological crisis escalate at an alarming speed.

One such impact is the increases in the likelihood of flooding. In fact, floods have been identified as the most pressing natural hazard in years to come (Penning-Rowsell and Becker, 2019, O'Hare and White, 2018). Management approaches to flooding in the past have been based on finding ways to control water (Strang, 2004, Linton, 2014). Historically urban settlements tended to develop around rivers due to the opportunities for economic development they would provide; food, water, transport etc. (Grimm et al., 2008, Everard and Moggridge, 2012). However, in these transitions, urban areas that once built upon and adapted to the local environment eventually came to adapt and build the local environment to suits its needs. Eden and Tunstall (2006, pg. 662) sum up this approach to managing rivers as involving an urge to '...bury them, turn them into canals, line them with concrete and build upon the (now protected) floodplains'. This leads to what might be described as a vicious cycle, or as I will go on to explain in this thesis, a form of path dependency. Baldassarre et al. (2013) explain this through the idea of the 'levee effect'. As urban settlements begin to build more levees and flood defence structures, opportunities open up to develop on floodplains now deemed a lower risk. This results in further urbanisation and

subsequently further flood defences effectively transforming a low-density urban area with the medium risk of moderate flooding to a high-density urban area with low risk of potentially disastrous flooding (Baldassarre et al., 2013). It is clear then to see why the head of the UK's Environment Agency (EA) declared the need for 'our thinking to change faster than the climate' in regards to thinking about how we live with water differently in the future (Taylor, 2021). In this thesis, I want to explore the potential of social values as a conceptual tool that might offer exactly the kind of re-thinking that is needed in Flood Risk Management (FRM).

1.1. Thinking differently about Flood Risk Management

The story illustrated above, identifying the need for a different approach, might not come as a surprise to those who develop policies in Flood Risk Management (FRM). There has been a shift in the policy paradigm of living with flooding that has recognised exactly these kinds of dynamics and looks instead to find ways of living with water that is not so combative or centred on control. Since the turn of the century and catalysed by certain events there has been a recognition in policy that our relationships with water have to change; first, after a series of floods in the UK in 2015, DEFRA (2005) released the 'Making Space for Water'; on the back of this report, there followed another series of floods in 2007, which in turn prompted a further policy document to note, the Pitt Review (2008). These documents made clear signals for FRM to transition away from hard-engineering defence-oriented approaches of keeping water out of dry places and towards a more soft-engineering focus. Similar policy shifts took place elsewhere, for example, in the Netherlands there was the 'Room for the River' project (de Bruijn et al., 2015). Further still, these shifts are not just confined to the realms of FRM policy but they are also being called for from broader policy paradigm transitions towards 'Nature-Based Solutions' (NBS); this can be seen in FRM through the turn towards Natural Flood Management (NFM) or more broadly through landscape design approaches that also look to make space for water, whilst reconnecting water with people (Nesshöver et al., 2017, Raymond et al., 2017, Bark et al., 2021, Prominski et al., 2017). This does not just mark a policy paradigm shift however, rather this marks an *ontological* shift in the way we understand human-nature relationships; nature is no longer understood as a passive backdrop, only to be moulded to our needs alone. Now it is recognised that nature cannot simply be controlled or kept at bay, the attention turns to understanding how we might be able to live with water more harmoniously. This shift then looks on the surface like an attempt to try and reconnect people and water.

Yet this poses problems for FRM practitioners for whom making decisions in this new paradigm feels so 'unfamiliar' (Bark et al., 2021). During the paradigm of looking to control water, decision-making had been confined to those who were considered technical experts; people who were deemed to be best suited at identifying, predicting and thereafter managing the risks of flooding most effectively (Wesselink et al., 2017, Mehring et al., 2018, Lane, 2017). This 'technocratic' governance approach that remains in

place today isn't very well equipped at engaging with communities or incorporating any real understandings of 'the social' into their practices (Mehring et al., 2018; Wesselink et al., 2016). This poses a serious concern in light of the paradigm shift aiming to reconnect water with people. So while some re-thinking has been recognised and indeed publicised on a policy level with the identified need for a sustainable transition towards living with water, such transitions remain to be seen on a systems-wide practical level. This is the target area for this thesis to address and I will argue that social values can be up to the task of facilitating these transitions. However to identify the entry point for this work, I will briefly show where this thinking differently about FRM will happen, noting departures from familiar concept to FRM discourse; a focus on risk alone.

1.1.1. From risks to values

This thesis starts with a recognition that decisions about what is considered risk-*worthy* in any environmental management context is in itself a value-laden question; hinging on what *matters* to people in communities where flooding is a likely occurrence (Pickering and Persson, 2020, Walker et al., 2011). Yet this consideration of what actually matters to communities when it comes to questions of living with water or indeed any pressing risk management context has rarely been considered, whether it is in the context of sea-level rise (Graham et al., 2013) or even in the context of bushfire management in Australia (Rawluk et al., 2017). Instead the focus has been on 'risks' alone, a notion in itself that contains assumptions; that these perceptions are assumed to take place at the individual level; that the way people perceive risk is entirely rational; that people efficiently calculate risks by making decisions with the information available to them to maximise their self-interest (Margolis, 1997, Renn, 1998). However risk perception is increasingly recognised as a social process in itself, with a number of factors often explored in psychology that can increase and decrease risk perception (Joffe, 1999, Joffe, 2003). This recognition that risk can be affected by social processes mirrors the kind of thinking in the social values discourse that starts from the recognition that people's values are often affected by social processes too. Social values enters economics discourse through criticising the basic assumptions of neoclassical economics; that people are self-interested utility maximisers. Instead the social values discourse recognises that what people value, that is, what matters to them, is rarely aligned with any of these core assumptions. For example, often people's values are other-regarding especially when it comes to valuing public goods such as the environment (Vatn, 2009). Similarly it is rare that people's values are about the usefulness (utility) of things to themselves alone; instead things can matter for a whole range of reasons from cultural, spiritual and aesthetic (Cooper et al., 2016, Chan et al., 2012). Lastly values are not simply pre-given and fixed, but instead they can change not just over time and in response to a changing world but in the very *processes* through which we come to understand them (Kenter et al., 2016). Seen in this light, risks and values can be seen as the flip side of the same coins, yet focusing on risk obscures our considerations underlying values. In this way, focusing on risk or values may point to very different management

approaches. So what might be the approach of focusing on social values and could this help us to think differently about flooding as opposed to the conventional focus on risks?

Values are essentially about *what matters* (Sayer, 2011, O'Neill et al., 2008). While this may seem simple, values can be at once an incredibly vague, broad and abstract phenomena yet they can also be incredibly context-specific, precise and practical (Carolan, 2013, Rawluk et al., 2019, Hoskins and Saville, 2019). Owing to such complexity, studying values is an interdisciplinary field of research taking on slightly different meanings in different subjects (Kenter et al., 2015, Hoskins and Saville, 2019). However it is owing to these characteristics that I find values such a fascinating concept. Specifically, I find the way in which values seem to span across the broad disciplines of ethics, economics and environment most exciting. This is where the social values discourse sits linking together how values operate across these three disciplines. For example, Kenter et al., (2015) outlines key concepts such as; 'transcendental values', as the overarching principles that guide human behaviour; 'contextual values', as the perceived importance of an object in its contextual surroundings; and 'value indicators', as an indicators of something's worth (either monetary or non-monetary). Such distinctions were part of a broader intervention by Kenter et al., (2015) to effectively operationalise social values as a concept and a tool that could facilitate environmental decision-making, offering promise to navigate conflicts and complexity in environmental decision-making (Kenter et al., 2019b).

This intervention builds upon a rich history of attempts to understand and utilise social values in economic theory and practice (Massenberg, 2019). For example, the early socialist calculation debates that emerged from the start of the 20th century; questions of how value to society, to groups, to communities is understood in decision-making (Massenberg 2019). O'Neill (2016) narrates this discourse drawing particularly on the position of Kapp (1974) who sets out the need for an alternative form of valuation at the core of environmental decision-making; 'the formulation of environmental policies, the evaluation of environmental goals and the establishment of priorities require a substantive economic calculus in terms of social use values (politically evaluated) for which the formal calculus in monetary exchange values fails to provide a real measure...Environmental values are social use values for which markets provide neither a direct measure nor an adequate indirect indicator' (Kapp, 1974, pg. 38). Without engaging with these debates here, what this history of social values discourse identifies are some common themes' that understanding what matters is not always about self-interest but instead in some ways pertain to a sense of common good, society or simply to a community beyond oneself. This basic observation poses a serious contradiction to the model agent acting at the heart of all economic models and decision-making to this day, that of the homo economicus; the rationally self-interested utility maximiser. As a result decision-making about things that go beyond the individual, i.e. everything outside the market, needs to think differently about values; about how we know what matters.

This basic observation at the core of where economic decision-making often goes wrong is well recognised. For example, Sagoff (2007) makes the distinction between our roles in society as consumers

and as citizens, stating that our values differ depending on the roles we take. For example, as a taxpayer, we ought to take on the role of ‘other-regarding’ citizens whereby paying a small amount to benefit from the services we receive in return makes sense as citizens. Whereas if we understand ourselves to be ‘self-regarding’ consumers then we might well see tax as an unfair reduction of individual spending abilities or income. Sagoff (2007) concludes that valuing the environment calls us to act as citizens for the very fact that the environment affects us collectively rather than individually and thus any method of environmental valuation that appeals to the individual as a consumer falls short (Sagoff, 2007). Elsewhere Vatn (Vatn) talks about the way in which values in relation to the environment must necessarily be concerned with social values as the environment is a public good in that it affects more than the individual. For this kind of context, Vatn (2009) suggests methods used to understand values ought to shift from what he refers to as an ‘I rationality’ to a ‘We rationality’ (Hansjürgens et al., 2017). Even in broader discussions that do not explicitly mention values, this point can be seen too; Raworth (2017) talks about the need to transition from ‘*me*’ to ‘*we*’ in economic decision-making and elsewhere Kumar (2013) makes call for a cultural shift from an ‘*ego*’ to ‘*eco*’ model of human behaviour⁵. What these commonalities in social values hold is an indication towards the *relational* condition of humans living together, embedded within ecosystems that affect people beyond the level of the individual. This relational ontology implies a fundamental challenge to the individualism at the core of neoclassical economics. While this ‘relational turn’ becomes clearer to see across sustainability science, it remains unclear where social values sits within such an ontological shift in terms of its conceptualisations and methodologies (West et al., 2021). This is because the social values discourse remains characterised within a dualist ontology based upon the assumption of human exceptionalism, that humans are separate from nature. This is most visibly demonstrated through the limited focus on questions of the ‘social’ in social values being limited to relations between humans alone (Kendal and Raymond, 2019)

Understanding how social values might reconceptualised away from such a dualist ontology became the core aim for this thesis, largely owing to the way in which I began to notice that by focusing on social values as centred on humans alone, I was missing a whole host of other things that were playing a part in understanding what mattered. For example, the original inquiry focused on the entry points in current FRM governance to facilitate more innovative social values methodologies that could effectively democratise FRM, such as the use of storytelling in deliberative valuations processes (Kenter et al., 2016). However the inquiry took on a different route as more-than-human actors such as water, to borrow from Whatmore (2013), ‘forced thought’ over the course of this research project. The power of water, during flooding events, to break free of imposed boundaries and constraints, to erase the ‘lines’ that have been constructed, expanded my own worldview and understandings of how we understand reality and how we might think about possibilities for things being different (Da Cunha, 2019). In the tradition of Clark and

⁵ I personally liken this core recognition of the need to move beyond ego-centric perspectives in decision-making as being reflective of a more relational worldview as seen in the philosophy of Ubuntu (roughly translating to ‘I am because you are’) across many parts of Africa.

Szerszynski (2021), who challenges the social sciences to think *with* and *through* the earth, this thesis then is guided primarily by thinking with and through the materiality of water (Krause and Strang 2013); how it resists containment, how it spills over attempts at neat calculations by traditional neoclassical economic decision-making, how it simultaneously strikes fear and a sense of humility in those who live with the rivers during times of heavy rainfall, yet also how it has always and continues to pull on things, attracting human and more-than-human settlements, habitats and dwellings. This work then draws on a growing recognition that environment, or rather the ecologies that we are embedded within, has forced its presence upon social thinking, no longer understood simply as a passive backdrop to human activity. In this way I look to explore how including water and the more-than-human into our understandings of the social might change the way we understand social values to come into being.

So how might social values be implemented in FRM? This transition from flood defence management to flood risk management, comes with a host of political and ethical questions that are, and ought to be, contestable; questions around political processes such as who is considered in such decisions, how such decisions are made, as well as more ethical evaluations about what is at stake in such contexts (Butler and Pidgeon, 2011 O'Hare and White 2018). These questions after all mark the distinctly qualitative aspect of this policy paradigm shift; it is not simply a question of 'how we live with water', but rather it is a question of 'how might we live *well* with water'. It is in this light that I look to understand how social values might be able to help facilitate this now conflict-ridden political landscape; an application that ought to be appealing for social values researchers, given that social values are appraised for their role in negotiating conflict in environmental management (Kenter et al., 2019a). Further to this social values also relate to environmental valuation frameworks; conceptual frameworks such as Ecosystem Services (ES) or more recently Nature's Contributions to People (NCP) (Díaz et al., 2018 Pascual et al. 2018) These valuation frameworks look to frame the way that nature might be understood to variously matter; parceling up nature as a set of 'services' and 'contributions' to people that might then be valued. This is usually through monetary valuation methods which in turn are then supposed to 'speak the language' of economists and policy-makers so as to better recognise the value of nature in decision-making. While this is often monetary and focusing on a narrow set of services, such as 'provisioning services' or 'regulatory services', there has been a growing interest in cultural ecosystem services and nature's non material contributions that are variously ascribed social and cultural values (Chan et al., 2012).

These valuation frameworks, though often used with an open intention to elevate the importance of nature, have been the subject of fierce ethical and ontological criticism (Jax et al., 2013). These critiques largely focus on the instrumental, anthropocentric and dualist character of the valuation frameworks. For example the framing of ‘services *to* humans *from* nature’ is not only ethically anthropocentric, assuming nature only to be important according to its use to humans, but it presupposes that nature and people are separate distinct categories. This dualism runs through the heart of ecosystem services discourse, as well as NCP despite recent developments. Comberti et al., (2015) typifies these assumptions by pointing out that such value frameworks assume a one-directional flow of goods and services from nature to people, with the values emanating from those ‘goods and services’ alone; not only does this miss out on the other ways that nature matters that may reflect different types of relationships but it can also lead to damaging

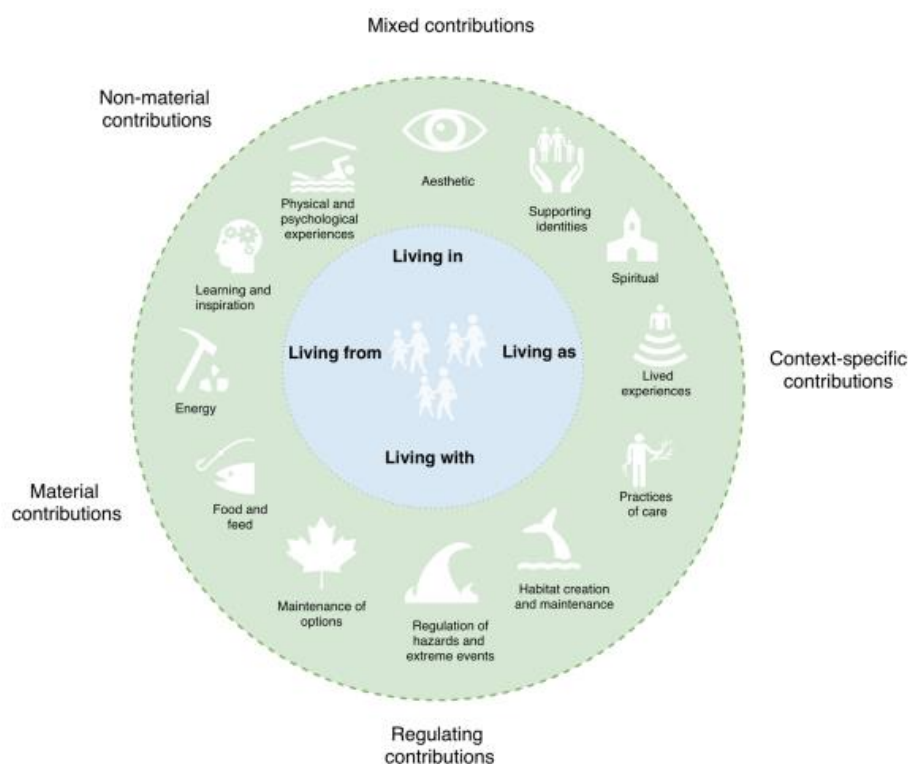


Figure 1- Life framework of values and their associations with ecosystem services and Nature's Contributions to People frameworks - taken from O'Connor and Kenter (2019)

policies, such as the removal of indigenous peoples from ‘nature protected zones’ as though any and all human-nature interactions are damaging and extractive. This is evidently not the case, especially when one considers that 80% of global biodiversity is protected and conserved by the 5% of the world’s population who identify as indigenous (Garnett et al., 2018).

In response to these critiques, the Life Framework of Values (LFV) emerged as an alternative conceptual framework that could move away from dualist framings of nature as well as the anthropocentric character of these previous frameworks. Drawing on O'Neill et al., (2008), Kenter and I (O'Connor and Kenter, 2019) introduced LFV as a way to frame how human-nature relationships might be seen to matter in four

distinct ways; how people live *from* nature (how it provides energy, food, shelter, even inspiration), how people live *in* nature (how it acts as a setting for life events, a place of dwelling, cultural practices and heritage, thus creating a sense of place), how people live *with* nature (recognising that we share this earth, that this earth precedes our existence and will continue after we have gone, and recognising how we coexist with other species) and lastly how people live *as* nature (acknowledging that for many people, the communities in which they live are part and parcel of the ecosystems in which they are embedded) (O'Connor and Kenter, 2019). This framework does not do away with previous frameworks but can in turn be associated with these insights and build upon them. In doing so LFV actually highlights the dominance of certain life frames, i.e. living from, associated heavily with instrumental and anthropocentric framings of human-nature relationships, in existing environmental values discourse and methodologies. Already we might start to see how this can reflect the problem in FRM. In valuing rivers only according to how we live *from* them in the past (providing food, water, transport etc.) rivers were adapted purely to suit these needs (Everard and Moggridge, 2012). However today, as the policy paradigm shift is calling for, we need to balance this framing and recognize the values of living *with* water.

In highlighting such imbalances, the framework makes a call for value concepts and methods to capture a more holistic plurality of values. As such we might start to think of ways in which value concepts and associated methodologies might not only be used to elicit more more plural values but also how value concepts might actually enable the kinds of shifts across value frames, as shifts in human-nature relationships that reflect more prosperous socio-ecological futures. This move in part then reflects the call by Turnhout et al., (2013) who argues that environmental policy needs to move away from terms such as 'goods', 'resources' and 'services' to move towards more relational phrases such as 'living with', 'in' and 'as' (Turnhout et al., 2013). While social values have typically been conceived in relation to ecosystem services and nature's contributions to people, they have not yet been explored in association with LFV which is growing in popularity (Harmáčková et al. 2022). This will be a key theme that underlines this thesis; how might we conceive of social values not simply relating to LFV but in facilitating shifts across value frames, towards values reflective of living *with* nature.

1.2. Research aim and lines of inquiry

By exploring the potential of social values in this light, the aim is not simply to apply this concept to FRM and discuss whether or not it has been successful. Instead the thesis is more concerned with developing social values as a tool that can invite and enable people to think about living with water differently. Such an approach then may allow for the possibility that social values do not simply serve FRM as though to better manage or control floods as the primary object of concern. Rather, the hope is that re-thinking and practicing social values in new ways may allow people to imagine approaches, or rather worlds, where

flooding might not necessarily be understood as a problem in need of controlling to begin with. This is the aim behind understanding social values that are reflective of living well with water.

The lines of inquiry then become centred on how to get there; what re-thinking of social values needs to take place to equip the concept and its methods to do or ‘perform’ such work? This can be unpacked by three lines of inquiry that guides this thesis; 1) I will look to understand what barriers or obstacles may currently prevent social values from being implemented in FRM decision-making contexts; 2) I will look to suspend the assumption of what constitutes the ‘social’ of social values so as to leave open the possibility that this might be re-conceived or re-negotiated; 3) I will explore how such re-conceptualisations can democratically facilitate the kinds of sustainable transitions that are needed in FRM and wider environmentally governance contexts. These three questions are not sequential but parallel lines of inquiry that span across three case studies in FRM decision-making in the city of York, UK.

1.3. Thesis outline

In chapter 2, I will situate social values at the intersections of what I refer to as the economy-environment-democracy nexus. This crucially reveals the potential of social values in its ability to work at these intersections and explains why I want to pursue social values as the focal point of my inquiry. On the one hand social values can help democratise economics, understanding the ethical questions of ‘what matters’ or what is at stake in environmental decision-making contexts. While on the other hand social values can focus attention on the processes through which decision-making takes place, including the more-than-human in ways that might encourage more sustainable outcomes. In the context of FRM then, social values could both democratise the decision-making in ways that challenges the technocratic framings of FRM problems whilst also offering FRM practitioners and policymakers who are recognising the need to do things differently a tool that could facilitate that transition; both towards human-nature relationships reflective of the living well with water frame, and in facilitating economic decision-making that can ‘work with nature’.

In chapter 3 I start by exploring this potential of social values to be considered in action in FRM decision-making, focusing on two case studies in the city of York, UK. Based on empirical observations of two FRM decision-making processes I will look to demonstrate that there are currently obstacles that prevent social values from realising their potential at the nexus; that is in facilitating sustainable transitions. These obstacles are the contested ontological and political paradigms within which FRM decision-making takes place. I will argue that if social values are to realise their potential, they must be capable of navigating these obstacles, moving beyond such paradigms to enable sustainable transitions.

This sets up chapter 4 of this thesis which will tackle this core re-conceptualising of social values. Whilst paying attention to the ontological distinctions that demarcate the different approaches at the economy-environment-democracy nexus, I will look to build upon the existing social values discourse to imagine what an expanded relational ontological approach to social values would look like. I will argue that re-thinking social values as a ‘fuzzy tool’ enables the value concept to move past contested political and ontological paradigms, or ‘glass ceilings’ that prevent democratic transformations, as observed in chapter 3. This move challenges how we think about social values in three important ways; 1) it expands upon an anthropocentric and humanist account of social values, 2) it moves beyond the static, mechanistic view of the world towards working with processes of change and 3) it expands upon our understandings and methods of how we come to know what matters.

To ensure this re-thinking of social values is not purely abstract and conceptual, this re-thinking must relate somehow to the existing social values discourse which includes methodological approaches to practicing social values. This is the focus of chapter 5, where I return to justify how such re-thinking could be grounded once again at the economy-environment-democracy nexus. I will demonstrate how this intervention sits within the social values discourse by introducing a ‘pluriversal lens’ for social values research. This will focus specifically on how social values might be considered as a re-directive practice, opening up pluriversal possibilities for democratic decision-making to guide economics. Essentially this means moving away from thinking about social values within an environmental economics approach that defines the parameters of environmental democracy. Instead moving towards social values that facilitates ecological democracy practices that can in turn guide ecological economics. In reviewing the plural methodologies available for applying social values methods, I will talk about the ‘possibility spaces’ where the kind of re-thinking of social values that I explored in the previous chapter could be ‘operationalised’ in practice.

This paves the way for chapter 6 which will return to York for a final case study where I looked to perform the kind of re-thinking of social values as a concept and through the possibility spaces of social values methodologies that I had identified. This led to an innovative methodological approach that attempted to create ecological encounters so as to extend care and concern to more-than-human worlds, challenging the dualist and anthropocentric approach to social values to date. This case study demonstrates how social values can practice ecological democracy in ways that can transform human-nature relationships to the ‘living with’ frame. Finally I conclude with a more speculative discussion of how social values facilitating ecological democracy in this way can then guide ecological economics in practice. I visualise this through a reversal of the initial obstacle of social value needing to demonstrate ‘value for money’ to identifying where resources, or money, ought to be allocated; i.e. towards ‘money for values’. This in turn leads to some suggestions for areas of future research. This looks at policy implications for practicing FRM yet I also look to draw some speculative implications for wider environmental governance contexts where I suggest social values can become a powerful concept in facilitating socio-ecological transformations.

2. Questions of what matters; researching messiness of social values and water

The starting point of the main argument and contributions of this thesis is to conceptualise social values as sitting precisely at the intersections of ecological economics and ecological democracy. To situate social values at this intersection, I will first try to articulate more clearly what working at these intersections entails by elaborating on what I refer to as the economy-environment-democracy nexus. I will look to establish the tensions and challenges that emerge when working at this nexus, however I propose that social values has the potential to overcome these tensions and challenges. The claim I want to make in this chapter is that social values can democratise economic decision-making on the one hand whilst opening up ways to include nature and the more-than-human on the other on the other. This is where the potential power of social values lies, yet research gaps remain in the discourse to fully explore this potential. Whilst setting out these challenges at the economy-environment-democracy nexus I will try to demonstrate how these tensions relate to the context of FRM decision-making. However this will only really come to light in the next chapter when I will explore how social values might be implemented in FRM.

2.1. Economy-environment-democracy nexus

Ultimately the economy-environment-democracy nexus is oriented around three questions with sustainability transformations their core focus; 1) how can our economic systems be transformed to stay safely within biophysical material limits and planetary boundaries? 2) How might our democratic systems be more in tune with ecological systems to be concerned with not just social but ecological flourishing too? And 3) How can our economic systems be made more democratic, as centred on understanding what matters to communities as opposed to assumptions about individual values?

The economy-environment-democracy nexus then is an extension of the environment-democracy nexus as articulated by Pickering et al. (2020) and drawn upon by several democracy theorists interested in addressing the fundamental challenges posed by climate and ecological concerns to democratic systems of governance (Dryzek et al., 2019, Hausknost and Hammond, 2020, Hammond, 2020). Two central challenges resurface from this discourse. Firstly the tension between process versus outcome - how can we ensure efforts to make the processes of political decision-making more just leads to more sustainable or ecologically beneficial outcomes? Secondly the challenge of including nature – how might nature be represented in decision-making or how might decision-making better include nature? In the following section I will explain these questions and the range of responses in more detail. However rather than simply re-stating the work already set out by Pickering et al. (2020) I will look to also demonstrate how these same questions can be extended to include responses from economics discourse. In this way, I'll

attempt to justify why I have looked to expand the nexus to become the economy-environment-democracy nexus.

Before going on it is worth noting the two broad terminological distinctions that can be made between the various schools of thought; that of the difference between ‘environmental’ and ‘ecological’. While this may seem a superficial distinction, in both democratic and economic thinking they indicate towards radically different ontological positions. For example, environmental democracy on the one hand remains within a more anthropocentric orientation towards nature, whereby the focus of democratic decision-making remains centred on humans (Eckersley, 2019). Within this branch of political theory, addressing the climate and ecological crises is understood as a matter of reforming current institutions and economic system to better represent or include nature; while on the other hand, the ecological democracy branch is more ecocentric in its orientation; democratic decision-making shifts from being centred on human interests alone and looks to pay attention to human-nature relationship and, the complexities between society and nature (Eckersley, 2019). Theorists of ecological democracy are more likely to argue for radical departures from current logics that define economic and institutional systems.

Similarly, in economics discourse, environmental economists assume the environment to be a separate sub-system outside of the economy; a pool of resources which are valued for instrumental use alone. The question of economics is therefore is how to make use of these resources most efficiently; largely tinkering around with the current neoclassical model of economics. Whereas on the other hand ecological economics recognises that the economy is a sub-system *embedded* within the environment and so the economy is fundamentally dependent upon ecologies, or ecosystems, for the economy to function. As a result the question becomes one that is focused on the economy itself. As a result, ecological economists largely call for radical departures from current economic systems, instead asking how questions such as how to ensure the scale of the economy is sustainable, how to ensure the just distribution and efficient allocation of resources can take place within this re-scaling (Spash, 2012). The implications of this shift in understanding the economy to be a sub-system of the environment as opposed to a separate entity is a fundamental ontological shift that will be a key underlying theme throughout this thesis. I will later argue that many of the value and valuation concepts that ecological economics thinks with and practices with do not reflect this core ontological shift and as a result the radical ideology of ecological economics, in valuation methods and practices, remains hard to distinguish from its more reformist counterpart, environmental economics. While this brief overview has touched on the broad differences between ‘environmental’ and ‘ecological’ that go beyond terminological distinctions, I will focus in more detail below on the range of responses to the two specific questions that characterises this nexus.

2.1.1. Outcomes versus processes

This first basic challenge is often introduced in the green political theory discourse as a conflict, or even paradox, between opposing normative ideals of democratic thinking and sustainability science (Schlosberg

et al., 2019 Pickering, Bäckstrand et al. 2020). This ‘paradox’ follows from the concern of Goodin (1992) that while democracy is predominantly focused on the normative ideal of procedural justice, sustainability is focused on goal-oriented outcomes. As a result this leads to a supposed paradox; either sacrifice the *process* to ensure sustainable outcomes, or risk the sustainable outcomes to focus on ensuring fair and just decision-making processes. If we imagine this in the context of FRM then, we might imagine a world where the decision-making in FRM is designed to be much more inclusive and participatory as democratic norms would propose, centring on communities from the outset of decisions, however there is no guarantee that this would lead to sustainable outcomes. This is made apparent with social and cultural perceptions of risk and fear associated through living with water; it could well be the case that a community reaches the decisions that hard-engineered flood walls along the river would be the best way to protect themselves after all, even though in the long term this approach may not be considered the most sustainable. This is typified by the ‘levee effect’ whereby the lowered perceptions of risk due to living behind newly constructed flood defences leads to more housing developments on, and so people living on, floodplains which in turn leads to greater likelihood of catastrophic flooding (Baldassarre et al., 2013). Responses to this tension between process and outcome differs greatly along the scale of this environment-democracy nexus. Often the questions come back to the role of expertise in decision-making; a point that is particularly relevant at the heart of FRM. Technocratic governance looks to avoid decision-making falling into the hands of those who are deemed to lack the adequate or appropriate knowledge for the particular decision; this leads to decisions being made by specific scientific and technical expertise alone with little consideration of alternative knowledges; i.e. local or context-specific knowledge. This type of argument supposes that the only way to ensure decisions have sustainable outcomes is to have scientific or technical experts lead decision-making. These more technocratic approaches may involve state-led interventions, i.e. imposing carbon tax or caps, or it could be left up to the market with certain groups believing the market could come up with the technological innovations necessary to save the day. This latter approach is reflective of eco-modernists who would recognise humans place as embedded within and reliant upon nature, yet as part of nature, eco-modernists also assume it us up to technological enhancements to best adapt nature to suit ourselves (Kallis and Bliss, 2019). Such faith in technological innovation and development puts decision-making even further out of the hands of communities and opportunities to participate in decision-making become even more slim. This technocratic approach to environmental management has been more typical of FRM decision-making to date (Mehring et al., 2018).

The tensions about process versus outcomes is evident in economics too. Both environmental and ecological economics to differing extents would recognise that transitions to a more sustainable economy are essential outcomes yet both differ in terms of how transitions ought to occur. For environmental economics perspectives this has included a focus on improving democratic norms of accountability and transparency in economic markets; with phenomenon such as improved environmental reporting and monitoring at corporate and business levels, eco-labels and environmental certifications even ranging to

more direct attempts at ‘shaming’ organisations (Pickering et al., 2022). However, though these methods sometimes point towards successes, it is often too little and too slow, with critics pointing out the escalating scales of the ecological and climate crises combined with the powerful interest groups that work against such democratic ideals as transparency and accountability. Other responses on the environmental economics end of the nexus, on the basis of recognising biophysical limits to economic growth, have attempted to bring new concepts and frameworks into economic processes so as to possibly lead to more sustainable outcomes. For example, creating new markets for carbon trading or to invest in natural capital as a way of turning nature’s protection into a valuable economic asset. Such approaches work on the assumption that the current economic system based on capitalism is simply misguided and just needs to be reformed, whereas ecological economics makes more radical calls for alternative economic systems such as post growth and degrowth thinking recognising that capitalism is the root cause of the problem and cannot, or rather must not, be ‘saved’ (Costanza et al., 2017, Jackson, 2021, Kallis, 2021).

The recognition that there are biophysical material limits to our economic systems is a cause for serious concern for ecological economists which poses the need for radical system change (Kallis, 2021, Spash, 2012). However this recognition of both material limits and the need for change often means ecological economists are more concerned with outcomes of economic decision-making rather than processes. This is challenging for those who advocate de-growth and post-growth alternatives to growth dependency, as a commitment to democracy is one of the core principles of degrowth as a ‘movement’ (Demaria et al., 2013). Yet there remains a real lack of clarity around how transitions to such alternative degrowth futures can be democratically guided, that is, how they may appeal to legitimacy outside of the same technocratic form of expertise that many researchers in the field would criticise (Romano, 2012). These discussions, once again are centred on how to align the seemingly opposed norms of democratic and sustainable design; how might such a radically alternative economic system that is predicated on ensuring outcomes that recognise limits (biophysical limits as well as limits on wealth), be paired with democratic principles of open-ended processes (Kallis, 2021). This tension has been approached from different angles. Indeed a notable, perhaps more critical, angle from Romano (2012) claims that degrowth in its *current* framing is not capable of legitimatising its ‘limitarian’ approach through democratic design. Romano (2012) draws specifically on the distinction between ‘*legein*’ and ‘*teukein*’ and the work of Castoriadis (1975). Romano (2012) goes on to describe *legein* as the process of making sense of the world and understanding human, and more-than-human relations through speech, reason, argumentation. On the other hand, *teukein* refers to interventions and actions in the world, roughly translating to technique and technis, a derivative of technology. Romano (2012) diagnoses the problem of degrowth is that it deals with the problem of the economy and limits to growth through the realm of *teukein* alone, addressing the problems through the basis of scientific and technical expertise. Romano claims this is the same logic, the primacy of *teukein*, through which the growth dependent society has been structured and shaped. Discussions emerge then based on technical knowledge; ‘*x* works best for *y*, so we ought to do *x*’. The problem is that this leaves

out any room for *legein*, where we might try to make sense and understand what matters to communities; ‘do we want to do *y* and if so why’. Romano (2012) argues that the degrowth discourse does little to unsettle this logic and dethrone the primacy of *teukin* to re-establish a form of *legein*. This account of where degrowth discourse may currently be misguided is especially relevant in relation to the context of FRM and thinking about how decisions might be carried out differently. This is owing to the fact that FRM is currently a technocratic approach that is not deemed to be democratic or in any way engaging with communities. What would it look like to centre *legein* in FRM, where we might ask instead what the goals ought to be in living with rivers rather than simply assume prevention of flooding to be the problem and then allow the primacy of *teukin* to take the lead and show us how to achieve this goal – however unattainable that goal might be in practice.

Enabling the kinds of economic transformations that the material limits to economic growth indicate as so fundamentally necessary in a democratic way requires a range of responses. As (Pickering et al., 2022 pg. 7-8) summarise, ‘ultimately, democratising economic transformations requires rethinking the broader role of the economy in the public sphere. Currently, the role of the economy is inextricably linked to economic growth for its own sake rather than as a means to achieve sustainability and wellbeing. Some scholars, particularly from a degrowth perspective, urge societies to change dominant GDP-oriented ways of thinking towards more community- and ecologically-oriented ones. More inclusive democratic decision-making processes could help to engender a shift towards the equitable redistribution of the fruits of economic activity, rather than the pursuit of unending economic growth, as a key source of state legitimacy’. This is the direction in which I want to pursue the possibility of social values in engendering such shifts, away from narrow economic systems that are inextricably tied to growth and towards more fruitful, generative possibilities of socio-ecological flourishing.

2.1.2. Including nature

In democratic theory, the question of including nature has traditionally been posed as a question of how to better represent nature in decision-making. This approach at ‘representing nature’ has been addressed by a range of responses. For example, there are those based in deontological ethics, that argue the need for rights-based approaches to better represent the interests of the environment. These rights-based approaches can for example be expressed through claims of personhood for nature which elevates the legal status of ecosystems to that of people, thus their interests must therefore be taken into consideration in decision-making; Strang (2020b pg. 205) outlines the development of the legal history that has explored this possibility noting examples from the River Ganges in India, the Atrato River in Colombia and the case of the Whanganui River in New Zealand (Aotearoa) where a legal case to grant the river a legal standing of ‘personhood’ was proposed and successfully won by ‘Maori iwis (tribes) whose traditional beliefs describe rivers as living ancestors’. Elsewhere, there has been the approach of ‘advocating for’ nature through civil society (Eckersley, 1999). As O’Neill (2001) and Eckersley (2019) indicate these

approaches that look to ‘represent nature’, that have traditionally defined the western and global North environmentalism since the late 1970’s with environmental charities being established and operated on account of ‘advocating for nature’. While both of these approaches have marked successes in their histories, what characterises both of them is their commitment to work *within* liberal democracy in ways that may better include the environment. As such both of these approaches are typical of more environmental democratic responses to looking after nature. This is notable more recently with the way in which global environmental charities today, in increasing their power have often been corrupted by powerful vested interest groups, with many environmental NGO’s today being responsible for highly unethical land grabs, forcibly displacing indigenous communities from their homes as a form of neo-colonial expansion on account of conserving nature (Combetti et al., 2015).

Meanwhile serious concerns have been raised by ecological democracy theorists about the capacity for liberal democracy in its design and structure to be capable of representing environmental concerns. These concerns relate to certain characteristics of liberal democracy; the *temporal*, short election cycles out of beat with the longevity of environmental problems; the *spatial*, jurisdictional boundaries ill-judged to deal with transboundary ecological problems and lastly the *agential*, often environmental problems are assumed to be hard to be perceived by the ‘lay public’ and therefore there is an innate reliance on scientific and technical expertise in decision-making that limits democratic involvement (Eckersley, 2019). It is argued that the attachment to liberal democracy for ecological democrats must be re-evaluated, as there’s little chance the environment could ever be meaningfully represented or considered through these systems. Alternatively, Dryzek (2013) describes ecological democracy as ‘democracy without boundaries’ by way of indicating towards the need to move beyond the kind of jurisdictional boundaries that characterised environmental democracy so that human and more-than-human relationships might be better reflected in decision-making. On this note, one of the key principles of procedural justice is the principle of ‘all-affected’, which assumed that all those who are *affected* by decisions ought to be included in the decision-making process. This move encourages reconsideration of political boundaries that may be better suited to face the trans-national and trans-boundary problems that the ecological and climate crises poses (Eckersley, 2019, Pickering et al., 2020). Based on these assumptions, political theorists have made the case for better representing nature in decision-making, as it is hard to argue that species and habitats of all kinds are not affected by political choices and decisions (Eckersley, 2011). However it often remains unclear how such ‘nature advocacy’ in a more radical ecological democracy sense can take place beyond anthropocentric or paternalistic approaches that claim to represent environmental interests (Warren, 1990). Other, more recent approaches within the ecological democracy camp have drawn from new materialism in order to question the very premise that representing or including nature in decision-making is a challenge. Instead these trends, which have grown in prominence in the ecological democracy theory discourse have looked to focus on the material relations that exist between human and more-than-human from the outset and build political processes from these everyday practices and experiences (Meyer, 2015, Schlosberg, 2019).

These tensions around representing or including nature in decision-making is at the heart of tensions between environmental and ecological economists too. More broadly, economics has typically struggled with, or rather fundamentally ignored, the question of representing the environment in economic valuation and decision-making as reflected in the notion of ‘externalities’. Externalities are considered as the negative impacts or side effects of a decision or outcome that had not been included in valuations. Often these externalities are used to refer particularly to environmental harms, such as pollution in the form of emissions or the agricultural waste that escapes farmland as run-off into waterways, rivers and oceans. For environmental economics then, the question of representing nature has been one of how best to bring these externalities into decision-making; that is, how might these negative impacts be accounted for in economic valuations in the first place. This is one of the main premises of environmental valuation from a more neoclassical economics perspective as characteristic of environmental economics as opposed to ecological economics. Most attempts to ‘bring nature into economic decision-making’ on this front has been through a series of conceptual frameworks with associated value concepts and methodologies each themselves aiming to ‘capture’ or account for the value of the environment. The first notable framework to mention here is the Total Economic Value (TEV) framework. This market-based framework attempts to capture even those most non-monetisable values, such as intrinsic values through reducing these complex philosophical concepts down to a range of more accountable phenomena such as ‘non-use’, ‘bequest’, ‘altruistic’, or ‘existence’ values (Randall and Stoll, 2019). These values are then assigned a set of methods largely market-based methods, which attempt to put a monetary price on these values. One such method for example is contingent valuation method (CVM); CVM essentially asks people their Willingness to Pay (WTP) for an environmental ‘good’ or ‘service’ (Carson et al., 1992). Researchers might then variously ask respondents through surveys how much they might be ‘willing to pay’ for an environmental good (i.e. a woodland in a local greenspace) or service (i.e. recreational space, or providing food) which they may value variously according to their direct or indirect use, their desire to preserve for future generations (bequest), or simply their knowledge that it exists (Carson et al., 2001). These market-based methods and the TEV framework are often met with criticisms, as they largely ignore the ethical and political implications of their implementation (Spash, 2008). For example, as Sagoff (1998; 2008) points out, many respondents would (and indeed do) refuse to put a monetary price on values that are considered morally or ethically important to them, i.e. health of community or, religious beliefs (Spash, 2008). More to the point here, O’Neill (2002 pg. 146) illustrates how such approaches cannot make claims to represent interests of anyone other than the individual let alone the environment; ‘The market responds only to those preferences that can be articulated through acts of buying and selling. Hence the interests of the commercially inarticulate, both those who are contingently so — the poor — and those who are necessarily so — future generations and non-humans — cannot be adequately represented’. In this way then, such methods and approaches to put a price on nature on the premise that putting a price on nature can more effectively bring the interests and protection of nature into decision-making, relies on methods and approaches that ignore crucial ethical and political implications of their applications.

While ecological economics has looked to pay more specific attention to such ethical and political implications, the use of methods such as CVM remain widespread and in itself is a cause for much division within the field (Kallis et al., 2013). Conceptual frameworks such as Ecosystem Services which are widely appealed to within Ecological Economics also attract criticisms on similar grounds of ignoring such implications. Ecosystem services are themselves premised on the idea that parcelling up ecosystems and nature as a set of goods and services that can be valued may in turn allow for nature to be better ‘accounted for’ in economic decision-making. However such a premise relies on a number of assumptions that have attracted a whole range of further ethical, ontological and pragmatic critiques. The more common critique here is that treating nature as a set of ecosystem services assumes nature is a *commodity*, something that can be carried into the market to be bought and sold; indeed the process of ecosystem service valuation and research more broadly is seen in this way as a process of commodifying nature. Part and parcel of this same critique is the assumption that certain ‘services’ are also *substitutable*; that a service in one location is replaceable by another service elsewhere. This assumption is typified by the replacement-cost method, a market-based approach for valuing the environment, where the monetary price of an ecosystem service is calculated by the cost that would be incurred should that service need replacing, i.e., by artificial means (i.e. carbon removing technologies in the place of forests, or hard-engineered sea walls for flood protection, in place of mangrove forests for example). Highlighting the pitfalls of assuming this substitutability of nature, Kronenberg (2014) details the long forgotten discipline of economic ornithology. This short-lived field could be seen as a precursor to the ecosystem services concept, in that it was originally conceived as a communication tool for the protection of birds that were under threat in the UK. Economic ornithology, aimed to calculate the economic contributions of birds (via the study of birds hence ‘ornithology’) through the ‘services’ they provide to agriculture – i.e. crop pollination or pest control. This discipline soon disappeared from view when eventually these same ‘services’ became cheaply available through the introduction of artificial fertilisers and pesticides; the economic incentive to protect the birds was no longer relevant. Kronenberg (2014) makes this point by way of saying, if nature is outpriced what’s to stop it being degraded or destroyed. On a similar note, McCauley (2006) asks if this environmental valuation discourse is ‘selling out on nature’ including examples such as the case of Finca Sante Fe, in Costa Rica. Here, a study was conducted to show that a native bee population was providing an estimated US\$60,000 a year in pollination services to an adjacent local coffee bean plantation. However, when coffee prices dipped, the local farmer followed the market and switched to pineapple plantation, which requires no pollination services from the bees. Therefore the ‘value of these local bees’ could have only been assumed to have gone from \$60,000 to zero overnight with this farmer’s decision. McCauley (2006, pg. 28) asks, ‘To make ecosystem services the foundation of our conservation strategies is to imply — intentionally or otherwise — that nature is only worth conserving when it is, or can be made, profitable. The risk in advocating this position is that we might be taken at our word. Then, if there is a ‘devaluation’ of nature, as in the case of Finca Santa Fe, what are we to tell local stewards who have invested in our ideology, and how can we protect nature from liquidation?’

This danger is summarised by the dialogue between Kallis and Swyngedouw (2018) a marxist geographer and degrowth ecological economist respectively. In this conversation, Swyngedouw (2018) warns Kallis that any attempts to value nature, or bring the values of nature into decision-making within a capitalist system will likely be ignored or overlooked from the outset as the formula for capital value, expressed as Socially Necessary Labour Time (SNLT), does not consider through what work, or by who, the value is added, simply that it *is* added allows for surplus value to be ever extracted and accumulated. To borrow Swyngedouw's (2018) example, the transition from horse-drawn carriages to motor vehicles did not halt because the value of the work offered by horses was taken more fully into consideration, that is better represented in economic decision-making, but rather the reduction in time, or rather SNLT that was offered by fossil fuels in motor engines meant that horses became irrelevant, unnecessary to the production of surplus value as SNLT. This is what causes many to argue that the concept and methods of valuing need to radically depart from current valuation practices. Efforts to change and integrate values within a system dominated by neoclassical economic assumptions and tied firmly to a system of democracy cannot meet the urgency nor radical transformation demanded by the climate and ecological crises. This warning is of huge importance if we are to consider whether economic valuations and decision-making attempts at representing nature are in any way meaningful or effective.

This is what prompts Swyngedouw (2018) to articulate what ought to be the key cause for concern for ecological economics when it comes to including 'nature' and the more-than-human in economic decision-making. Swyngedouw (2018, pg. 48) argues that we must move away from the centrality of economic value (in a narrow sense dominated by capital) and towards the more politically mediatory role offered through democratic decision-making; 'The key objective therefore should focus on how to transform capitalism to a socio-ecological configuration that values both the human and the non-human on a very different basis than the law of value. I insist this would require shifting the dominant organizing form from economic valuation (the law of value) to democratic political intermediation and collective decision-making. And this, for me, is the site of a key battle'.

This neatly brings us round to highlight how these tensions and challenges play out at the economy-environment-democracy nexus that I have extended from the work of Pickering et al., (2020) and Eckersley (2019). This overview is summarised in table 1 below. Whilst these two previous sections have outlined responses to these tensions more broadly, now I will look to hone more specifically on the way in which social values discourse to date might map on to this nexus, focusing specifically on the various ways in which these aforementioned tensions have surfaced in the social values literature too. This will pave the way for setting out the research questions that will guide the rest of the inquiry as well as the associated methods I will adopt.

Table 1 - Taken and adapted from Pickering et al., (2020) distinctions between environmental and ecological in application to economics and democracy

Environmental	Ecological
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Democracy	Anthropocentric	Ecocentric
	Looks to work within liberal democracy	Critical of liberal democracy, attempts to move beyond key liberal democratic principles
	Works with existing institutions and multilateral systems	Critical of existing institutions and multilateral systems
	Civil society as active partner	Civil society as resistance/opposition/critic
Economics	Environment recognised as an external subset to the economy	Recognises embeddedness of economy as sub-system within nature; acknowledging ecological limits and boundaries
	Aims to work with and reform capitalist systems	Critical of/Radical departure from capitalism

2.2. Situating social values at the nexus

In this section, I will focus on the ways in which social values relate to the two broad tensions, outlined in the previous section, at the economy-environment-democracy nexus. I will do this by looking firstly at responses in the social values discourse to the process versus outcome tension. This is where I recognise social values shows promise and has made important contributions to date yet there remains a need for clarity on how this work directly links to sustainability transformations. Then I will turn to the focus on how social values addresses the tension of better including nature in decision-making. I identify this aspect as the key area that social values needs to address to realise its potential at this nexus.

2.2.1. The promise of social values; outcomes versus processes

Relating to this initial tension between focusing on goal-oriented outcomes versus open-ended processes, the social values discourse seems divided. Social values show promise in that it has drawn upon democratic thinking, particularly deliberative democracy, to emphasise the way in which the *processes* of social valuations themselves can influence both what and how values are formed and shaped. Yet the field seems split, in terms of whether social values should be treated as descriptive or normative concepts in valuation.

2.2.1.1. *Influence of social processes on value formation*

On the first point, social values reflect a critical intervention of deliberative democratic theory in economic thinking. As a response to the flaws in neoclassical economics assumptions and associated methodologies, Ecological Economics has sought to bring principles of deliberative democracy into valuation processes in ways that might challenge the changes the kinds of values that are elicited. The earlier forms of ecological democracy, outlined by Eckersley (2019), draws upon deliberative democracy too in a way that closely resembles this more recent overlap of ecological economics and deliberative democracy, as articulated by Zografos and Howarth (2010) and the case for 'Deliberative ecological economics'. The move within ecological economics towards such principles from deliberative democracy emanates from a critique of the main assumptions of neoclassical economics regarding the 'homo-economicus', the model economic agent, who is assumed to be; i) utility maximising, ii) self-interested and iii) making decisions based on an instrumental rationality basis alone (Zografos and Howarth, 2010). These assumptions have variously been criticised from a range of different schools of economic thought. For example behavioural economics highlights that people are often not utility-maximisers but can often make decisions based on a range of psychological tendencies that are often socially and culturally formed (Kenter et al., 2015). This economic agent is considered at the heart of all economic decision-making processes and is the core motivation behind market-based methods of valuation that dictates economic and indeed political decision-making today. The logic being – If all people value according to self-interest, utility maximising and instrumental rationality, then aggregating individuals' preferences for goods and services can calculate what matters to society as a whole. In this way there is something of a claim to democratic legitimation lying at the heart of appealing to this homo economicus, as expressed by Graeber (2001) who describes the primacy of the market as an organiser of social relations to have, in effect, replaced the role and centrality of democracy in organising society and public life. This echoes Brown's (2015 pg. 9) point that neoliberal society has all but hollowed out democracy, replacing the 'demos' with 'homo-economicus'. This consequence of the primacy of homo-economicus in neoliberal society is key concern for social values that I will return to in section 6.4.

What the deliberative ecological economics literature has opened up however is a critical intervention right at this juncture, between democratic theory and economic theory. Through various case studies and social science studies, researchers have aimed to demonstrate that people's values towards nature are rarely self-interested or self-regarding, particularly when it comes to valuing public 'goods', like the environment (Vatn, 2009). Instead people value nature in plural and complex ways that may vary widely within a community of different interest groups (Arias-Arévalo et al., 2018). Moreover values that had previously been considered to be pre-formed, stable and fixed can instead be affected through the very *processes* by which they are understood or inquired about (Kenter et al., 2016). This is the logic and rationality behind citizens assemblies and participatory democracy; that the processes through which collective and social learning can take place may affect the *outcomes* that groups of people come to decide. This comes as no surprise as Deliberative Ecological Economics has drawn from varying schools of

thought within deliberative democracy to specifically think about how the *design* of valuation processes themselves can influence and affect evaluative outcomes (Orchard-Webb et al., 2016 Jobstvogt et al. 2016, Orchard-Webb, Kenter et al. 2016). However the values and valuation literature goes further than this and, owing to the embrace for complexity and plurality in concepts and methodologies that are used, there are plural rationalities that are advocated for different contexts where valuation methods may be considered (Raymond et al., 2014). While grounded in competing economic theories around social choice (Jacobs, 1997), this literature has aimed to demonstrate that aggregations of preferences through market-based methods do not always reflect the values of ‘goods and services’ to society, even if we are to accept such commodifying terminology. Instead this focus on the processes through which values are formed in the practice of economic and policy decision-making has attempted to unsettle economic assumptions – assumptions about what matters to people and to society. In this way social values is an attempt to democratise economic valuation methods and decision-making by challenging the assumption that people’s preferences can simply be aggregated and calculated. This is the first way in which social values can address the core sustainable transitions questions that are posed at the nexus.

2.2.1.2. Descriptive versus normative tension of social values and role of researchers

This concern seems to lie at the heart of social values research with researchers variously split between two camps. One camp concerned with being transparent about efforts to change or guide social values towards sustainable outcomes. The other camp being focused on the process of value elicitation itself and staying neutral so as to simply describe and represent these values in decision-making.

This distinction can be traced back to debates on the role of social values in achieving the goals and outcomes of nature conservation. (Manfredo et al., 2017a; Ives and Fischer, 2017; Manfredo et al., 2017b) Here Manfredo et al. (2017a) whilst recognising the importance of shifts in social values, claim that researchers cannot change social values for the sake of pre-defined conservation outcomes, owing to the way in which values are so deeply embedded in social, cultural and political institutions. Instead the authors argue that changes ought to focus on what can be done within these social, political structures themselves (Manfredo et al., 2017a). In response, Ives and Fischer (2017) draw upon Meadows (1999) well-cited leverages for systems change which differentiates between shallow leverage points and deep leverage points. Shallow leverage points refer to tinkering around *within* the system in order to achieve change; examples here in the context of sustainability range from carbon taxes or trading to biodiversity offsetting measures. Deep leverage points refer to underlying shifts in the goals and aims being pursued within these systems. Ives and Fischer (2017) include social values in this latter category, suggesting that they must be changed if we are to achieve the systemic change that is needed, whilst also highlighting the evidence that focusing on the processes themselves in which values are elicited can indeed highlight the potential for change in short periods of time, a point that Manfredo et al. (2017b) rule out from being possible.

Stålhammar (2021) has recently re-stated this tension through with a broader concern regarding the lack of clarity around the link between social values and sustainability transformations. Stålhammar and Thorén (2019b) point out this concern with the relational values literature too regarding uncertainty about how relational values links to other value concepts in ethical theory. In both cases there is often ambiguity regarding the descriptive or normative stance with which researchers take in their orientations towards values but also in the understanding of values in decision-making. This ambiguity is a huge concern for social values researchers especially when you consider the increasing prominence of researchers who link values to conceptual frameworks such as cultural ecosystem services yet the link to decision-making is rarely made explicit or more often ignored entirely, which can lead to studies lacking any kind of political intervention or impact (Gould et al., 2019a).

While this may simply be a lack of interest in the integration of values into decision-making, I would argue it stems from the supposed assumption toward neutrality that Eckersley (2019) points out is a key concern for liberal democrats who aspire to political pluralism. Admittedly, as Stålhammar (2021) points out there has been little attention as to the ways in which social values as a tool can, in practice, achieve such sustainability transformations as outcomes. Horcea-Milcu et al. (2019) attempt to demonstrate how values can be transformative. They describe four perspectives in which social values are considered to be transformative in terms of contributing towards a more sustainable future. These four perspectives are; 1) surfacing implicit values, 2) negotiating values, 3) eliciting values and 4) transforming through values. Horcea-Milcu et al., (2019) state that it is through the last of these perspectives that values are truly capable of transforming socio-ecological systems, while the previous ones align more describing values that are already in existing systems. Though such accounts move on from a reductive descriptive versus normative debate, there remains ambiguity as to how this transforming through values might take place and what that entails. Exploring this ambiguous aspect of social values is crucial if we are to find ways of operationalising social values at this economy-environment-democracy nexus. This is especially the case if, as the aim of this thesis intends, social values are to be applicable in contexts like FRM in facilitating shifts towards frames reflective of living *with* nature (O'Connor and Kenter, 2019).

2.2.2. Research gaps; social values and including nature?

In the introduction I outlined the way in which social values attempt to influence policy and decision-making through relating to valuation frameworks such as Ecosystem Services (ES) and Nature's Contributions to People (NCP). However this relation between social values and valuation frameworks is not of interest simply because of the 'entry point' this may seem to offer into decision-making and policy. Instead I will re-focus here on the link between social values, valuation frameworks and other related value concepts. I will both demonstrate the ways in which social values might claim to represent nature through associations with such frameworks.

Firstly, as section 2.1.2. outlines above, valuation frameworks have attempted to represent the environment in economic decision-making through capturing why it matters, its values, and either account for these through monetary indicators or non-monetary expressions of these values. However as noted and in ways that resemble the tensions in representing nature at the nexus more broadly, the very way in which social values relate to these ‘representations’ fall into the same ethical and ontological criticisms of perpetuating anthropocentrism and a modernist dualism. As I stated in the introduction, this is why I am interested in this thesis to explore the potential of social values in relating to the life framework of values which I developed along with Kenter (2019) precisely to address and accommodate these criticisms. So how might social values relate to this framework?

One of the main advantages of the life framework of values is that it creates a space for three broad types of value that are acknowledged in environmental ethics; instrumental values, intrinsic values and relational values (O'Neill et al., 2008, O'Connor and Kenter, 2019). The significance of the life framework of values is that it broadens the scope or rather the evaluative space in economic decision-making beyond the narrow dominance of instrumental values and valuation methods to include other reasons as to why nature might be considered to matter to people; that is, according to the relations between people and nature, relational values, as well as the ways in which nature matters in and of itself, intrinsic values. Intrinsic values have conventionally posed moral dilemmas in political decision-making depending on the political contexts. Intrinsic values often act as trump cards that might impose legal duties to protect a species or habitat which in the wrong hands can lead to politically ill-motivated actions like the eviction of indigenous peoples (Comberti et al., 2015). As Comberti et al., (2015) illustrate this is due to the ontological dualism that valuation frameworks such as ecosystem services and dichotomies such as instrumental versus intrinsic values adopt; either people are expected to value nature for its uses alone or people are expected not use nature at all (Piccolo, 2017). Coming back to the life framework of values then, these three perspectives are also mapped on to these four frames highlighting how they are not always mutually explicit and that people in practice often value in multiple ways across the four frames mentioned earlier as figure 2 below demonstrates.

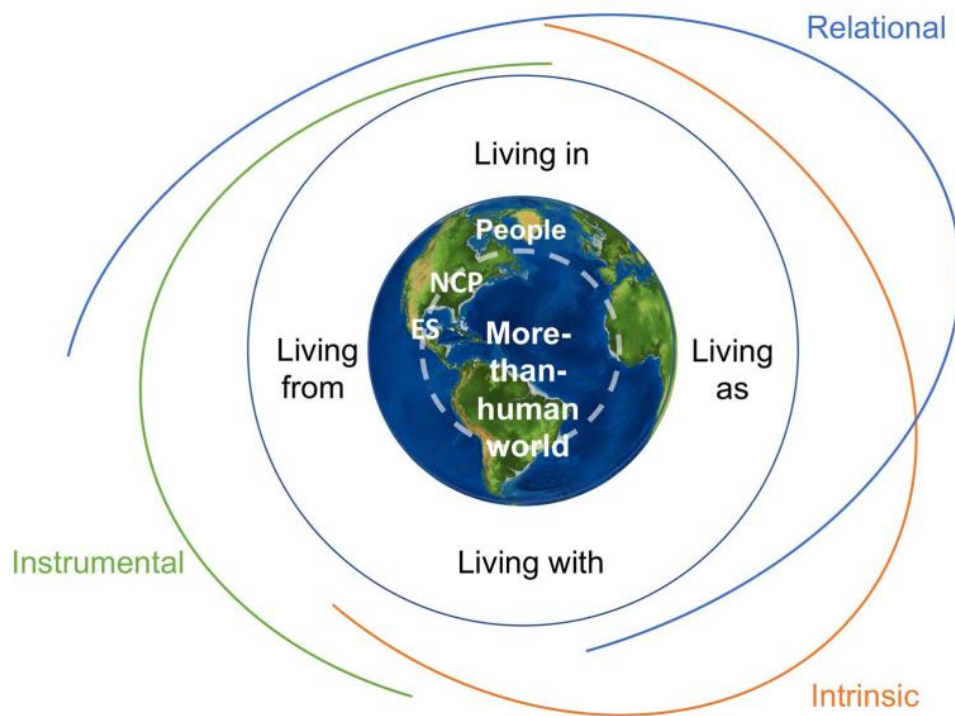


Figure 2 - Life framework of values and correlating value types taken from O'Connor and Kenter (2019)

To work through this dichotomy, I explored what might happen if intrinsic values were understood in one of the three understandings that O'Neill (1992) outlines of intrinsic values. This conception, of intrinsic values as *articulated* intrinsic values, stated that intrinsic values can be understood as 'goodness for' the more-than-human agent without reference to the evaluating agent (this is as opposed to weaker forms of objective intrinsic value that claim goodness for in the *absence* of evaluating agents). What this opened up was the space for participants to articulate these expressions of 'goodness for' of more-than-human participants in ways that centred on a communicative rationality that simply extended the 'peer community' to the more-than-human world (O'Connor and Kenter, 2019). For example, a participant might value an offline pond from a river for its recreational purposes, e.g. fishing, yet they might also articulate how the pond is good for frogs as well; the frog may be seen to be represented at the decision-making table as well as the fisherman. In this way, articulated intrinsic values might better represent the interests, indeed values, of the environment, or the more-than-human world, in decision-making.

However this approach leaves open a range of ethical and ontological questions that expose the underlying dualism that is at the heart of such a 'representational logic'; questions such as how might the participants know or understand what matters to the more-than-human participants and how might these values be represented accurately without being changed according to human perspectives or understandings – this is the charge of anthropomorphism. Haraway (1992) suggests a distinction between the more paternalistic articulating *for* the more-than-human world, as opposed to a more relational sense

of articulating *with* the more-than-human world (Giraud, 2019). If people are expected to represent the values of more-than-human actors articulating what matters for them, then there is in effect a similar level of subjugation through which humans remain in the powerful position of deciding what matters.

Meanwhile the introduction of relational values from the field of environmental ethics and philosophy into environmental valuation was also suggested as a means to break out of this dualistic bind and offer a 'third way' (Himes and Muraca, 2018). One of the key trends that has been emerging since the beginning of the century has been something of a 'relational turn' in ecological economics and sustainability science more broadly (Saxena et al., 2018 Haider et al. 2020). This relational turn in ecological economics has largely been characterised by the operationalising of relational values as an alternative approach to practicing environmental valuation (Chan et al., 2018). What this relational turn crucially offers is a move beyond the necessity to represent the environment as if it exists apart from people. Instead the focus turns towards understanding how the environment comes to matters *through* people's relations, in ways that might move beyond representational ways of knowing (Carolan, 2013). While relational values have been drawn upon in the social values discourse as similar but distinct value concepts, for example by Gould et al., (2019), the 'relational turn' in sustainability science more broadly has not been reconciled with the practices and methods in understanding social values which has to date remained based within more empirical side of social sciences that posits a dualist ontology. This move towards a relational ontology in sustainability science indicates towards researching social values in ways that move beyond considering the environment as 'out there' as though to represent nature as a fixed and stable entity and towards understanding human nature-relations as co-constitutive and dynamic. However this poses something of a paradigm shift within social values research and methodologies which are so rooted in a dualist ontology, as the debate between West et al. (2020) and Raymond et al. (2021) highlights. Exploring how social values could make such a paradigm shift to a more relational ontology is the key area that needs to be addressed if they are to be capable of addressing this second tension of better including nature in decision-making.

Indeed in this transition beyond a dualist ontology, the very idea of representing both the 'environment' and the 'social' as distinct categories in social values research becomes a particularly challenging question. In the same way that ecological democracy has turned to draw upon new materialist approaches that attempt to unsettle the separation of nature and people, what if social values looked to draw upon such theories to move beyond such a dualism too? If more-than-human relations are now considered to shape, as well as be shaped by, human society then ought we not open up considerations of the social to include the more-than-human? In so doing, might social values open up a possible approach to including the environment in decision-making beyond the paternalistic forms of representation. Focusing on such a question of what constitutes the social in social values responds directly back to the process versus outcome bind as well. If the process helps shape the 'social' of social values, then ought the more-than-human be a part of that process in the first place? If so, then might the concerns around ignoring

sustainable outcomes dissipate? These are all speculative inquiries that the remainder of this thesis will look to explore.

So to summarise here then before moving on to the methodological approach of this thesis, I have attempted in this chapter to situate social values at the economy-environment-democracy nexus. I have adapted and extended this nexus from Pickering et al., (2019) and Eckersley (2019) whose work outlines the key tensions that characterise the range of political, ontological and ethical responses at this nexus. While these tensions are not an exhaustive list, I have focused in this chapter on two key tensions; 1) between that of the attention to *process* in democratic thinking versus the goal-oriented attention to *outcomes* in sustainability research and 2) the various ways in which the environment is considered to be included or represented in decision-making. I have looked to situate social values at this economy-environment-democracy nexus by way of demonstrating the potential for social values to intervene precisely at these intersections. However, more work needs to be done. This work must focus both on the question of how the attention to processes within formation of social values can be better linked with sustainable transitions as well as how social values might consider ways of including nature in both its theories and methodologies.

2.3. Researching messiness of social, values and water

While I have set out the theoretical context and aims for exploring social values in this thesis, I will now turn to the more methodological questions of how I will go about exploring and later practicing this potential of social values in FRM. Drawing on the previous sections then, in particular the final speculative inquiries, this methodological interest might be guided by responding to the core lines of inquiry that will guide the exploration of social values potential to democratise FRM. These core questions are 1) how might we understand the ‘social’ of social values amidst processes of valuation and decision-making and 2) how might social values, if aiming to facilitate a shift towards human-nature relationships reflective of this ‘living with’ paradigm, articulate considerations of value *with* the more-than-human in more relational manner. These lines of inquiry indicates the need for methods that pay particular attention to how we understand the social as well as how we might be more attentive to the ways in which more-than-human, i.e. water, plays a role and shape this social. This sets up the inquiry ahead not only as an interdisciplinary task, drawing on methods in Science and Technology Studies as well as the environmental humanities more broadly, but also as a potentially complex, messy and open-ended pursuit (Sörlin, 2012, Neimanis et al., 2015, Whatmore, 2006, Braun et al., 2010). This is not least because the concepts of both the ‘social’ and ‘values’ are themselves incredibly illusive.

Like much of the economics discourse and its associated sub-fields such as behavioural economics or institutional economics, ecological economics situates itself in the field of social sciences. As will become

clear in this thesis, to understand the 'social' from a purely scientific perspective can not only oversimplify complicated and messy narratives but in so doing it can miss out on crucial aspects of what we might come to understand as the social. Law (2004) lucidly articulates this idea of the messiness of social science research. Juxtaposed to the ways of knowing related to more stable and predictable realities such as the 'boundaries of nation states', or more appropriately to this context, the increasing amount of rainfall per year, Law (2004, pg. 2) introduces this idea of messiness as reflecting on the broad range of things, or 'textures' that social science methods typically miss out on, coming up with a potentially 'endless' list; 'Pains and pleasures, hopes and horrors, intuitions and apprehensions, losses and redemptions, mundanities and visions, angels and demons, things that slip and slide, or appear and disappear, change shape or don't have much form at all, unpredictabilities, these are just a few of the phenomena that are hardly caught by social science methods. It may be, of course, that they don't belong to social science at all. But perhaps they do, or partly do, or should do.'

Such textures are the kinds of things that escape the attention of more standard scientific research methods and practices which traditionally assume states or realities that are fixed, stable and rigid. I would add values, namely social values, to this list for exactly the kind of 'slipperiness' that Law (Law) describes here. This is a sentiment shared across fields interested in values as Saville and Hoskins (2019) demonstrate in their recent collection of studies looking at how values are 'located' across theoretical and methodological approaches in geography recognising the inherent obscurity in understanding the concept. Similarly Carolan (2013) describes value as a 'wild' concept that does not neatly fit into the realms of 'science or politics', instead describing value as a field from emerging practices, relationships and more-than-representational knowledges.

However limiting our focus for now on the social, we are confronted with the question of what are the ‘social’ phenomena at play in FRM; this could be rephrased, along the lines of Law (2004) above, as asking what might more empirical, scientific methods that look to represent the social be missing out on? As briefly touched on in the introduction, one of the key starting points of this research is the understanding that the technocratic framings of FRM has excluded communities in the past from any meaningful involvement in decision-making (Mehring et al., 2018). Linton (2010) points out that such technocratic practices of FRM can be observed to emerge from a historical narrative that assumed and was based upon a highly abstracted understanding of water. This understanding of water essentially reduces water to an abstract chemical formula, as H²O, separating it from its social and cultural context and the associated meanings that are attached to water in those contexts (Linton and Budds, 2014 Strang

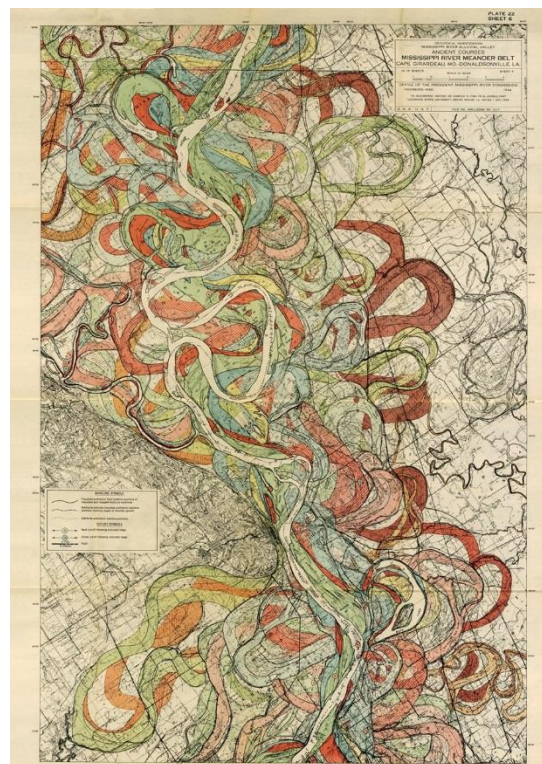


Image 1 - From the US Army Corps of Engineers. Map by Geologist Harold Fisk in the 1940's. It maps layers of the river's different courses from different times, showing how dynamic the Mississippi river is, both its course changing as well as the human settlements around it.

2020). Now having to include the ‘social’ in practices from risk analysis, decision-making and community engagement puts FRM practices in unfamiliar territory, with FRM practitioners at odds when considering ways to integrate questions of the ‘social’ into analyses and research methods (Mehring et al., 2018).

However while this recognition may be understood as only recently taking hold within FRM policy and research, as demonstrated through what Nye et al. (2011) have referred to as the ‘social turn’ in FRM, researchers elsewhere are increasingly highlighting the ways in which people and water have always been connected (Edgeworth, 2011). People and water have historically lived in entangled ways, with urban settlements and cities arising around water and rivers for the multiple values that they can be seen to provide (Everard and Moggridge, 2012). Edgeworth (2011) documents such histories through

archaeological evidence highlighting how both people and water shape each other, continually making and remaking one another. The historical map in image 1) above demonstrates this point in the way the Mississippi river has both moved and been moved in a dynamic relationship with the urban settlements around it. Baldassarre et al. (2013) makes a similar point when highlighting the role of the ‘levee effect’ in understanding human-flood interactions. The levee effect describes the effect that owing to people’s lowered risk perception of living near a flood defence, more development arises behind the flood defences, which though reducing the risk of medium flooding, increases the risk of potentially catastrophic flooding (Baldassare et al., 2013). Put in narrow economic terms, the construction of a flood defence itself, increases the quantity, or amount of assets and economic value invested in the areas behind the flood defence due to the now perceived lower risk of flooding (Baldassare et al., 2013). As a result of such vicious circles, or feedback loops, urbanisation expands upon floodplains in unsustainable ways. The process of urbanisation, or more specifically *concretisation*, in which surfaces are made impenetrable increases the likelihood of future flooding to be more severe (Baldassarre et al., 2013). This almost paradoxical relationship between people’s *perceptions* of lower risk leading to greater actual risk can be seen to have played a key role in the way that people have shaped waterways. Figure 2 below, taken from Baldassare et al., (2013) highlights this relationship between risk perception and the material transformations between more ecologically connected rivers to separated and channelized waterways.

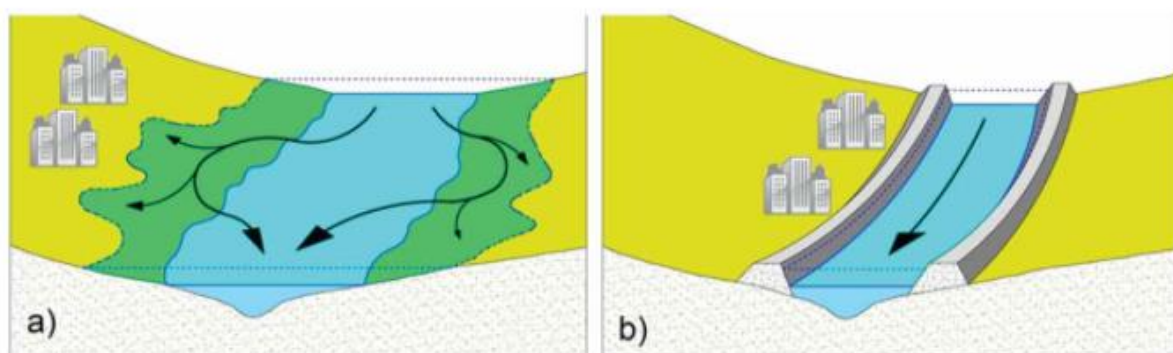


Figure 2 - Taken from Baldassarre et al., (2013); image a) illustrates the approach of adaptation to the floodplain landscape, whereas image b) shows the levee effect of channelising water into concrete banks, encouraging building on the, now protected, floodplains

However this turn to focus on the ‘social’ in water research and management, is not without tensions as set out in a recent discussion by Wesseling et al. (2017). Wesseling et al., (2017) explore the distinctions between the emerging fields of socio-hydrological research and hydro-social research. Socio-hydrological research prefers more quantitative scientific approaches, understanding the social as one component part to be factored into analysis. This is based on a more mechanistic understanding of the world, where predictions about the future can be made to varying degrees of certainty according to how much data we have about the way the world works. This understanding of reality is the basis of more conventional

approaches to FRM today based on modelling, prediction and mitigation. On the other hand hydro-social research is characterised by more qualitative approaches. This field recognises the unpredictability and uncertainty that emerges from differing levels of agency and power between people, water and the systems in which they are embedded. Such an alternative approach serves to not only understand specific people-water relationships but also can open up possibilities for living with water differently. Wesselink et al., (2017) sum up this difficulty of including social aspects in the more quantitative side of water research for its sense of unpredictability or perhaps the *slipperiness* that Law (2004) describes. Wesselink et al., (2017, pg. 4) suggest that ‘fundamental reasons for this difficulty to include ‘society’ in socio-hydrological models are the plurality of human values, differing human agency, and path dependency of societal relations’. This difficulty becomes more of a concern given the new directions in FRM policy that look to integrate and reconnect people and water, moving away from the hard-defence engineering narrative of the past and towards risk management that requires constant engagement and communication with people and communities (Butler and Pidgeon, 2011 Cardona 2013). Of specific relevance to the core themes of this thesis, however, is that the hydro-social research paradigm focuses on the relationships that emerge through the materiality of water; exploring what relations come into being *with* and *through* water. In this way the attention to the social is not simply one of exploring how humans have shaped and managed water historically but also attending to the ways in which water has shaped humans too both socially, culturally and indeed economically. In this way exploring the ‘social’ through methods that align with the hydro-social research paradigm and attend to the materiality of water, leaves open the possibility that water co-constitutes the process of social value formation. That is, water might play a role in the very processes of understanding what matters, or what is at stake in FRM decision-making contexts.

In this way I will adopt an expanded relational ontological lens to this research inquiry whilst retaining a focus on the way in which social values might be operationalised in FRM. Though, as West et al., (2021) indicate, this will undoubtedly pose conceptual and methodological differences with the existing social values discourse, I will attempt to stay close both to this discourse, highlighting where I might speculate away or ‘stray’ from the existing path whilst also staying close to the materiality of water, and of the more-than-human. While I have looked here to clarify my approach with regards to exploring both the ‘social’ and ‘water’, though now it would appear these aren’t separate inquiries, I have not touched on the elusive nature of researching values. As part of the research inquiry I will attempt to follow the way in which values are appealed to, values in the broadest sense, so as to keep the question of the social open yet also to explore what and how values currently play a role in the FRM decision-making. As Gibson-Graham (2008) puts it, understanding values in a neoliberal society is a practice of ‘making visible the invisible’. By making the values visible, I might be in a better place to see how values currently guide decision-making as well as how they might be excluded. This will help me to explore the first line of the inquiry as to understanding how social values might be implemented in FRM.

This section looked to turn towards the methodological questions that follow from setting out the research inquiries of this thesis. Situating social values at the economy-environment-democracy nexus, essentially means asking questions of what *matters*. However this sense of ‘mattering’ must be open ended. It cannot be confined to humans alone as if to exclude attention to the materiality of water, and the more-than-human, from any possible constitutions of the social from the outset. Nor can this understanding of what matters focus on narrow considerations of economic value alone. Looking to understand what matters then in the context of FRM takes a far more expansive understanding of risk assessment and risk management that typically characterises FRM. Whilst stepping back to explore social values asks the question of what is considered risk *worthy* to begin with, a critical approach to social values, takes a step back even further to ask what is considered *social*. Though this may seem an abstract approach that is removed from everyday FRM decisions and practices, I will attempt to remain attentive to these practices throughout, being critical yet also searching for entry points that might offer pathways for change or transitions that FRM is in need of. As the next section will go on to detail, the methodologies I use are ethnographic as I attempt to straddle both understanding what matters, as well as follow values through economic decision-making. Further to this, ethnography offers promising innovations in expanding its ontological lens developing approaches that are learning to become affected by the material world.

2.3.1. Ethnography as a method

Ethnography as an approach to understand economic processes has been gaining traction recently with the field of economic anthropology growing in popularity (Çalışkan and Callon, 2009 Hoskins and Saville 2019). Similarly, more researchers in the field of ecological economics are turning towards the approach either as an analytical tool to highlight the ways in which value is appealed to and used in political systems, as Rival (2010) demonstrates, or as a means to elicit social and cultural values in environmental governance and management contexts. Ethnographic approaches in this kind of context suggest that the methodology can pick up power dynamics, specifically inequalities that may limit the range of values that can be elicited more typically in formal settings such as workshops or public forums (Ishihara 2018). However as the previous section points out, I will also look to employ ethnographic methods in ways that attempt to decentre the human over the research inquiry.

Whilst ethnography is typically taken to mean the study of people and their relations with each other and their material realities through their interactions, theoretical and methodological approaches have developed, largely inspired by indigenous worldviews and scholarship, that challenges this inherent humanism; that of assuming a focus on humans alone can generate a better understanding of reality (Todd, 2016 Madden 2017, Laube, 2021). Such developments have been variously drawn from new materialism, more-than-human thinking in geography and participatory research as well as broad fields such as Science and Technology Studies analytical tools and ethnographic methods such as Actor Network theory, which I will use in the first two case studies, have been developed (Whatmore, 2006

Bastian 2016, Noorani and Brigstocke 2018). What these theories have in common is a shared aim of elevating the sense of agency, or ‘liveliness’ of the more-than-human world that in western thought has historically been ignored or rather suppressed (Bennett, 2004). Instead these approaches focus on the way in which the human is always *coming into being with* the more-than-human. Krause and Strang (2016) explain this way of thinking, pointing towards relationships that emerge *through* the materiality of water. In this way, the ethnographic inquiry here would not simply be a question of what values may be conferred or imposed upon water and the more-than-human as though passively waiting for such interpretation and meaning but instead that we might take as the object of inquiry what values come into being *with* and *through* the material relations between water, people and wider networks of more-than-human relations.

This indicates too the way in which my research practices attempt to be reflexive throughout, looking to open up possible lines of inquiry as opposed to necessarily closing them down, as solutions focused inquires that are more typical in the field of sustainability science can do. This self-reflection, using auto-ethnography through field notes and diary entries span the entirety of the three-year research inquiry and glued the three case studies together. To return to Law (2004) this reflexive practice in turn was motivated by a sense of attention to way in which the methods I would use and apply in each case study site would not just attempt to describe the reality I witness but play a part in making that reality too. Following on from West et al., (2021) synthesis of research approaches and methodologies in sustainability science that have followed from the relational turn, this inquiry adopts the path of ‘working forwards from relations’ (visualised in figure 3) which the authors describe as the intention of researchers to ‘carefully follow, trace and experience empirical relations before slowly building and negotiating concepts. This approach prompts [researchers] to slow down and not ‘fall back on’ taken for granted conceptual schemes before

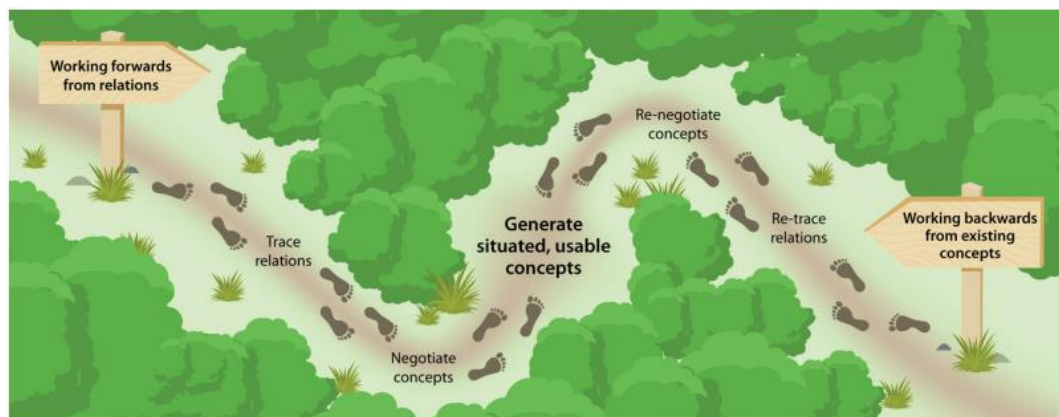


Figure 3 -Taken from West et al., (2021) - Two possible pathways for putting relational thinking to work - Illustration credited to Lokrantz/Azote

we experience the empirical phenomenon’ (West et al. 2021pg. 110). Recognising that researchers always have pre-formed ideas based on discourses, such as that of social values, the authors go on to describe this notion of ‘negotiating concepts’ as tacking back and forth between empirical phenomenon, including the concepts-in-use and academic concepts, all with the intention of generating situated and usable concepts. As a result then, the implications of the methodological approach towards understanding social values differ from suggestions set out by Raymond et al., (2019) where researchers are encouraged to

clarify the theoretical position within social values research before application to the context. While I have aimed to situate social values at the economy-environment-democracy nexus I withhold any a priori assumptions about a particular conception of social values for the explicit aim of exploring what conception of the social is constituted or generated through the research inquiry itself. To begin with then, I will look to navigate and trace social values in an open-ended manner that leaves the possibility for new understandings to emerge whilst reflecting and negotiating with the discourse as outlined above. The first half of the inquiry this ‘tracing’ will be based on Actor Network Theory (ANT) as an analytical tool within ethnographic research methods that allows the researcher to trace the social through following the relations between actors whilst importantly keeping any notions of the social as ‘flat’. This specific methodological approach and its advantages will be introduced in the following chapter.

So to summarise, this section has opened, in an expanded ontological sense, the research inquiries of this thesis. In this way, the inquiry expands from simply ‘what social values might be at play in FRM’ to, ‘what might first be understood as the ‘social’ in these processes of value formation and FRM decision-making’. This expanded inquiry follows from situating social values at the economy-environment-democracy nexus. At this nexus social values shows promise; social values attempts to democratise economic decision-making processes whilst exploring ways of better including more-than-human relations in these processes. However there remain questions around how social values can facilitate shifts in values towards more generative socio-ecological relationships. This question is most pressing in the context of FRM where policy looks affect decision-making towards futures where people can live well with water.

2. Tracing social values in Flood Risk Management

Now I have set out core motivations of situating social values at the economy-environment-democracy nexus as well as explaining the potential of social values at this nexus, I will turn now to explore the potential of social values to be implemented in FRM decision-making specifically. In this chapter, I will do this by focusing on two case studies in the city of York, UK. The aim here was to identify what potential barriers or obstacles could lie in the way of social values as a value concept being implemented to aid FRM decision making. Following on from the discussion of methodological approaches I am taking, I approach this task as an open-ended inquiry so as to begin by tracing the relations as empirical observations and then to later use these observations to re-negotiate concepts. In this way, I begin by keeping the question of what constitutes the social open as well as not holding any prior assumptions about what values might be at play. To do this, I turned to Actor-Network Theory (ANT) as an analytical approach that guided this inquiry. However before going in to these first two case studies it is worth first providing more context as to how these particular case studies came about and why York was of particular interest, I will outline both some early conversations that were drawn from an on-going research inquiry around democratic engagement in urban design led by my supervisor and her research colleague before introducing the context of FRM in York more broadly.

3.1. Living with water differently – early shared conversations

The case studies that follow in this thesis emerged from a pre-existing and ongoing democratic inquiry around the design of York's city centre and particularly the Castle Gateway area which is near the confluence of the river Foss and the river Ouse. Led by my supervisor Helen Graham and research colleague Phil Bixby, a project called My Castle Gateway was established to facilitate democratic engagement to shape the future of York. This project emerged to help facilitate the ongoing and often contentious debates how to both value York's built environment whilst enabling change amidst broader intersecting economic, ecological and social crises. The city's economic revenue largely comes from the tourism industry. However with such economic interest, local economies begin to lose out; cafés and shops are taken over by larger international businesses. Further to this, owing to increasing urbanisation, there are also pressing concerns that are forcing the city to rethink how it is designed; shortage of affordable housing, concentrated traffic congestions around the city centre and of course of main concern to this inquiry, increased future likelihood of flooding owing to the climate crisis. I entered this project then with a particular interest on the question of how York might live with its rivers differently. A broad question which proved ample room to explore the potential of social values as a conceptual tool to help facilitate this task.

Drawing upon these earlier conversations hosted by the MCG project, it became apparent that many residents wanted York as a city to engage with their rivers more and think differently about how the city lives with water. These conversations, often held in the form of workshops filled with post-it notes, proved a useful starting point for me to begin to understand York's past, present and future relationships with its rivers. To explore this, I carried out what could be seen as an early non-monetary valuation project drawing upon existing dataset derived mainly from these post-it notes. I analysed the statements using the qualitative analysis software programme NVivo12. This analysis was largely based on coding statements through searching for correlations with the existing Life Framework of Values so as to build a broad understanding of how people formed their relationships with the rivers as well as to introduce to these groups of participants this framework as a way of thinking about values in FRM. This task proved a useful way to engage with the conversations that had already taken place, whilst reflecting back to these participants what seemed to matter when thinking about future decision-making about the rivers and in relation to future flood events. I wrote this analysis up into a blog post for the MCG and 'Living Well with Water' project website that I set up early on in the research project and here I summarise its findings.

This initial reflective practice highlighted the diversity of social values that could not be reduced simply to 'use value' of the kind that environmental policy and decision-making is based on. Using the Life Framework of Values, this could be seen through the majority of references not being made from the 'living from' frame but rather from the 'living in' and 'living with' perspectives. In particular in regards to the 'living in' category, there were examples of people wanting to celebrate the river either through having riverside festivals or enjoying the local 'arts barge'. 'Festivals' of all kinds were mentioned, including 'dragon boat racing', 'jolly boating', a 'late Victorian flotilla' festival, 'Lumiere' festivals to name a few; all festivals that the city were familiar with but have become less frequent if at all in recent years. There was also a prominent theme of encouraging more 'dwelling' that was both about literal river 'dwellers', I.e. those living on houseboats or mooring their narrowboats, including ideas for a marina (even a floating city) to help foster this sense of a 'river community' but also people who just wanted to slow down, sit and enjoy the atmosphere of the river, such as creating nice greenspaces, riverside cafes and seating areas for people to enjoy the riverbanks. These desires were also indicated alongside a seeming collective memory of a previous time when riverboats weren't so sparse on the Ouse. Similarly, certain recreations and leisurely pursuits in this category would also describe the river as a place people would like to 'dwell' in with hopes to bring back punting as well as encouraging safe swimming spots in the Ouse too. People also frequently mentioned the idea of connecting these spaces to open up opportunities for people to walk and move around the city more easily. These are all examples of people finding the river and its surroundings spaces to be important as a place to live in, though some of these perspectives overlapped with the living with category, such as the emphasis on adapting, and thinking of alternative ways to live with the river.

The 'living with' category, referring mainly to the theme of people's relationships with the more-than-human world, seemed to centre on slightly negative connotations mostly through talk of the aggressive

swans on the Foss and the over-abundance of Canadian geese around the York Castle Museum. However many pointed out opportunities for developing river management to foster a better sense of place for the more-than-human world too. For example, 'history boards' were suggested to describe the wildlife that has inhabited the rivers and castle gateway area in the past and at present. People often pointed to this idea of wanting to know more about the city's interactions with the river in the past too, neatly summed by a creative idea to build a 'Floating/amphibious centre that could be used to tell York's story about the city and water- past, present and future'. There were also several references to linking up the rivers with greenspaces and existing nature reserves and nearly all of the post-its in this section suggested more trees being planted. There was talk of wanting more diverse species in the area; red squirrels, white geese, peacocks and even otters were mentioned. Finally, people suggested ways of creating a better place for species to live through improving water quality with ideas such as removing debris and litter. There was also the odd suggestion of preventing people from urinating in the Foss, a common occurrence it seemed, by having public urinals in place and even putting in things like floating islands or 'ecosystem rafts' which can create habitats for species as well as filter out pollutants in the water over time.

As superficial as this exercise may have been in terms of understanding social values that people held, it was an exercise that demonstrated the vast range of *possibilities* of how the city might live with the rivers in ways that were currently not being considered or listened to in decision-making. This starting point challenged the underlying perception in the discourse that people in general had lost touch with nature, or that the values of rivers and water in cities were absent in some way and needed 'rediscovering' (Everard and Moggridge 2012). Interviews with participants later on in the project confirmed this understanding with one participant sharing memories, almost as folktales, of how children used to swim and play in the river in the city centre, and another participant demonstrating the crucial role the river played as part of his identity, a source of artistic inspiration and mental wellbeing. Contrary to the literature a plurality of values seemed to exist, however what seemed lacking was the kind of governance approach and the space for these values to be elicited, understood and deliberated upon. What this initial analysis exposed was the way in which it seemed to associate management not simply with reducing the risk of flooding, but with a broad range of issues such as water quality, ensuring access to water's edge as well as encouraging more activities to take place on the rivers, with particular attention to the river Foss.

Alongside this initial analysis, I quickly became acquainted with some of the key actors interested in the maintain and enhancing the rivers, such as the River Foss Society, a devoted group of local residents who were committed to ensuring the river Foss' water quality was improved as well as ensuring people celebrated its historical, aesthetic and amenity values in the future. There seemed to be an aversion to simply talking about management of rivers as keeping water out of dry places, but rather there seemed to be an appetite for connection, encounters and proximity with the water. At the time, I referred to this 'appetite' as a collective desire to treat rivers as *veins*, as life giving, not simply as *drains*, channelling water off the land. At the time, this sentiment seemed to strongly resonate with the opinion of the city council's Flood Risk Manager too over the course of several conversations we had early on in the research project.

Purseglove (1988) summarises this theme when commenting on early river management being quite literally based on treating waterways as drains, to get water off agricultural land (Tunstall et al., 2004). Purseglove (1988 pg. 19) states that ‘if most people’s definition of a river as something more than just a drain is valid, then that broad definition must be consciously built into the brief of those who wield this mighty technology of the JCB, the Hymac and the Swamp-dozer’. The question, for me then, became one of thinking through governance and decision-making in ways that such ‘technologies’ are used to serve, or rather, be guided by the plural social values that people hold.

3.2. Flood Risk Management decision-making; material and political structures

Decision-making in FRM is complex owing to the wide range of different material and political structures that can determine how decisions are made (Penning-Rowsell and Becker, 2019, Geaves and Penning-Rowsell, 2016, Donaldson et al., 2013). This may be due to a range of different considerations; types of flooding relating to varying governance structures; management responsibilities for different parts of watercourses; different scales of decision-making depending on scale of flooding impacts as well as FRM strategies (Garvey and Paavola, 2022). This problem is exacerbated by the context outlined in this thesis so far, that of attempting to work with natural processes which may or may not adhere to political boundaries (Garvey and Paavola, 2022, Walker et al., 2011, Bakker, 2012) For example, more nature-based approaches favour more holistic approaches that look at decisions on a catchment wide basis as opposed to particular ‘flood cells’, or private land and watercourse ownership (Garvey and Paavola, 2022). Such structures can be detected across the city of York that will be the basis for the case studies in this thesis, see image 2.

It is worth briefly outlining how such complex material and political structures play out through existing governance approaches to Flood Risk Management are in both the UK as well as in York specifically where FRM is funded is slightly different from the rest of the UK (Council, 2015). After the severe floods in York in 2015, the Environment Agency (EA) in York was allocated £45.2 million to protect up to 2,000 properties by March 2021 (EA, 2016). To access the funds, EA split York up into 19 ‘flood cells’ and each cell had to make an application that evidenced how the proposed intervention would contribute towards this goal of alleviated flood risk for the city (EA, 2016). This funding process for local decisions links with funding decisions on the national level. However there is further complexity for FRM decision-making in the UK as there are 5 main groups responsible for FRM aligning with different types of flooding and associated governance practices. These 5 groups are;

- City Council – responsible for surface water runoff, ordinary watercourses, groundwater, highway drainage.
- The Environment Agency – Responsible for the main rivers and the sea.

- Internal Drainage Boards – concerned primarily with drainage of ordinary watercourses within their defined low-lying areas.
- Yorkshire Water – responsible for flooding from the public sewer network.
- Riparian owners – as the people who own land along the banks of watercourses and therefore responsible for the management of these banks.

Not only are these different parties responsible for different parts of the complex network of waterways and rivers, but they also must cover the many ways in which flooding might occur; pluvial flooding, groundwater flooding or sewer flooding for example (Penning-Roswell, 2019). Typically, this complex character of multiple responsible parties has led to increased calls for ‘multiple stakeholders’ to be involved in decision-making, especially within the paradigm of nature-based flood risk management which requires solutions at a ‘catchment level’ (Garvey and Paavola, 2022). As part of this catchment based, multiple-stakeholder approach to managing floods, there has been a notable concerted effort across the UK to better engage with communities since the Pitt Review (2008) after the 2005 floods as well as the Flood and Water Management Act (2010a). For example, the after this Act, the Department of Environment, Food and Rural Affairs (DEFRA) along with the EA (EA, 2011) produced a report that detailed how to ‘empower communities’ to understand the risks and build resilience. Leaving aside the question of how successful the EA achieve this ‘empowerment’, which may be explored more thoroughly in the following case studies, this community engagement is often forced to work around the constraints imposed by certain riparian-owners holding significant more political sway in these attempts to enact catchment-wide nature-based approaches simply by their ownership of large areas of land through which rivers flow. I will return to how social values might address this obstacle of ownership in section 6.4.1

Despite such policy guidance however, and as recognised in the FRM research literature, community engagement still seems to be ‘going wrong’ (Mehring et al. 2018). This was plain to see in the context of York. Ever since its allocation, the promised £45.2 million has been closely followed and scrutinised at every decision by local residents and community groups in York as the following case

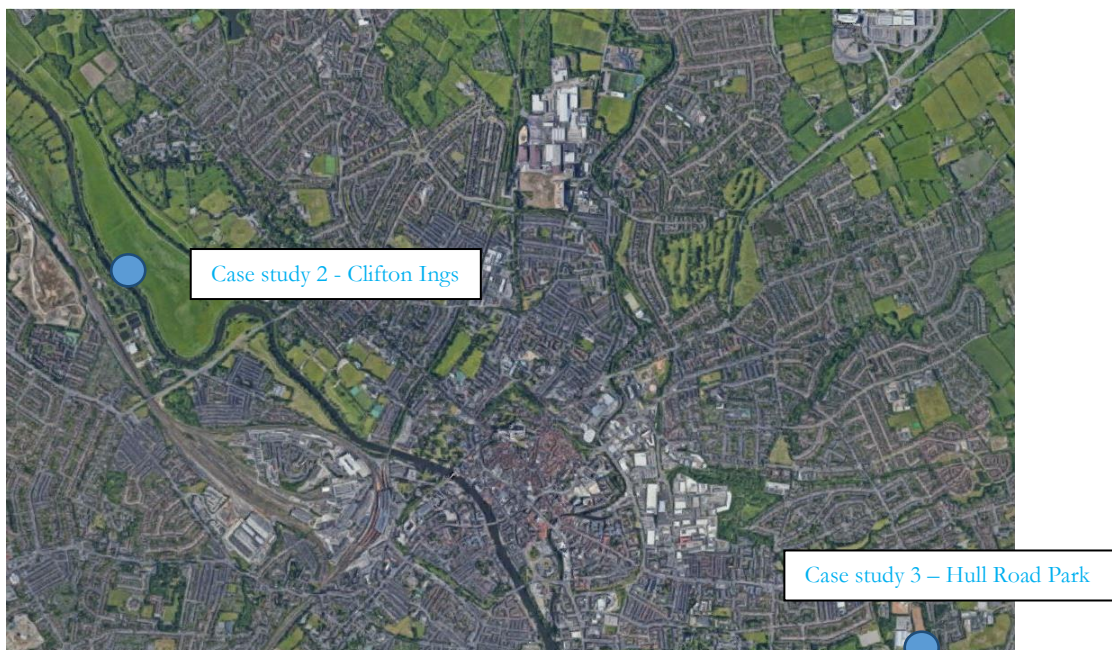


Image 2 - Aerial view of three case study sites across York

studies will demonstrate. This heightened level of scrutiny and distrust largely follows from the way in which communities have been excluded from decision-making in the past. The £45.2 million arrived on the back of a costly technical engineering fault in 2015 at the Foss barrier. This barrier was a large and very expensive engineering project that promised to combat York's flooding through controlling the flows in and out of the Ouse where the Foss and the Ouse joined up (the confluence of the two rivers). By controlling the flows into the Ouse, the aim was to prevent the backlog of water up the Foss during heavy rainfall as well as limit the quantity of water suddenly joining and inundating the Ouse. When the technical engineering fault arose, purportedly due to the barrier control room being based on the ground flood which was flooded itself, the decision was made to lift the barrier resulting in what appeared to some like intentional flooding of residential areas down river. This failure led both to a heightened sense of anger at the EA in making decisions without community involvement but also an increased sense of distrust both in the assumptions that technical engineering approaches would work but also in the way spending decisions were made; the huge 'expense' of this barrier being the main bone of contention.

Donaldson et al., (2013) draws on Science and Technology Studies to talk about the different 'political trajectories' that can be seen to emerge from FRM. One of these trajectories is around the publics that seem to emerge around the issue of flooding, either in preparing for floods, or contesting decision-making that looks to manage risks. This bears resonance with the work of (Seebauer et al., 2019) who talk of Bottom-Up Initiatives (BUI) as a citizen based initiatives that often emerge as actors in FRM, usually out of some form of opposition to existing institutional actors. Recognising the different ways in which material and political structures can constrain decision-making yet also how they can emerge and offer possibilities for making decisions differently will be a key point that I will return to in this thesis in sections 4.1., 5, and 6.4.

As I began the ethnographic research in 2018 then, there remained a high level of tension about how the £45.2 million pot of money was being spent with an added sense of frustration that little impact of the money had actually been seen since this disastrous 2015 event – see aerial image of flooding in Image 3. This sets the scene for the three case studies that were ongoing in parallel during this research project. I will now briefly outline more specifically the methodological approach I adopted for the first two case studies.



Image 2 - York flooding in 2015 after Foss Barrier faulted - Aerial image showing Castle Gateway area, Terry Avenue and Foss Barrier - Taken from EA website - <https://consult.environment-agency.gov.uk/yorkshire/yorkfas/>

3.3. Methodology: Actor Network Theory

Actor-Network Theory (ANT) as I will briefly outline here, sits well with the aims of the research inquiries that were set up in the previous chapter around how we might understand the ‘social’ of social values amidst processes of valuation and decision-making as well as exploring ways of considering valuing *with* the more-than-human in a more relational manner. ANT is a methodology that is based within a relational ontology and looks to unsettle pre-established boundaries such as those between nature and society. ANT proposes that researchers view agency as a distributed phenomenon between humans and more-than-humans who act on each other as part of an actor-network (Latour, 2005). In using ANT then, researchers implement what’s referred to as a ‘flat ontology’ as a way to understand what might be considered the ‘social’ (Latour, 2005). According to Latour (2005), one of the main theorists from whom ANT emerges as a methodological approach, the ‘social’ can only be understood by both tracing the associations between actors, human and more-than-human, and following these associations when they are in motion; ‘no science of the social can even begin if the question of who and what participates in action is not first opened-up, even though it might mean letting elements enter, that, for lack of a better term, we call nonhumans (Latour, 2004a)’. This approach insists that the researcher must show vigilance

and care in following the specific associations between actors and never abstracting ‘out’ or away from the specific context or ‘up’ so as to make generalising claims of representing the truth. In this way the aim is to ‘stay flat’ (Latour, 2005). To describe this, I will briefly introduce key ANT ideas around ‘moments of translation’ and ‘black boxing’ certain associations away as the key processes through which actor-networks are described to emerge (Callon and Latour 1981, Callon 2007). I will also outline what Latour means by distinguishing between ‘matters of fact’ and ‘matters of concern’ (Latour, 2004b).

Firstly, by moments of translation, Callon (2007) outlines four moments where this happens; i) in the *problematizing* of the study, where the nature of the problem is defined and in so doing makes the very people who do the defining indispensable to the study; ii) *interessement*, where the researchers reinforce the problem of the study by trying to ensure actors play their part in relation to the focus of concern; iii) *enrolment*, where researchers look to define the actors roles they had previously conveyed upon them and lastly iv) *mobilisation* where researchers look to make sure the actors involved were representative, and not betrayed, by others (Callon, 2007). Researchers are constantly involved in this process of translating and as a result of this process, the researcher also becomes an actor in the network and is explicitly involved in the process of knowledge production. In being involved in these processes of translating, researchers must become aware and reflective of the way in which their own roles as actors in the research inquiry might play a part in framing problems a process which sets the boundaries of inclusions and exclusion.

The notion of blackboxing is also helpful here in stating ANT as a guide especially when considering the power of different actors, including values, over others. Latour (2005 pg. 261) states the purpose of understanding actor networks is ‘simply to highlight the stabilizing mechanisms so that the premature transformation of matters of concern into matters of fact is counteracted’. This relates to an earlier article of Callon and Latour (1981) where they describe how focusing on micro-workings of power between individual associations, can show how actor networks can become macro structures of power simply through reinforced relations that are ‘black-boxed away’ so as to remain unchallenged and function as a way of enabling, or enrolling other associations or relations to act accordingly. A ‘black-box’ according to Callon and Latour (1981, pg. 285) ‘contains that which no longer needs to be reconsidered, those things whose contents have become a matter of indifference. The more elements one can place in black boxes - modes of thoughts, habits, forces and objects - the broader the construction one can raise’. While this explains the power of actor-networks, it does not intend to explain the scale of actor-networks; Latour (2005, pg. 185) points out, ‘if there is one thing you cannot do in the actor’s stead it is to decide where they stand on a scale going from small to big, because at every turn of their many attempts at justifying their behaviour they may suddenly mobilize the whole of humanity, France, Capitalism and reason while, a minute later, they might settle for a local compromise’. These are the guidelines that can help a researcher to keep the social flat, whilst enabling, through such a lens, the possibility of seeing how other actors become powerful through their associations.

The analysis of the two sites was based upon a mixed dataset compiled of field notes during participant observation in council meetings, recorded council hearings, council briefings from online resources and notes in community group meetings. I carried out 16 open ended interviews which were subsequently transcribed and analysed using the qualitative analysis software programme NVivo12. I also drew upon my auto-ethnographic field notes that reflected my own experiences of these encounters with the various actors in both case study sites.

3.3.1. ANT and following values as actors

So what will an ANT approach entail in terms of understanding values based on the empirical observations of tracing relations between actors, human and more-than-human? One of the more challenging aspects of ANT follows from its most simple and radical propositions; that of assuming everything is an actor (Winthereik, 2019). In this case, it would seem I must therefore take values, as value concepts, to be actors too in their own ways attempting to make their own networks. However this can at times be slightly tricky to work through in practice as it means widening the scope of your reflective practices as a researcher to be examining both the empirical observations following the actors you encounter whilst also following the actors that you have brought into the 'network' you are examining. As Winthereik (2019 pg. 27) puts it, 'the trouble arises because moving sideways implies laterality in the data-collection that puts concepts and theories on the same plane as those whose practices the concepts are about. This means that the research attends to and participates in both empirical worlds and in the shaping of concepts and theories that are already part of these worlds'. While this may seem challenging it can also be potentially transformative in that it opens up the very possibility that researchers become attentive to ways in which concepts might be used differently or re-negotiated (West et al., 2021). As Winthereik (2019) points out treating concepts 'as companions' mean they are explored as part of networks, as more-than-human actors, in the way in which they attempt to make their own networks. Such a process, Wintherheik (2019, pg. 30) points out, 'could then allow for the concepts that are already present ...to engage in a conversation with the concepts we bring ... Together, they might convince each other of a different becoming'. Through this idea of concepts as companions then I will look to trace value concepts as actors through these networks. This can open up the possibility that social values might become otherwise, a potential that I am looking to explore in this thesis.

Inevitably treating all value concepts as actors in themselves leaves another question open, that of how we might treat value of 'capital'. This is in large part because value as 'capital' seems like more of a process in itself rather than an object. Muniesa (2019) focuses on precisely on the question of how ANT relates to a critique of capital stating that ANT views capital not as a thing but as an 'operation of conversion'; something akin to the notions of processes of translation outlined above. In this understanding then, capital comes to be seen as 'the process of turning things into assets and considering them in their capacity to generate a return on investment' (Muniesa 2019 pg. 60). In explaining this position of ANT on how to view capital, Muniesa (2019) refers to the way in which Latour acknowledges the influence of

Guattari and Alliez (1984) work on understanding process through which capital exerts power. Guattari and Alliez' (1984, pg. 275) outline how this 'mystery' of capital 'comes from the way it manages to articulate, within one and the same general system of enrolment and equivalence, entities which at first sight would seem radically different: of material and economic goods, of individual and collective human activities, and of technical, industrial and scientific processes.' This hints at how following values as actors in these case studies might occur, recognising the way in which value of capital emerges as a powerful actor according to its system of enrolment. Thus, while value as capital seems to suggest a process rather than a thing in itself, the concept of value as capital remains an actor that I will look to follow, paying explicit attention to the processes of enrolment that it seeks to exert on other actors.

In this way then I follow values as actors and the various networks through which these values might enrol other actors (both value concepts and other human, or more-than-human actors) in establishing their own networks. I will revisit the plural conceptualisations of 'social values' from the discourse only with reflection and critical engagement with the view to re-negotiating these concepts. I will suspend the assumption of the 'social' that constitute these value concepts. Part of the reason for suspending the 'social' from the social values is not only because as Latour (2005) points out this 'social' cannot be understood unless the actors are traced and in motion, but because also because this would commit the fieldwork to a form of 're-articulation rather than revelation' (Winthereik 2019). So the inquiry across the two case studies will attempt to firstly follow value concepts as they emerge, as actors in themselves, including the value of capital, but also to keep open the inquiry in regards to how these value concepts might be enrolled into other networks; that is to keep an eye on the processes of translation that might occur. Yet further still, the aim will be to treat such value concepts as companions, leaving them open to be contested in the chance that they might be re-negotiated, revealing possibilities for concepts to become otherwise.

3.4. Case studies sites 1 and 2

The two initial case study sites came to my attention from various sources; through a number of conversations that took place as described above in the My Castle Gateway project, through immersing myself in local environmental groups such as the River Foss Society, a campaign group that was centred on the restoration and promotion of the river Foss, the main tributary to the Ouse in York and lastly through early meetings with members of York's city council. These two first case studies resemble what Callon (1998) might call 'hot situations' in which everything seems controversial, or rather, as he prefers, 'hybrid forums', through which 'facts and values have become entangled to such an extent that it is no longer possible to distinguish between two successive stages: first, the production and dissemination of information or knowledge, and second, the decision-making process itself'. This aptly describes the two case study sites where following the values became tied up with the contested knowledges at play. As a result in analysing these case studies, I will take care not to attempt to disentangle the facts from the

values prematurely, but instead follow the values themselves to explore how these values act on the formation and production of knowledge in these contexts.

In reporting on these case studies and their analysis, I attempted not to take the two case studies as distinct examples, indeed it was difficult to do so as several actors emerged across multiple sites which became apparent during interviews. Of course the interdependence between these two case studies is itself taken as a given through an ANT methodological approach in which it would be impossible to decipher the two case studies as discrete actor-networks or assemblages. Instead the analysis then will build upon this layering of the two case studies, though both an open-ended stance of attempting to trace the social as well as the value concepts that are variously appealed to.

3.4.1. Site 1: Terry Avenue, Clementhorpe

This first site was rapidly gaining public attention when I started the research inquiry. Terry Avenue is the name of a road that runs alongside the river Ouse near the centre of York in an area, or as the EA would refer to it, a ‘flood cell’, called Clementhorpe (EA, 2019). The EA identified that there might be a need to install a new flood defence wall along this road so as to protect the residents in Clementhorpe from



Image 4- Aerial view of Terry Avenue and surroundings in York

future risks of flooding. The controversy began to emerge however when the EA were in the early stages of ‘optioneering’ as one EA project manager referred to it. The decision was made that as part of the works Terry Avenue would have to be closed off for a period of 18 months. This proposed closure of Terry Avenue generated publics of interest who were outraged at the decision and the need to close the road for so long. These groups, as well as residents of Clementhorpe, largely consisted of cyclists and pedestrians who used the road as part of their daily routines in and out of the city centre; the road, it became evident, was a hugely popular commuting route. The decision-making process then as I began to trace the relations between certain actors was already underway. It seemed the problem had already been framed by certain actors working for the EA with groups and individuals in the community already problematized, interested and enrolled in their respective associations to the matter of concern. However it was with this context that I began

to attempt to trace the associations between the actors, by way of beginning to piece together an

understanding of the social that was being mobilised here as well as to explore how values were playing a part in this process.

3.4.1.1. *Value of capital*

The first value actor emerged early on from conversations with the EA project manager for the site as well as one actor who was a former councillor for Clementhorpe. In initial conversations with the EA project lead, the process of calculating cost-benefits was identified as a key process at the heart of project management and decision-making,

'So I suppose at the heart of everything we do is cost benefit analysis. So again, the fundamental it's public money and there must be a demonstration of value for money in how we go about things. And the Treasury golden rule that we work with is that it's got to have a benefit cost ratio greater than one. So that is a golden rule.' (Participant#9)

This sentiment regarding the ability of cost-benefit analysis to 'demonstrate value for money' echoed with an early informal conversation with the York council Flood Risk Manager. Indeed it is at the core of the city's Flood risk strategy which, in relation to the key themes of this research, acknowledge both environmental limits alongside economic restrictions by way of reducing the parameters for possible decisions,

'There is an increased risk of flooding due to climate change, together with ever increasing financial pressures. This means that schemes and funding need to be looked at very critically, and different ways of working need to be investigated to maximise opportunities and value for money.' (Council, 2015 pg. 11)

The way in which this 'value for money' idea was problematized was most notable in discussions with the EA project manager who, in often referencing the EA's (2010b) appraisal manual, pointed out that considerations of value were calculated through highly technical Cost-Benefit Analysis (CBA) based on value of 'capital' that might be at risk. Here there were unchallenged associations between the EA project manager, capital asset value and the CBA spreadsheet which were black boxed away so as to make their associations more powerful. These black boxed associations between these actors were themselves enabled by further associations between actors such as the Green Book, as the UK's project and evaluation guide, which places emphasis on evidencing decisions through CBA. However these black boxed associations were 'leaky' in that the CBAs were rarely made accessible for communities to see and understand. The CBA spreadsheet was enrolled as 'objective' or apolitical scientific evidence, yet all the while it remained an obscure object that was talked about yet remained hidden from view; at one stage in the inquiry I asked if I could see the CBA for Terry Avenue yet I was told I was not able to as it was

hidden from public view owing to ‘supplier-sensitive’ information on pricings (Participant #9). This obscurity around the CBA’s was a recurring theme in the case study too. While the CBA itself was associated with the value of capital, I couldn’t help but contrast the theoretical economics claims that the value of capital served as an efficient organiser of material relations, maximising the efficient allocation of resources across society, with the repeated attempts by community members to contest the costings across York on this very basis. While the Foss Barrier had already whipped up a lot of resentment for its expensive design and construction despite failure, this proposed defence scheme was going to cost an estimated £9 million, which was a significant chunk of the city’s allocated budget. There were suspicions that the EA had to use up this money before the funding cycle ended so that they could demonstrate once again the ‘value for money’ they had received. This appeal to CBAs as a tool to demonstrate ‘value for money’ became the central way in which EA actors sought to problematize each case study and the decision-making processes throughout them. Actors then were limited to only be able to contest these actor-networks through attempts to betray these mobilisations. The costings of the flood defence barrier at Terry Avenue was repeatedly called into question with one participant for example referring to the defence barrier option as being a ‘Rolls Royce option when a ‘Morris Minor would do’ (Participant#8). This excessive costing was also pointed out alongside the supposed fact that the defence only had an estimated lifespan of 10 years. Alternative approaches were queried by the public such as a much cheaper and previously used de-surmountable temporary barrier which can be quickly erected in anticipation of heavy rainfall.

As I aimed to follow the values as actors to reveal the ways in which they were variously enrolled or excluded from these valuations, it became apparent that there were a range of other associations, other relations between people and water that mattered in these contexts yet these values were either enrolled into other networks or excluded entirely.

3.4.1.2. *Values of safety*

Whilst immediately encountering the power of the value of capital, two themes emerged in my analysis. The first was that of the black boxed associations that capital value had managed to store away; habits and practices that assumed capital value generated *return on investment*, mobilised through the obscure CBA. This has been outlined above, including how it was variously contested on its own terms several stages, highlighting the how these black boxed associations were ‘leaky’. The second was that the value of capital became powerful through increasing the size of its network by enrolling other value actors into its network. I will now turn my attention to this second theme which firstly revealed the way in which the value of health, as inclusive of safety of people, was enrolled into the network of capital value.

This theme first presented itself when asking about the very practice of ensuring a hard engineered flood defence would be put in place here. I referred specifically to the other actors, as policy guides and documents from the EA and the government who talked of moving away from hard-engineering

approaches and towards more-nature-based solutions and softer engineering approaches. This was acknowledged as the long-term approach for the EA and definitely the direction they were heading in as 'we can't keep building walls higher and higher'. However, this was not considered a viable option here at Terry Avenue for reasons that it was such an urbanised and heavily residential area. It was firmly asserted that little else could be done to protect these residents other than installing a hard barrier. This idea that the EA were protecting lives then became almost synonymous elsewhere with the phrase protecting capital. For instance when the project manager as well as the community engagement officer for the EA problematizing the valuation processes in FRM to be one of meeting the CBA criteria, the main data inputted on the benefits side of the equation was that of the value of 'capital' that might be at risk. This capital at risk ranged from 'properties' and 'businesses' to 'pre-existing flood defence assets' (Participant#9). The specific inclusion of 'properties' as assets protected revealed a particular black-boxed association between domestic buildings and the safety of people's lives; it was as though property value had come to stand in for the value of safety, as a proxy.

It is of course easy to see how this association is so powerful. Houses house people (leaving aside the increasing phenomenon of empty second homes of course, particularly in affluent areas); the assumption therefore is the more houses protected, the more people protected. This logic sits well with the ethical philosophy of utilitarianism, which in turn is the ethical framework that CBA valuations are based on. Furthermore, houses not only provide basic shelter and accommodation for people but also are where people create spaces that are most valuable to them, mini-actor networks, if you will, between people and their most treasured possessions, experiences and memories (Rawluk et al., 2017). When the gravity of flooding events is reported in the news or shared in first-hand accounts of the traumatic experiences of being flooded, it is the feeling of loss and devastation wreaked upon people's homes that is often indicated and explained (Cologna et al., 2017). The recognition of such core values to individuals, as a sense of what matters during such disasters is the main point of inquiry for Rawluk et al., (2017) when analysing the values at risk in bushfires in Australia. As these authors point out the plural values considered at risk in disasters can range from personal objects and items, individual's houses to broader values that relate to the landscape, local environment and the more experiential values associated to place. What these authors effectively demonstrate is that there are plural values at risk in disaster management, inclusive of but also beyond the property and that incorporating these values at risk into management and planning can lead to better preparedness and longer-term decision-making.

It became clear that this powerful coupling between the value of safety and that of the value of domestic properties, as a capital bearing asset, was rarely contested by FRM practitioners. However on occasions certain community members would recognise that protecting people and protecting properties were not one and the same. One participant mentioned the approach to making properties resilient to flooding rather than resistant,

But if there are ways that buildings could be designed in ways that they can be flooded without too much trouble. And there's this pub just in the middle of York just downstream of the King's Arms, which is always flooded, it doesn't take much for it to flood at all. The ground floor has been built so that when the water comes in, the pub has to close, but when the water goes down, they just hose it all way and they're open... Of course when it's your own house it's not so easy to do. Course when I rebuilt my daughter's house in 2016, we made it resilient, we took out the wooden floorboards we put in a concrete slab all the way across so that if it ever does flood again, which is unlikely, because we got a waterproof door and flood panels at the back so it is unlikely to flood again, but if it did, with a concrete floor, it'll be easy to clean it up because there's no carpet.' (Participant #6)

The participant here referred to a pub called the 'King's Arms' which had gained a lot of publicity, shown to be nearly completely submerged in water, yet quick to open its doors again with flood levels drawn on the inside of the pub attract visitors to take photos. This approach of focusing on the resilience of properties is not alien to the EA, in fact it is one of their core strategies (EA, 2016). One resident in Clementhorpe drew upon the very fact that their properties were being given money for property resilience measures to highlight how the defence barrier downstream was likely to increase the flood risk to their property,

'They've offered people around here who have previously flooded seven and a half 1000 pounds in resilience measures when this new barrier goes up, so they clearly know there's going to be a greater risk, because otherwise, why are they not giving a seven and a half 1000 pounds anyway, for flood resilience measures' (Participant #1)

It was in these moments of contested approaches to FRM practices that the coupling of protecting people and protecting properties was also shown to be 'leaky'. For this resident, this revelation was not directed with the aim of unsettling the powerful associations between people and properties but instead at highlighting how the EA were treating members of the community differently. Indeed there did seem to be an inconsistency in how different part of the community were met with different FRM approaches. Budget allocation in FRM has often been shown to be based on weak notions of justice (Thaler and Hartmann, 2016). Owing to the centrality of CBA as the main valuation tool (in the Green Book), budgets are often allocated towards urban areas with greater 'returns on investment', that is, greater benefits in risk reduction. When these benefits are measured through the now-reduced risk to property values, as capital, indicated by monetary values, we can see how more affluent areas will likely receive greater budgets for flood alleviation schemes. This approach to FRM is recognised to be the case on a national scale both in the FRM discourse as well as in one of my interviews with the city of York councillor. However upon asking if this was the case in York too, it was denied,

Participant#6: *If you want to do Flood alleviation scheme in Maidenhead you'll get an awful lot more money for it than you will in Hull. And that's how the green book works. And I know that's being challenged, but you work with what you've currently got. And then you try and change the some of the daft rules around it as you're going along.*

Me: *Do you notice that happening within York?*

Participant#6: *It's national scale, it's not within York no. Because if you have a look, we are doing everything down the river, as well as can possibly be managed. You know it doesn't matter whether you've got a one bedroom ground floor flat or you are owning a six bedroom villa house, you are getting the same treatment from the EA and from the council.'* (Participant #6)

However, if, as the EA project manager for the Terry Avenue scheme earlier indicated, schemes are assessed on a project by project basis according to how a scheme is going to ensure 'value for money' then it seems that the property values do indeed play a key role in this process. Referring back to the participant who felt parts of the community were being treated differently, the resident pointed out how their community had been treated differently,

'what it has laid bare has this whole process is the inequity within the ward, what you've got in Clementhorpe is a younger population, a more affluent population, what you've got in South Bank is a much older population, people who've lived here all their lives, who don't have what I see as the political clout that the people further down the river do, there are management companies down there for the flats, there's the caravan park, which has huge influence. And this is all really come to light.' (participant #1)

The participant went on to say that what hurt them the most from the process was the,

'invisibility of part of a community, a community that lives on the river and lives with the river and lives by the river just as much as they do in Clementhorpe, but yet somehow doesn't have equal access, even if you're thinking simply in terms of protection from flooding...' (participant #1)

There was a feeling of vulnerability identified by this resident both for her own safety and for those on her street. Here the value of safety surfaced again, with the question of why the most vulnerable weren't prioritised in decision-making processes. This particular concern seemed to expose the black boxed associations between property value as a proxy for people's safety the most clearly, as the concern around the safety of people tapped into the core aims and functions of the EA and their responsibilities in FRM to protect people. However as the Terry Avenue decision-making process indicated, the safety of people was not necessarily driving the decision-making process on the part of the EA after all.

The main concern of the cycling group who opposed the closure of Terry Avenue too, York Cycling Campaign (YCC) was not that there was going to be a flood defence installed, as the EA had attempted to claim in their efforts to mobilise this group in the process, but rather that the concerns of cyclists around *safety* were being excluded from the decision-making – image 5 is of the YCC group attempting to raise awareness of the decision-making. This appeal to safety largely centred on the fact that this route into the city centre was the quietest and off road for most of the way, with the cycle path largely following the river upstream. This path being closed meant a long detour for cyclists onto busy roads, potentially putting people off cycling as well as deterring potential new cyclists; a possible outcome that, it was pointed out, would fly in the face of the city's plan to promote active travel as well as reduce transport emissions. However the concern of safety, first raised by YCC, was also contested by the EA, again

attempting to enrol the value of safety into their network; the EA later denied the possibility of the bike path remaining open at Terry Avenue on behalf of the safety of the cyclists themselves being near the heavy construction works.

As a result it was decided that the planned changes would re-route cyclists to Butcher Terrace, a small one-way road that would now be forced to host construction vehicles for the engineering works. This was where the resident I spoke to felt there was unequal treatment, with residents on this road supposedly not seeing any benefits from defences that might reduce risk of flooding, but an increase in property resilience measures instead which was felt by some to be a sign of increase risk. Further to this they were now being subjected to an increase in traffic congestion and road pollution.

Suspicions were aired as to why this street, Butcher Terrace, in particular was being used for this purpose as opposed to the array of alternatives. These alternatives, it was pointed out, ranged from using the back of the neighbouring caravan park, carrying materials on barges over the river, or even questions around why the council hadn't coordinated this construction with the recent controversial development of the new hotel Roomzzz that was at the end of Terry Avenue. This hotel, built on an identified flood zone 3a) area, had to pass both a 'sequential' and 'exception' test to demonstrate its viability as a development project on a flood risk zone, according to the National Policy and Planning Framework (NPPF) (Committee, 2016). As part of its planning application, which was approved in 2016, the EA noted that for the council to proceed with the hotel's planning application it would need to 'deviate from its current policy guidance' (this being the city of York's Strategic Flood Risk Assessment) which would only permit any development on this flood risk zone level that is considered 'less vulnerable', whereas the hotel would be consider 'more vulnerable'. As part of this planning application the scheme received 75 comments; 74 were in objection and only 1 was in support. That this development was approved by the council caused further dismay to the local community.

In returning to the proposed re-route, which eventually became the final decision, the cyclists were now being diverted toward Butcher terrace the street where the concern around safety of this group YCC became associated with the residents concerned on this road too, becoming a more powerful actor. Here a Traffic management plan was conducted, and after the group made a Freedom of Information (FoI) request, not the first time such a request was made in this scheme, it was clear to see that the council shared concerns about the measures in place to ensure the protection of cyclists and pedestrians.

When these concerns were vocalised both by YCC and in local



Image 5 - YCC attempted to establish more associations with the wider community to object and contest the decision-making at Terry Avenue (River Ouse is just out of site to the left) Image taken from - <https://yorkmix.com/terry-avenue-will-close-for-a-year-to-allow-flood-works-to-be-built-despite-150-objections/>

media with the number of criticisms increasing, perhaps owing to the increasing size of the network of associations between residents and YCC group, the EA representative at the time responded with the bottom line that the EA's primary responsibility 'was to protect homes from flooding' (Yorkmix, 2019). It felt as the value of safety was an actor pulling on and being pulled between other actors. Yet again the resurfaced black boxed association between protecting homes as the only way to protect people emerged again. This is why this association was particular concerning for me as a researcher interested in ways the decision-making could be made more democratic. The point here has not been to question the centrality of the concern around people's safety in FRM. Instead, it is to highlight how, owing to an ANT lens, the powerful 'hold' property values has on FRM decision-making is its black boxed associations with the value of safety. Through black boxing, property values had become a value indicator, for people's safety. I attempted to treat this as a matter of concern, as opposed to the way in which FRM practitioners had prematurely stabilised this association into a matter of fact. It seemed the value of safety was enrolled, interested and then mobilised according to the value of property, which in itself was enrolled in network of capital value.

This was troubling because it seemed that it was precisely this association that prevented FRM practitioners from thinking differently. This could be seen in the defensiveness of the EA when considering how to engage with people, with attitudes ranging from 'we are acting in their best interest' leading to the sense of technical expertise that characterises FRM. For example, this could be seen to be enacted in core practices,

'At the end of the day, you know, we have to be open and honest, which I think we are, always say our remit is just to protect people's properties and to save lives. There are consequences of how we sometimes go about doing that. And we'll be open with you. But we can't always meet your concerns.' (Participant #9)

This kind of statement summarises the narrow remit that EA staff, as FRM practitioners, identified for themselves, and there seemed very little room for movement or possibilities for making decisions differently. This concern was shared elsewhere by the Community Engagement lead for the EA, who, whilst feeling personally that engagement should, in an ideal world, happen much earlier, went on to describe an experience in which they were a community resident on the receiving end of a survey to understand community perspectives;

'I think it was maybe about 20 different options on the table. If we could build a flood storage here at this area, we could put in walls here and we could take a different approach here and tell us what you prefer. For each one of those sort of possibilities, there were questions about, well, if we're gonna build a wall, would you accept a wall that's two meters high or three meters high or five meters? But as I was doing this consultation online, I was thinking, well, actually, you know, if a wall two metres high doesn't actually deliver the flood benefits that you need, then what's the point in asking that question? I might say that I would like a wall two metres high, but it's a bit pointless, you know. So they I think my feeling was from taking part in that exercise as a member of the community in Sheffield, that it's very hard for people without the technical

knowledge to comment on lots and lots of different options. When you don't have all the sort of information, the basics, you need more information.' (Participant #2)

This experience made the participant question the purpose of engagement when in practice there's little scope of meaningful involvement. This was a concern shared by a colleague too,

'our general principle is to engage through the process with them. And this is something we often get into a debate about. Is it consultation or is it engagement? And we have to be quite clear about what we're engaging on. What is open for true input from them? Consultation or just that information giving. And that's sometimes quite hard. And whilst we try to be open and transparent, we are often not really genuine in consulting. There are times when we are. But you can only real consult if you're genuine, genuine asking the right person for that opinion. And you genuinely will take them [their opinions] on board and potentially act on them.' (Participant #9)

Later on, when talking to an ecologist for the EA, this perspective around the defensiveness of the EA being linked with this belief that they are only being driven by ensuring the safety of property and therefore people by proxy, was articulated clearly, suggesting that it used to be commonplace for FRM practitioners to share the view that they're 'trying to save the world';

... 'what tends to alienate our people [EA] is being constantly criticised. I mean, a lot of the people we work with at the moment, take it with a degree of good humour. They know what's coming. Very much in the past, people were very much insulted. You know, "we're trying to save the world. We're trying to save people from flooding. The volunteers just keep criticising us, getting in the way of our work".' (Participant #7)

This idea of people and their criticisms or concerns getting in the way of the EA's work, as a set of practices and associations that form FRM re-iterates this emerging theme about the narrow windows that present themselves for meaningful democratic involvement from communities and the public. The perspective of these EA actors isn't that criticisms come from being open to contested knowledges and values, but instead they are a result of people not understanding the work FRM are trying to get on with. In this light, practicing FRM *differently* as this thesis looked to explore, seemed difficult to imagine for these EA actors. Instead the aim for FRM seemed concerned with saving the world they know, protecting properties from flooding; a world in which people and water must be kept separate.

3.4.1.3. Recreational values

In these conversations it seemed as though the black-boxed associations between property values, themselves enrolled into the more powerful actor network of the value of capital, and the value of safety were serving to close down process of engagement. This was identified as a stabilising mechanism where a matter of concern, i.e. that of how to ensure the importance of people's safety in flooding, had been prematurely turned into a matter of fact. In the process, issues that may have been open to contestation were removed out of reach of the public (Whatmore, 2013). However at times, following the associations

between people and water, generated an altogether different sense of place and of living with water, along the very lines that FRM policy looks to enact in the future. In turning to focus on tracing these values, as actors that emerged through living *with* water, it felt as though a spotlight was moved away from the more dominant, instrumentalist framings of the values of nature, reflective of the 'living from' nature to the 'living with' framing.

Such a transition was easily revealed in most participants when they talked about the seeming ambivalence of possible ways of living with water; from one of risk and fear leading to management based on control, to one of wonder and respect leading to more adaptive approaches,

... 'of course, we've also seen floods almost every year... and so we've seen both, to see the river, expand itself and take over land on a regular basis, it's very powerful, wonderful, it inspires a kind of fear and wonder... and respect, I suppose. You think about respect for rivers and, and water. And, in connection with fear, you know, as a society, we kind of lost that for a while as if we could control it. As if the river was secondary, it was a road, it was a highway, it was a useful thing. You know, that we could use for trade, etc' (Participant #11)

Interestingly, both of these approaches, one of fear and control and one of wonder and respect could in their own way be traced to associations with the value of safety. While discussions around people drowning in the water were often associated with the concern for the river as a place that posed serious risks to safety therefore should be avoided, others talked of about such events as though the city ought to understand and respect the water more, perhaps through encouraging more interactions with the water, such as swimming, more often. This was most clearly reflected in the participant who had been frustrated with the EA, retelling the stories of her neighbour who had recently died,

.. 'she was 98. And she was born in the street, you know, and she used to say to me, they don't manage the rivers like they used to manage the river. We played on the river, she said, there were barges on the river, you could go from one side of the river to the other. And we just were on the river all the time as children. And we used to, you know, be up and down and in the river and everything. So there's none of that now. It's almost like the river just sits there. And, and we're scared of it flooding. And that's all we think about. And, of course, all the building, because there were none of the massive flats and things like that, which are now built all the way along the river. So she used to say there's nowhere for the water to go. So we shouldn't be surprised when it's coming into our houses and things. So you know, as I say, a lot of people around here, have lived with it for many, many years. But talk about the way the use of it has changed?' (Participant #1)

In these conversations there was a sense of agency in which participants talked about the water itself, as though it was a powerful member of the community, as the quotes above indicated. The way in which water acted on participants in the Terry Avenue case study also became visible. For the cyclists, the appeal of the cycling route remaining open was not just because it was considered safer and that it was a sustainable form of travel. When I spoke to one of the cyclists from YCC, as well as an informal meeting with one cyclist on the Millennium Bridge who was trying to raise awareness about the scheme, would

talk of the beauty as well as the sense of peace and calm that being alongside the river Ouse generated. In this vein, responses to how the rivers mattered to people often highlighted a variety of recreational practices; walking alongside the river, to sitting and admiring the river scenes and the movements both 'on' (boats travelling up and down and rowing club), 'besides' (commuters, anglers) and 'in' the water (people talked of swimming upstream, though largely reminisced of the swimming and paddling in the river in the past). One local resident who was a poet talked of his living beside the Ouse as a source of artistic inspiration;

'And we just started walking. And what I can tell you creatively is that what then happened was just a huge opening, a creative opening for me, because poems just started to almost pour forth really, in a wonderful, almost magical way. And I think I realized that I'd reconnected with water. And so I then began to think a lot about why rivers have such power on the imagination, and creativity.' (Participant #11)

This participant introduced me to the word 'Riverain' which means a person who lives near or on the river, as a 'river dweller', a term that we both resonated with in describing the pull that water exerts on people. Elsewhere one participant referred to the rivers in York as 'axis of green spaces' that run through cities ideal places to go when 'I'm looking for space to be on my own' and 'just get my head free' (Participant #12). In this way recreational values seemed to exert a promising pull towards alternative networks of relations between people and people and water; relationships that seemed to indicate towards living well with water. Conventionally social values research would translate these values variously as indicative of sense of place, associate these values with ecosystem services or nature's contributions to people such as nature acting as a source of inspiration, or, as is the case here, rivers providing the benefits of improving mental wellbeing. However, as the aim of these initial case studies looked to explore, I wasn't interested in eliciting and formally carrying out a form of non-monetary social valuation assessment here as I was still trying to navigate how such values that might be included in the FRM decision-making processes.

These more recreational values that pointed towards a sense of conviviality did not seem to be outside of the realm of the 'decision-makers' yet they were evidently excluded from the decision-making; often seen as irrelevant or rather, as the next section indicates, a nice after-thought. Indeed EA staff, who were at times vilified for their practices, readily talked about the benefits of living with water in particular the rivers in York for commuting in and out of the city. These actors, recognising that these interviews were being recorded (and thus likely aware that I was in my own ways as a researcher attempting to mobilise these actors so as to represent the EA) chose to answer questions about the values of living with water in both a professional and personal capacity as though the two were incompatible. Interestingly however, where these actors spoke as representative of the EA they would often talk about responsibilities to keep people safe and protected from the water that always posed a risk. Whereas when talking in a personal capacity, they would often speak of the more positive benefits of living with water. Referring back again to the early shared conversations that emerged from the My Castle Gateway project, this again reflected

the sense in which viewing rivers as veins rather than drains seemed to shine the spotlight on a host of other value actors who could be seen to currently be excluded in the decision-making processes.

3.4.1.4. *Aesthetic values*

Whilst following these value actors, I noticed that questions around community engagement at Terry Avenue were not always met with the kind of ‘what else can we do’ response; on rare occasions I would be presented with some examples of inclusion. One such example I was told about was not at Terry Avenue but on the East Coast of Yorkshire, where there was a ‘managed realignment scheme’. Such a scheme, in the face of encroaching sea levels, an existing embankment protecting the land is moved back, allowing the water to reclaim part of the land with the view that such a process might create more wetland or marshland habitat. This newly created habitat in turn can offer protection from rising tides as well as benefit wildlife. Here I was told that the EA had ‘dramatically changed’ the design of the project so as to include a sense of what matters to the community there,

‘The existing embankment, although there isn't a public right of way along it at the moment, people walk that land, take the horses on it. And so when we redesigned the scheme and moved the embankment inland, the plan was to put a footpath on the inland side below the embankment instead of on top of it. And people objected to that very strongly because they said they liked the views across the estuary.’ (Participant #2)

Here what matters to the community was presented to me as the aesthetic values of being able to see the sea. It was proposed to me that this actor, aesthetic values, was the main concern of the decision-making process, as though it was guiding the decision-making.

‘What would be the point of walking in, walking on a path and that the toe of the embankment where they had no views except a sort of inland the farmland, which is very flat. And so we did actually go back and look at where we could change the design’. (Participant #2)

Here the aesthetic value was considered in relation to what might be considered value of safety for the birds that were considered involved in this process too,

‘We had to take into account the fact that the new habitat was being created, that the primarily that was for overwintering and migratory birds that they, I suppose, were the intended beneficiaries of the scheme. And so if you have people walking along an embankment with dogs that would be running down into the area and disturbing the birds, then that would actually defeat the whole point of building this scheme in the first place, in some ways. So we had to work out which parts of the embankment could we put the path on the top and which bits would it which were the really sort of sensitive bits where we'd have to take it down again’. (Participant #2)

As pointed out here, this example emerged during conversations about the difficulty of the EA to ensure both people and nature are protected in their regulatory responsibilities as though there are usually bound

to be trade-offs between the two; except for 'rare' examples such as this one. Indeed the aesthetic values seemed to play a key role in changing the final design of the project entirely,

'The new design, the revised design puts the footpath along some something like 70 percent of the top of the embankment. So it was quite a significant change and it was definitely in response to the views of people living in the area who use that embankment almost every day.' (Participant #2)

While this window of opportunity for including what matters to the community seemed hopeful in relation to opening up processes of engagement, at other times, closer to Terry Avenue, aesthetic value was problematized, in ways that already pre-defined the types of responses from community members who were engaged,

'So just across the river up here [From Terry Avenue]... rows of houses which are right on the riverbank. And we need to increase the height. And we need some early engagement with them... We could increase the height of the brick wall or we could put glass on top. The issue for them is that at the moment, the height is just below their eye line and their living rooms. If we increase it by the 400 as we're planning to, it would take that view. So we're very conscious of that. So we were offering a more expensive solution in terms of glass and we engage in that.' (Participant #9)

In examples like these the extra expense was presented to me as a justified cost for the benefit of ensuring aesthetic value of residents being able to maintain their view of the river. This example was offered to me by way of saying that sometimes non-monetary values, in this case aesthetic values, as a sense of what mattered to people could be used in the decision-making process alongside CBA calculations; in fact, as suggested here, even *regardless* of CBA calculations. Though this might have then seemed like a possibility for non-monetary aesthetic values as having some kind of power, or purchase, in these political negotiations, this appeal to engaging with communities and taking on board such values, drew very specific parameters that defined this inclusion. The aesthetic values were problematized in relation to the necessity of flood defence as a wall once again; an approach that FRM practitioners and policy documents and guides all acknowledge is no longer a viable option. Yet here, the aesthetic values of the river were problematized, enrolled, interested and mobilised in association with the protection of property values themselves made powerful through black boxed associations as the value of capital. One of the actors in the community even 'betrayed' this attempt to mobilise them as though the community representative of one voice. This resident objected to this particular example, saying they would prefer brick as the material for the defence. This example was presented to me almost comically, as though *'you can't satisfy everybody'* (Participant #9). Through an ANT lens however, this would translate as not all actors stay true to the representations imposed upon them or 'play their part in relation to the focus of concern' (Callon, 2007). These examples here however reflect typical technocratic approaches to questions of including the 'social' where considerations of what people might like to see or what might matter to communities are often 'relegated to an afterthought', a concern echoed in the environmental valuation discourse by Chan et al., (2012) around social and cultural values more broadly.

However, just as recreational values indicated towards ‘pulls’ from actors in the community towards alternative networks of associations and alternative approaches to living with water, the aesthetic values too seemed to attempt to pull upon other actors into their network. When in a conversation with one of the residents from Clementhorpe, they talked of their own relationship with the river and how it was one of the main attractions in moving to the city;

‘I remember walking down on the terrace. And then suddenly, there was this river at the bottom of this beautiful walk into town. And I was beside myself. So when I came to buy somewhere, my priority was, while there were two things, one that I wanted to be able to walk everywhere or cycle everywhere. And the other was I wanted to live on the river. I never even thought about flooding.’ (Participant #1)

This glimpse of the aesthetic value of water, gestured towards the kind of pull it has on residents wanting to live near rivers to the extent that the risk of flooding is not even considered. However just as this demonstrated a pull towards another networks, aesthetic value upon tracing further associations seemed to be once again enrolled back into the network of the value of capital. While I had assumed that living by the river that is at risk of flooding would be reflected in lower house prices, the area of Clementhorpe was generally considered one of the more expensive areas to live. As the participant above outlined, living near the river almost felt like an attractive pull as opposed to being a burden that might be borne in the cost of the house prices. One road called Bishopthorpe road, or locally known as ‘Bishy road’, was testament to this, hosting a series of boutique cafes, shops, bars and restaurants creating a strong sense of ‘identity’ and ‘exclusivity’ such that certain residents suspected the area to have gone through a process of gentrification. In this case it seemed that the kind of aesthetic values outlined above of living and being near the river were enrolled into processes of marketization where associations between actors and the value of capital seemed to be once again black boxed away. This was reiterated when following the river upstream I interviewed a property development businessman. Here recognising the shared sentiments that the city had ‘turned its back on the river’, this individual and their business showed me detailed plans to renovate a large area nearer the city centre so that it became water facing once again, allowing people to reconnect with the river. This sentiment was repeated by another individual who was associated with this property developer though not himself part of the property development plans,

‘...almost like the river was something to be ashamed of. You get the feeling that historically, obviously, the river was absolutely crucial. But in later years, it has turned its back on it. Which, you know, should be an aspiration for the future to reverse that...’ (Participant #8)

This sense of importance attached to living with the river used in this way towards aspirational changes, demonstrated the pull the water had on this individual, in a sense that relates to the descriptive versus normative tension in social values. This wasn’t a philosophical debate but a recognition that living with the water could inspire this person to imagine a future of living with the water differently. However the individual went on to describe how this future might be enacted,

I'm involved with independent businesses in the city and shops in particular. And one of the main things to make the city more attractive, when it's already a very attractive place, but the one thing that would make the city much more attractive and much better at attracting people into the city would be if people's attention was reversed from backing onto the river to looking at the river and having walks and using that river side far more. So that really is the special thing about the city is it's wonderful rivers.' (Participant #8)

Here once again, what could be considered the social values of living with the river Ouse were being enacted and enrolled into economic decision-making though not on their own terms but instead they were seemingly going through processes of translation, problematized in association with cost-benefit margins, interested according to the value of capital, enrolled in ways that these values would benefit the value of capital and finally mobilised in ways that would ensure profit-maximisation instead of a financial loss.

3.4.1.5. Contested political paradigms

Leaving aside for a moment the associations between value actors, it is worth commenting on other actors enrolled here into the actor-network of FRM such as the notions of 'engagement' and 'democracy'. With the powerful black boxed associations between value of capital, CBA and FRM practitioners, these concepts, and so again considered here as actors, of 'engagement' and 'democracy' were interested and enrolled into the network on account of ways in which they support or fit in to the already problematized nature of the decision-making. 'Engagement' practices became a question of how to communicate to people, by way of keeping them updated as to the decision-making process. This became clear in a conversation with the community engagement officer who said that the EA had only recently changed their engagement policy from 'Decide – Announce – Defend' (this somewhat patronising approach of technocratic governance having the ironic acronym DAD) to Engage - Deliberate – Decide (EDD). While it was the latter, the EDD approach that was outlined to me it was unclear how in practice much had changed. The community engagement officer outlined what this change supposedly meant to their practices,

'The decide, announce, defend - the 'DAD' approach as it used to be called. And now we are supposed to have moved away from that to what's called the engage, deliberate, decide approach. So in principle, engagement should happen from a very early stage in a project development process. And what that means in reality is that options appraisal, I haven't been involved in enough of that to know whether other stakeholders are involved but I think we've got partners like local authorities or any other sort of strategic organizations. They will be involved in that stage as well. Certainly once the particular option is chosen then that will involve some sort of strategic stakeholders. So they will be informed and consulted and invited to meetings sometimes, or there'll be communication with them about some of the aspects of the design. And then the point at which we really go to the public is usually just before the planning application is submitted.' (Participant #2)

Now 'stakeholders' are strategically chosen and selected after the options appraisal, though those who were involved in thinking about and deliberating these options remained a select few. This sense of strategic stakeholders being allowed into the decision-making resembles the very process of interesting and enrolling other actors, in this case stakeholders, so as to ensure more 'buy-in' and therefore amass further associations to increase the power of the actor-network before eventually being ready to 'go to the public'. However, 'the public' were harder to mobilise in this actor-network, as they seemed to constantly betray their roles as though simply external recipients of information. The project lead for the Terry Avenue case study, who was primarily interested in ensuring the project met its 'delivery objectives', claimed that for he and his colleagues time, up to 60% was spent dealing with the community. This was surprising to hear for someone whose role responsibilities were not officially to do with community engagement. Here however this time spent on engagement was offered to me as though it demonstrated the way in which engagement was a key part of the process. This obscured how engagement itself had been enrolled into the network by more powerful actors such as CBA and value of capital that had already problematized the decision-making.

Similarly, 'democracy' was enrolled into the actor network. Upon asking about ways in which the decision-making process engages with the public, the project lead explained how the process could already be seen to be democratic, with reference to 'collaborative governance structures'. However such collaborative governance structures seemed to be confined to working across EA departments as opposed to communities. At various stages, there were appeals to democratic norms and ideals such as 'transparency' and 'accountability', these norms were mobilised through a set of governance practices and associations; that the EA were a government affiliated body, that the EA worked with councillors who were themselves democratically elected and that residents in the council could voice their objections at any stages. This appeal to democracy seemed to indicate towards the notion of environmental democracy at the nexus, itself rooted in liberal democracy.

The way in which democracy and engagement were enrolled into the actor-network here indicated towards underlying competing political logics between that of the EA and those actors who contested the EA's practices; the cyclists, certain Clementhorpe residents and water. When trying to understand why this particular scheme itself was so controversial, responses typically indicated the responsibility of the YCC group. The residents of Clementhorpe were initially represented to me by one of the project leads from the EA as a unanimous group who were strongly in favour of a flood defence on their side of the river especially after seeing the investments in the Foss Barrier over on the other side of the river. However later it was claimed that it was largely the cycling campaign group, York Cycling Campaign (YCC) who were up in arms about the proposed scheme as opposed to the residents themselves. This contrast in groups that might be considered members of the community clearly felt at odds with the political logics of representation that were core to the functioning of liberal democracy, as the cyclists were often referred to as people who didn't even live in this cell or area, yet they felt undeniably affected by the scheme.

Water, as an actor, continued to defy the way in which it was being mobilised by the project leads and managers in the EA too. Before the YCC even knew about the scheme, water could also be seen to be resisting the engineering works. One of the starting points for EA identifying the need for this particular scheme in this flood cell was that water in times of flooding would actually seep under the existing flood defences soaking its way through the ground to cause flooding on the other side. A similar observation formed another criticism of the hugely expensive Foss Barrier. Supposedly the barrier did not account for the fact that the confluence of the two rivers also seemed to join underground too with bore hole investigations highlighting that the confluence was not simply a surface level joining of the two rivers. It seemed then that water was defying the hard engineering practices and impositions of where it *ought* to be, according to the EA (Walker et al. 2011). However at times when the costs of the proposed scheme were being contested by members of the community people questioned the ability of the defence to contain water.

'Well, good luck with it, you know, because you're spending 7 million pounds on this, and I bet you any money, that water will find its way somewhere'. (Participant #1)

Once again this signalled towards the transboundary character of water that defied the political logics of representation. Here water could also be seen by the community to resist efforts by the black boxed associations between the CBA, value of capital and the FRM practitioners, to organise and contain it. Like Krause's (2016) study of flooding in Gloucestershire, the material relationality of water is exposed when considerations of schemes in one flood cell is taken out of, abstracted from, the context with neighbouring cells. Though a holistic York wide perspective was cited by the project lead, here it seemed evident that risk would simply be pushed further downstream; as Krause (2016) study would describe, 'one man's flood defence is another man's flood'. Here we can see the political logics of representation that characterised FRM practices seemingly coming up against the material relationality of water that seems to generate an altogether different ontology, or way of being.

This observation is crucial in the task of understanding barriers to implementing social values in FRM. The ethical and political stakes, questions of what matters, that emerged from this actor-network could not be neatly defined within jurisdictional boundaries. In this way any attempt to understand social values within such a political logic would have missed the transboundary, relational ways of being that defined the issues that emerge from living with water. If social values are to be implemented in FRM they must demonstrate the ability to move beyond such narrow representational political logics.

3.4.2. Site 2: Rawcliffe Meadows, Clifton Ings

If you follow the river Ouse upstream from Terry Avenue outside of the city centre you reach the second case study site, Rawcliffe Meadows – see image 6. Rawcliffe Meadows, as part of Clifton Ings, represents

a key part of the EA's Flood alleviation Scheme (EA, 2016); or, as the EA project lead described it, a key natural asset. The meadows run parallel to the river Ouse as it flows into the city centre and, as a floodplain, regularly stores the excess water during times when the Ouse's levels spill over its low banks. This ability to act as a water storage area is the reason the site is one of the key 'cells' within the EA's flood management strategy for the catchment of York (EA, 2016). Rawcliffe meadows lies on the outskirts of the city centre in an area called Clifton Ings. 'Ings' derives from the old Norse language and is taken to mean marshes or water meadows; a term that still today is used in many parts of Yorkshire and the Humber regions. The use of old English names such as Ings act as signifiers of how people lived in and with landscapes, or better, waterscapes, in the past has been explored by Jones (2016) as a form of Traditional Ecological Knowledge (TEK). The site, with a rich history of different agricultural land uses that played an important role in the development of York, had been relatively abandoned up until 1990 (Hammond, 2017). At this point, a voluntary group, called Friends of Rawcliffe Meadows (FoRM) took over the management of the land and began, with very little experience or knowledge, to restore the ecology of the site. Over the past 30 years of involvement with lots of learning in the process, the group restored the site, developing the grassland to MG4 (*Alopecurus pratensis* - *Sanguisorba officinalis* grassland) level of classification, leading to national recognition of the meadows as a Site of Special Scientific Interest (SSSI)(Hammond, 2017).

The controversy began when the EA, with no prior community engagement, stated the need to reinforce and raise the surrounding barrier bank owing to structural concerns. However, it was recognised that due to the way in which construction was being planned there would be irreparable damage to the ecology of the site. The case study was actually presented to me during a conversation around the Terry Avenue case study with the EA project manager who outlined this site as an example of where 'you can't always

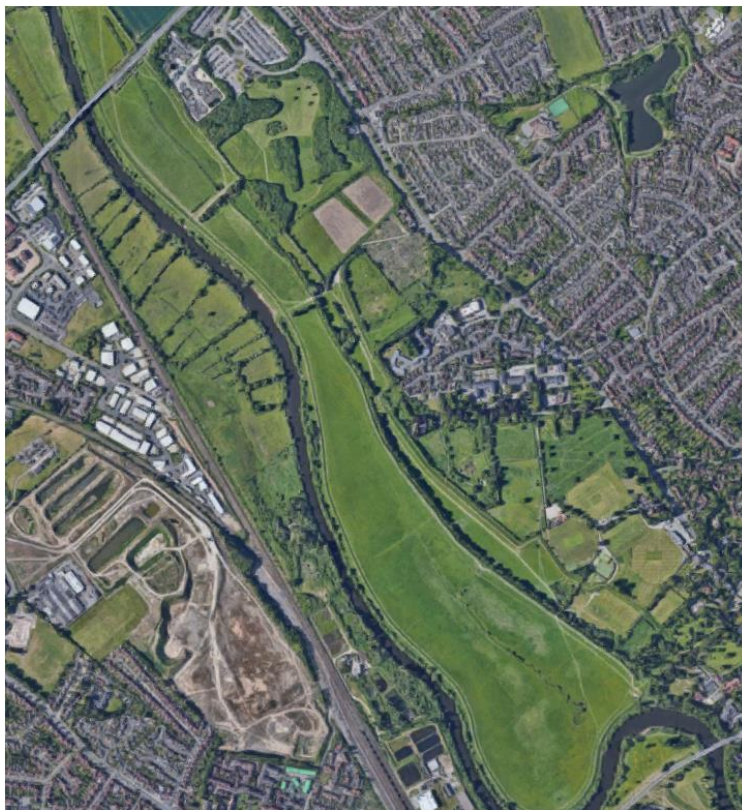


Image 6 - Aerial view of Clifton Ings and Rawcliffe Meadows as part of the River Ouse floodplain

protect people *and* nature'; contradicting the EA's operating tagline (Environment Agency, 2018).

Following the actors in this context first began with two of the main voluntary groups who were considered to have stakes in this process. These groups were FoRM as well as a conservation group called the Tansy Beetle Action Group (TBAG). These two groups felt as though their voices were excluded from the FRM decision-making process. Early on I met with a volunteer from FoRM who took me around Clifton Ings and the Rawcliffe Meadows site. Here the volunteer took great length to point out the histories and relations between the ‘mosaic of habitats’ that had developed there (Hammond, 2017). This ecological network, or assemblage between the various non-human actors had been shaped and developed thorough the associations with the voluntary group FoRM. This group, it emerged, were not immediately attracted to the site which, upon first taking it over, was apparently quite ‘ugly’ and unattractive, largely because it was so uncared for. Image 7) below is of the first newsletter for the group sent out by York Natural Environment Trust (YNET). YNET are a collection of representatives from the council and various environmental charity groups who still function today. YNET aims ‘to preserve

the green spaces around York that were ‘starting to be rapidly eaten up by industrial estates, shopping malls and large private housing estates’ (FoRM website). As response to rapid urbanisation then, such a collective of charities could be seen as reflective of the ‘nature advocacy’ approach to representing the environment in local decision-making that Eckersley (Eckersley, 2019) describes through forms of environmental democracy and their associations with liberal democracy. Groups such as YNET, FoRM and TBAG seemed to take on the role of ‘speaking for’ nature in decision-making. Something that was especially apparent when watching back the council planning committee meeting at York council where the volunteer from FoRM that I spoke to eloquently defended the ecological interests and values of the site. However, these volunteers were clearly frustrated at their lack of meaningful inclusion; this model of

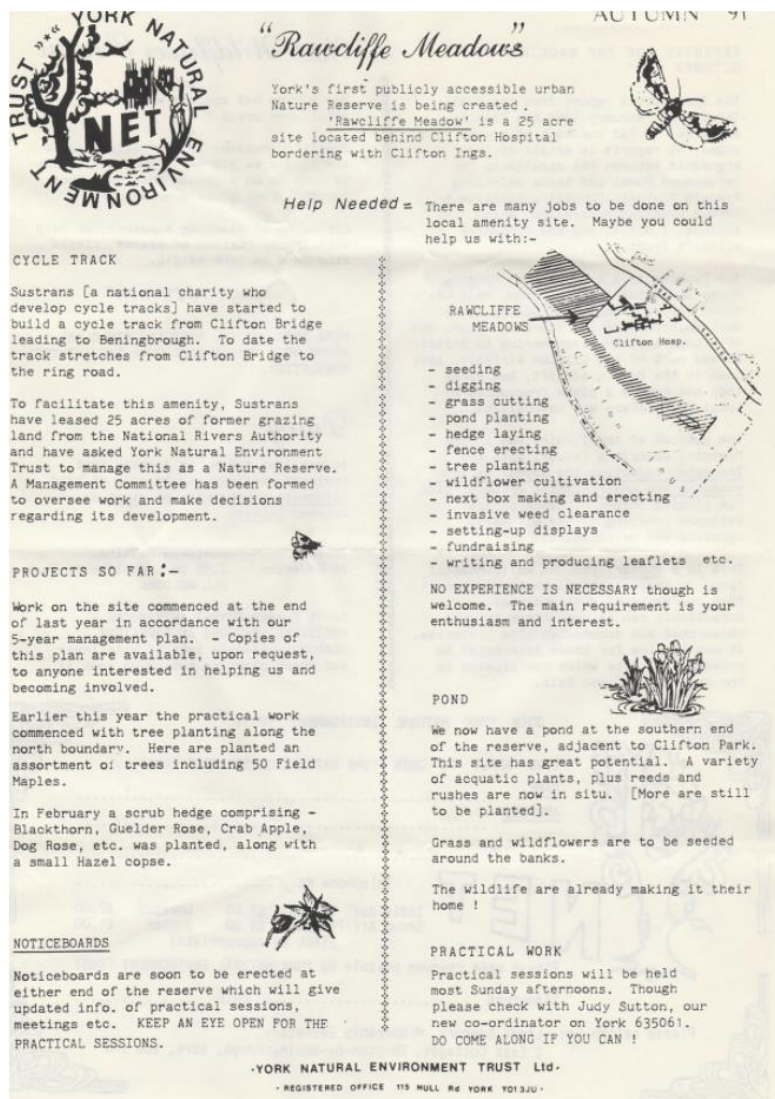


Image 7 - Newsletter Autumn 1991, one year after FoRM had taken over the management of the site.

environmental democracy clearly wasn't working for them.

Back to this first site visit, the ‘mosaic of habitats’ and the associations between them all as well as the relations with the FoRM group produced this assemblage, an actor-network in itself. When I was shown

photos of the development of this landscape, I began to get a sense of these networks ‘in motion’ too. The meadows consisted of four copse areas; blue beck copse; cricket field copse; copse meadow; as well as the copse that was there originally with some old forest. Another key network in this landscape was the Cornfield Nature reserve, an area established primarily for the preservation of Skylark and Grey Partridge birds. However this recently changed to become a more connected area of grassland that would include a bee bank to encourage more biodiversity. Elsewhere there was a large pond and a hay meadow all adding to the diverse wildlife the site pulled in. For example, a great diversity of birds were listed out to me as well. On the group’s website, there features a report from a visit of twitchers (bird watchers), who, on a one-day visit, spotted black caps, willow warblers, goldfinches, common and herring gulls, treecreepers, tree sparrows, wood pigeons, chaffinches, long-tailed tits and house martins. Walking through and being in this site, the notion of ‘the social’ became one that was centred on these more-than-human relations that were in motion. Importantly, these actor networks were not exclusive of human relations; the FoRM



Image 8- Rawcliffe Meadows, the Ings and river Ouse

volunteer would detail specific practices that helped shape the ecosystem or habitat we were looking at. This local knowledge was often developed through trial and error; not only were the diverse flora and fauna that developed on the site pointed out to me but I was also told of the different birds that no longer visit, or the plants and trees that died back. A map of these habitats in relation to the river Ouse as well as the Flood barrier bank running through the middle can be seen in image 8 below.

It was during these conversations on this first site visit that the relations between this actor and another actor, the Tansy Beetle, became visible. Wondering into a corner of the field, we passed through a gated area to enter into what was referred to as a Tansy clump. Here we crouched down amongst the Tansy

plants and waited to see if we could spot one of these rare endangered species – on this occasion to no avail. But the experience of attentively inspecting these clumps, lured me in to curiously follow this type of beetle and to understand why the species holds a particular interest. One of the reasons for Rawcliffe Meadows' status as a SSSI is that it has become one of the key habitats across the city for the endangered species of the Tansy Beetle. The beetle has been nicknamed the 'Jewel of York', partly owing to its emerald, green sheen. However the nickname also marks the species importance as part of the city's natural heritage. These riverbanks in York are one of the only places Tansy Beetles can be found across the world. Over the course of this research inquiry a large wall mural of the tansy beetle was graffitied onto a building close to the city's train station – as seen in Image 9 (Oxford et al., 2003). Such a visual representation of the beetle's significance is emblematic of the way Morphy (1991) demonstrates how Aboriginal Art encodes local meaning in ways that defends their knowledge, practices and ways of being; Morphy (1991) demonstrates this through Australian Aboriginal bark paintings. TBAG acknowledged how important a moment this wall mural might be for raising awareness of the specific relation between the city and the Tansy Beetles and help gather interest and support that might allow them to maintain their practices of looking after the beetles.

After this first encounter, I began to follow these associations between the tansy beetles and TBAG members, for two consecutive years, from taking part in the tansy beetle counts, to attending TBAG meetings. Over this time I gained insights into the in-depth context specific knowledges that TBAG had formed. These knowledges were seemingly centred on questions of what mattered to the tansy beetles.

This context –specific knowledge was shared with me at various points; volunteers pointed out the 'clumps' of tansy plants (the beetle's 'preferred' food and their namesake plant) that were ensured by the TBAG and FoRM volunteers to be no more than 50 metres apart. This was the approximated distance that had been negotiated between TBAG members and the tansy beetles in that this was understood as the maximum distance that beetles would seem to 'want to travel'. Despite being able to fly, the beetles seemed to choose not to use this ability, perhaps part of the reason for their specific concentrations along the Ouse. In one of the meetings with TBAG, there was a lengthy and at points tense discussion amongst members about this

practice of planting tansy clumps around whether this planting should replicate 'natural occurrences' of tansy plant clumps, or whether they should be planted more freely so as to encourage

the beetle populations. During such conversations it was clear that there remained a lot of uncertainty around why these beetles are so attracted to the river Ouse and these river banks in particular. Similarly there were unknowns in regards to how the Tansy Beetles respond to flooding, with the numbers that are



Image 9- Tansy Beetle Wall Mural, erected in 2019 by Street Artist ATM

counted often taking significant dips after years with heavy periods of inundation. The tansy beetle, despite constantly being represented in conversations between TBAG members as well as in a variety of legal protections such as the Habitats Directive, always seemed to remain elusive. Even during the counts, whilst crouching awkwardly on river banks amongst thistles and tansy plants to count the number of beetles, you were warned not to get too close or to make any heavy-handed movements, as the beetles freeze and drop off the plants out of sight when disturbed.

3.4.2.1. Ecological value

Returning to the controversy of the flood barrier bank works, the EA had to put through a planning application for the reconstruction of the barrier bank to take place, meaning the process went through the city of York's council planning committee (York, 2019). The particular member of FoRM (who was also a member of TBAG) that I had spoken to was there to represent both FoRM and in effect the networks of more-than-human species and habitats that would be affected by this decision-making process. The nature of the barrier bank reconstruction involved heavy construction vehicles which it was agreed would cause damage to the site. Like YCC in the Terry Avenue case study, it was not the identified need to repair the bank itself that was so contested but the process of how this work would be carried out. During the planning committee meeting, the main bone of contention became the issue of how mitigation of the ecological impacts to the site would be delivered if the construction and therefore the ecological damage of the site were to go ahead (Environment Agency, 2020). This question revolved particularly around the idea of whether the tansy beetles could be translocated, with questions being specifically asked during the meeting about whether the Tansy Beetles would 'cooperate' in being translocated. This inclusion of the tansy beetles in the process was part of a network of associations that FoRM and TBAG had themselves enacted. In this committee meeting, there were attempts to enrol the councillors in the network too, through the various legislations and policy guidance that stood in place for the protection of these species as well as the site as a SSSI more specifically. I traced these associations between these actors recognising that I was witnessing an actor-network being produced through these associations, yet one that was seemingly struggling to make itself bigger; failing to enrol others into its network so as to become more powerful. The Habitats Directive did not prove to be a successful enrolment with the EA later in the meeting pulling in a black-boxed association with the Reservoirs Act (1975). This Act served to overrule the protections of species or habitats under the proviso that prevention of the potential body of water behind the bank from escaping was more of a priority. Thus the controversy switched its focus on how mitigation would be carried out.

However, here the EA excluded the FoRM group from their understandings of how this mitigation might take place. This exclusion highlighted the way in which the EA did not recognise their part in shaping the material 'fabric' of the site, owing to the underlying ontology that looked to deal with people and nature separately. This was demonstrated through the reference to 'ecological value' alone in the EA's impact statement for the site,

'The lost part of Rawcliffe Meadow will be of much higher ecological value than the newly created meadows, until they have had time to develop their ecological interest.' (Environment Agency, 2018a pg.xi)

This reference to the 'ecological value' made no mention to the role of FoRM and TBAG actors who could be seen to co-produce these values, as expressed through one volunteer who, in describing the process of mitigation, felt they were owed something though no reference was made to monetary values,

"And then they will say, oh, well, it's planning you know, it's not in our remit to compensate for 30 years worth. But I think it is actually. I think it is." (Participant#3)

However the treatment of ecological value as distinct from the work, that is, the knowledge and practices, of FoRM accumulated over 30 years, allowed the EA to carry on with the re-construction plans. This cohered with Callon, who when talking about the economic concept of externalities, recognises that in economic decision-making there is always a process of cutting, or rather of framing certain associations within an actor network, through a process of attempting to disassociate other actors from that network. This resembled the process that had taken place here, with the power of FoRM as an actor now significantly reduced in this decision-making after the value concept of ecological value had been disassociated from their own actor-network.

These associations and practices between the FRM practitioners, capital asset value, and the CBA pointed to 'stabilizing mechanisms' that prematurely transformed these 'matters of concern into matters of fact' (Latour, 2005 pg. 261). CBAs were once again obscure and inaccessible objects, removing them from view as open to being contested. When a CBA was finally received by FoRM, much of the data was redacted and they were told by the EA that the CBA itself was 'barely viable', as a way of demonstrating why this construction option was the only one on the table,

'On that basis the Friends again met in October 2019, following the Planning Committee approval, and knowing that the Environment Agency (EA) cost/benefit analysis is barely viable (that being given as the reason why they have ignored alternative construction methodologies and routes) we are confirmed in the view that the EA are not to be trusted in the delivery of a full and long-term mitigation as they have neither the will, ability, knowledge or budget to deliver it after damaging what will be hectares of historic SSSI.' FoRM website⁶.

Here, the appeal to the CBA as being so marginal that other options cannot be considered once again reveals the narrowing of possibilities for democratic engagement. The appeal to CBAs as though matters of fact served as a way to shut down democratic processes of contesting alternative options or the possibility of things being otherwise. This point is epitomised by the participant from the Clifton Ings case study,

⁶ <https://rawcliffemeadows.com/>

'I think I wouldn't say we've been overlooked, I just think we've been ignored. The comments we've made right the way along we've been, as it were, telling the truth to a bunch of engineers who don't want to know the truth. They've got a fixed solution. Probably at a fixed budget that they came up with before they started the work.' (Participant #3)

This process defined through a network of associations between actors variously problematized and enrolled on the grounds of demonstrating 'value for money', served to close down democratic discussion regarding possibilities for acting otherwise. Further to this, the black-boxed associations between this flood defence construction as protecting properties was also exposed once again to be 'leaky' as the new proposed sloped embankment would actually reduce the water storage capacity of the site and as a result the risk of flooding to properties downstream would be slightly increased; again the appeal to the Water Reservoirs Act overruled such points. I attempted to help to find ways to bring FoRM back into this decision-making, at times introducing concepts like social values as well as the ecosystem services framework, with the hope that this might enrol FoRM back into an actor network with ecological value and so in some way force consideration of their role either in decision-making around mitigation and restoration for the site.

3.4.2.2. Ecosystem services

My first attempts to introduce Ecosystem Services (ES) as a value concept into the decision-making and the actor-network of the EA in practicing FRM, seemed to fall pretty flatly, as though on deaf ears. Few participants across both the EA, council and community groups had heard of the concept. Further still when I explained the idea, rarely did it seem to resonate with people, who expressed feelings of discomfort at the idea of thinking of the environment as a set of services for us to calculate. While this sentiment resonated with my own perspectives, I did feel that that the concept offered advantages in technocratic decision-making processes such as this in its ability to communicate, ecological values potentially on a par with monetary values associated around CBA. As a result I did not abandon the concept but tried to explore other associations between the actors. How could it be that ecosystem services, as an actor, had become so powerful in certain actor-networks such as academia, yet had failed to successfully enrol actors to become a more powerful actor in everyday environmental decision-making? The first associations I traced between the EA and ES was through a report by Everard (2009), where ES had been outlined as a key policy concept to integrate into the EA and FRM practices. This document included key messages such as *'Ecosystem services provide a common, outcome-based language which helps different organisations communicate, both together and with a broad spectrum of stakeholders, around common desirable outcomes of value and meaning to the constituencies that they serve'* as well as *'Ecosystem services help demonstrate the value of biodiversity as a source of multiple societal benefits, and hence the critical importance of the maintenance or enhancement of ecosystems for securing future wellbeing'* (Everard, 2009 pg. v). Despite these documents containing such strong justifications for using ES as an approach, there remained little resonance between these concepts, which

have become increasingly commonplace in theoretical discourse, and with the FRM practitioners. In conversations with certain actors within the EA, it became clearer why this was the case. Again such value concepts, were always defined in relation to the problematising of the more powerful actors of capital asset value and its own relations with the practices of members of the EA. A notable example of this could be found in a latter EA report (Rouquette, 2013) which, in reporting on workshops where EA staff had been discussing the use of ES within FRM practices, quoted one attendee as stating a disadvantage of using ES is that it is '*Not always backing up preferred solutions*' (Rouquette, 2013 pg. 37). This clearly indicates the way in which the capital asset value, made powerful through the reinforced and black boxed relations, problematized and enrolled other actors in relation to itself, while questions around what other values were at risk became obscured; as a result other values can only attempt to contest these powerful associations either by backing up or contesting 'preferred solutions'. Indeed, this very power dynamic was visible when the FoRM volunteer I interviewed repeatedly indicated that he felt the EA's CBA was '*rigged from the start*' (Participant #3).

3.4.2.3. *Contested ontological paradigms*

What emerged from this second case study then, following on from the contested political logics of the Terry Avenue case study was that of the contested ontological paradigms here at Clifton Ings. In this section I will briefly outline what is meant by this through examining the practices of FRM as an actor-network that looked to enact a dualist worldview of managing people and nature separately.

Following the values in this case study during the Clifton Ings decision-making process revealed how once again the value of capital seemed to exercise power in guiding decision-making standing on black boxed associations between actors based on assumptions around assets such as property values, CBA, as well as the policy guidance in the Green Book. However black boxed associations were shown to be 'leaky' with the obscurity of the CBA attracting particular criticism and moments where these actor-networks were contested. Like in the Terry Avenue case study, it seemed as though the EA as an actor looked to frame the boundaries of the decision-making such that the ecology of the site was disassociated from the work of FoRM and their set of practices. When the planning application for the works passed through the council, a number of conditions were put in place, including detailed plans around the mitigation of the site including the translocation of the tansy beetles. I spoke to an ecologist for the EA who also acted as a representative of the EA within the TBAG group, a conflicting identity that the individual pointed out to me was often a very awkward role to negotiate. This individual was nearing the end of a career as an ecologist within the EA, seeing the transition from the regulatory body being called the National Rivers Authority to the Environment Agency in 1996 after the Environment Act (1995). This exclusion of the role that FoRM played in the development of the site's ecological status was clearly recognised by this individual,

'There's no appreciation within the Rivers Authority and later the environment agency of its [Ravcliffe Meadows] special nature. And it was only designated as SSSI, recognized as SSSI less than 10 years ago, I think, and the role of the friends of Ravcliffe meadows was not, has never really been understood by senior management within the environment agency, the fact that we have these volunteers who want to give their time to manage the site.' (Participant #7)

Similarly in talking about the conflicting responsibilities of the EA in looking after both 'people and nature', the individual went on to unsettle the representations of the EA that had previously been conferred upon them by various community groups as though the EA were always concerned with looking after nature. Instead this participant told me,

'But sometimes we have to fight our own people more fiercely than we've got to fight people outside. We're seen as an authority in being the environment agency, obviously the environment that matters to us. This is the external view, whereas internally, we have this conflict of we've got to do our job, we can't let nature stand in our way.' (Participant #7)

This tension in FRM practices was described to me through the political processes behind 'river bank cutting'. The motivations for this practice, like the hard-engineering practice of metal sheet piling at Terry Avenue, acted as a means of ensuring the stability of the bank. This stability was managed through a combination of keeping the 'sward' (land covered with grass) short and compact which shores up the soil structure as well as being able to better monitor the banks so as to manage wildlife; the more observable wildlife the easier it is to manage. This was presented as a way to control populations of rabbits, badgers, water voles as well as the invasive American minks. Such burrowing animals, in their channelling underground between water and land, destabilise the river banks and so challenge the sense of control that the EA exerts over these banks. Once again the tansy beetles were enrolled into these conflicts, as these tansy clumps often occurred on these same river banks. These processes seemed to play out between actors within the EA as well as in relation to community groups,

'For our flood bank managers...they feel that they're being lined up for a bank failure which will fall on them. And if they fail, well saying that they've got to protect the Tansy Beetle, that won't go down very well with people who are flooded... You know, it's the sort of senior people right down to the guys on the machines. There is sympathy, but there's also a worry that, you know, we in ecology, may value the tansy beetle above all but they've got banks to manage...' (Participant #7)

Adding to this conflict, was that a recent policy change had taken place on a national level. Bank cutting was now to take place 5 times a year, a frequency that the ecologist I spoke to felt was too often and that twice a year sufficed. Cutting 5 times a year, I was told, would effectively wipe out the clumps of tansy plants and therefore damage the prospects for the tansy beetle populations,

'Now, from our point of view, from an ecological point of view... that doesn't fit in at all, not only with the tansy beetle, but with all sorts of other ecological issues, including nesting bird, flowering plants. It really means that our flood banks are going to lose any wildlife value, if that policy is followed.' (Participant #7)

Here the participant's reference both to 'our point of view' and 'ecological point of view' as synonymous, indicated towards a set of associations between these human and more-than-human actors that assembled a sense of socio-ecological flourishing quite different from the actor-network through which the FRM practitioners seemed to be problematizing the scheme.

A similar conflict that emerged from this ontological dualism of the EA was outlined around the relationships between the EA and their other core responsibilities, that of protecting fisheries. Again, there appeared to be a clash of interests between the practices of FRM and the interests of the fisheries and their associated actors both within the EA and, of course, the fish. On one hand FRM practitioners would prefer banks are controlled and kept clear in keeping with the notion of 'conveyance' - rapidly getting water off land or speeding up flow of rivers to ensure it moves downstream as quickly as possible. Treating the concept of 'conveyance' as an actor in itself, it was plain to see how this idea too was enrolled by the value of capital and CBA. Indeed conveyance initially emerged as a central practice of FRM during agricultural expansion in the middle of the 20th century through the idea of land drainage, particularly of farmland, where the idea was to get water off the land as quickly as possible. This practice was to increase the productivity and yield of agricultural land (Tunstall et al., 2004). It is worth noting here that I asked the participant whether the idea of conveyance had lost its evidence-base, now that there was a realisation and preference for practices that looks to slow the flow down, realising that conveyance contributes to flooding further downstream. While this participant agreed and noted some changes, they indicated that the cultural practices of EA actors were difficult to change and there was still a preference for the hard-engineering approaches; the participant pointed out seemingly black-boxed associations between other actors such as the Internal Drainage Board (IDB), responsible for smaller watercourses, and the perceptions and beliefs of farmers (Tunstall et al. 2004). On the other hand, however, the actor-network of fisheries management, another powerful network, pulls on the EA in another direction and contests the powerful actors of conveyance and dredging. Fisheries managers would rather the variety in flows of the river that is created by things like vegetation such as tree-lined banks with their roots growing at angles into the river creating small nurseries for fish to spawn and populate the rivers. This notion of 'what matters to the fish' is itself enrolled here within the assemblage of fisheries, angler associations and licences, a market which I'm told entails '*big money*' (Participant #7). So here again there is a source of ongoing tension between the practices of FRM and fisheries management within the EA; two of their main responsibilities as a governing body. While both of these 'institutions' are highly anthropocentric, FRM is practiced through a particularly dualist ontology where people and nature are attempted to be kept separate for the purposes of control and management at all costs. In the example of Rawcliffe Meadows then, this meant severing the ties between the human and more-than-human networks. This attempt at framing through disassociating actors from other networks is a crucial part of FRM practices.

In this section I have aimed to demonstrate how, just as the case study at Terry Avenue concerned contested political paradigms, here the actor network of FRM revealed contested ontological paradigms. This is not to say that these two contested processes were only at play in these respective case studies. It

was only that the analysis of each case study revealed these contested paradigms more clearly in the respective examples. The ontological dualism could easily be seen to be enacted in Terry Avenue, through the very basis for the hard-engineering approach of ‘sheet piling’ sought to enact a dualist ontology too. Meanwhile the political logics of representation could easily have been revealed to be contested at Clifton Ings too. Many of the FoRM group members lived on the other side of town, in fact the member I spoke to has always had to travel across town to the site, a journey that he admitted was often a nuisance. Meanwhile, though the project was intended to maintain protection for homes behind the barrier, there was a concern that homes further downstream would be at increased risk of flooding. The water here too challenged through its relational ontology, the practices of democratic representation challenging the political boundaries drawn up and the division of ‘flood cells’. Similarly it must be pointed out that these contested paradigms were not simply between the EA and the community; in the second case study, there were ontological paradigms contested between EA members of staff and in the first case study, many members of the community sought to contest the decision-making through the very same political logics that the EA enacted. In the next section I will discuss these themes in more detail through the notion of ontological politics which in turn introduces key ideas around pluriversal thinking and design that looks to open up possibilities towards things being otherwise. This might allow us to better respond to the inquiries of how FRM might be carried out differently (to reflect the living with water paradigm shift), how FRM can deal with the messiness of the social better (to explore ways of living *well* with water) and how social values might be conceptualised in ways that could help facilitate this task.

3.5. Discussion

In discussing the themes that emerged from this chapter looking at these two specific case studies, there are two areas I will focus on. Firstly I will critically reflect on the use of ANT as a methodology in researching social values, this will relate to the way in which ANT both identified barriers for social values to be implemented whilst simultaneously keeping the question of what constituted the social open throughout. Secondly I will turn to the notion of ontological politics to explore the implications of current FRM practices. Here I will argue that FRM in its appeal to both democracy and economics can be viewed as a set of ‘de-futuring practices’ (Fry, 2010). Finally I will close this discussion by drawing on what this whole chapter means for the prospects of social values at the economy-environment-democracy nexus to be used in FRM. How might social values navigate the obstacles revealed by ANT? How might social values be reconceptualised in recognition of ontological politics as a conceptual tool that can facilitate sustainable transitions?

3.5.1. Actor-Network Theory as a method in social values research

Both case studies were highly controversial, generating new publics around the contested decision-making process. Such tensions and conflicts exposes how plural ethical and political stakes emerge in environmental governance and particularly in FRM. Finding out was considered at the centre of these decision-making processes was part of the aim of this chapter. This did not mean I was trying to identify a specific actor as though acting independently but rather I aimed to identify the back boxed associations, acting as ‘stabilising mechanisms’ that prematurely turned matters of concern into matters of fact. Locating these stabilising mechanisms amongst such messiness of human and more-than-human actor-networks proved a useful heuristic to demonstrate how amongst messiness, or complexity, there remain attempts by actors to ‘order’ things (Fredriksen, 2014). In this way ANT was a very useful methodology in highlighting how certain practices in FRM have become so entrenched. This highlights how ‘thinking differently’ in FRM might today be so difficult and how social values would struggle to be successfully implemented in FRM.

ANT as an approach proved so useful in expanding the boundaries of what I included in my analysis. In viewing FRM as an actor-network, many things entered into the analysis that may otherwise have escaped my attention; aesthetic value, the materiality of water, tansy beetles, recreational values, FRM practitioners themselves, ecological values, cyclists, CBAs, value of safety. The way each of these actors each with their own actor networks pulled on each other challenged my own ways of thinking about how I understand the social and how expanding this understanding could open up possibilities for new configurations. The way in which these actors challenged my thinking will be core to the next chapter. It’s worth pointing out that these were only the actors that I focused upon and enrolled in my own research inquiry; ‘following the actors whose concerns you share’ being the guiding principle (Winthereik, 2019). As a researcher I was undeniably situated in these networks, introducing at various stages ecosystem services as another actor, whilst of course framing these case studies here in this very process of writing up the analysis, intentionally disassociating the actor-networks from their dynamic and evolving nature so as to ‘represent’ my findings here. In this way it was challenging throughout to keep the social flat, avoiding things like contextualising associations which can enrich ethnographic accounts of practices and cultures, or making generalising claims around general concepts such as neoliberalism that structured many of the processes I was witnessing; for example, the severity of financial cuts to the EA that have impacted their decision-making and environmental regulation capabilities. Similarly it was challenging to treat concepts as companions in the lateral manner that Wintherheik (2019) proposed; treating democracy as an actor at the same level as a flood defence, or questioning whether the appeal to ‘dualism’ at the heart of FRM practices then ought to be considered an actor in the network too. It was difficult in such situations not to ‘layer’ on these concepts. However the aim here wasn’t to provide the kind of contextual background that might ‘explain away’ phenomena or rather the sort of generalisations that move away from these specific localities. The aim instead was to discern the possibility of social values operating in these decision-making processes not simply as an after-thought to the engagement process, or as a commentary on the side failing to make an impact in decision-making, but as a possible value concept that could be a

powerful tool to facilitate exactly these kinds of transitions that FRM policy is recognising to be needed. It was on these grounds that ANT highlighted two major obstacles. These obstacles were the 1) value of capital that emerged as the most powerful actor and 2) the contested ontological and political paradigms. While the latter elements here around the contested ontological and political paradigms will be drawn upon more broadly in the next section, it is clear that an ANT methodological approach helped in identifying these obstacles. For now though, I will turn the attention to the first of these obstacles and how ANT as a method proved particularly useful in highlighting the power of the value of capital.

3.5.1.1. *'Value for Money'; disentangling social values from capital and Cost-Benefit Analysis*

An ANT lens proved a useful heuristic to demonstrate the power of capital through tracing the way in which it successfully managed to enrol other actors, black boxing associations and growing its networks in size. This meant I wasn't able to stand back and make generalizable claims that 'social values can't work here because of... capitalism (*gesturing at everything*)' but instead focus on the specific process of translations of other values that emerged. Muniesa (2019) points out an extract that bears a striking similarity to the analysis of these case studies from Guattari and Aliez (1984) who explain the process of semiotization that the value of capital performs by way of re-ordering things around its 'orbit';

'Each 'manifest' economic market thus displays in parallel different 'latent' areas of mechanical values, values of desire, aesthetic values etc. which we could call values of content... But the fact that these values of content are made, in the framework of the given relations of production, to give an account of themselves to the formal economic values is not without incidence on their internal organisation. They find themselves, somehow in spite of themselves, brought within a framework of equivalence, brought into a generalised market of values of reference – and the whole problematic which turn around the division use value/exchange value is thus shown to be completely invalid by the fact that the setting up of this framework of capitalist equivalence has, as its effect, to evacuate these forms of their social content. Use value is somehow drawn into the orbit of exchange value, thus eliminating from the surface of the capitalist process all that remained of naturalness, all spontaneity of 'needs'. (Guattari and Alliez, 1984 pg. 276)

This extract undoubtedly has influence on Callon's outlining of the processes of translation through which capital enrolls other values; values that are often hidden. The authors point out that 'it is [this] capacity to re-order through a single system of semiotization the most diverse mechanical values which gives capitalism its hold' (Guattari and Alliez 1984, pg. 275). Guattari and Alliez (1984, pg. 275) state that this enrolment that capital exerts is not simply practiced through 'standardizing, comparing, ordering, informatizing these multiple domains' as Ecological Economics debates around languages of value would suggest through concepts such as commensurability and comparability, though these are undoubtedly important concepts to think with (Martinez-Alier et al., 1998). Instead Guattari and Alliez (1984 pg. 275) point out how capital 'extracts from each of them one and the same mechanical surplus-value or value of

mechanical exploitation'. This idea then significantly comes to bear on the social values discourse set up in this thesis so far. For example, if we recognise the debate between Kallis and Swyngedouw (2019) arguing whether bees can be seen to produce value under a capitalist economic system, Guattari and Alliez (1984), like Swyngedouw, would argue that the bees themselves would only be seen to produce value through the way in which capital would extract the surplus-value through drawing the bees into its 'system of enrolment and equivalence'. Seen in this light, conceptual frameworks such as ecosystem services as a means to include nature in decision-making fails to challenge the operational dynamics of capital.

How might we think of the ways in which social values can challenge such dynamics? While this was a recurring cause for reflection through this fieldwork, an ANT analysis also highlighted how actors are always resisting enrolment, some more successfully than others. As Haraway (1992, pg. 311) points out; 'some actors, for example specific human ones, can try to reduce other actors to resources – to mere ground and matrix for their action; but such a move is contestable, not the necessary relation of human nature to the rest of the world. Other actors, human and nonhuman regularly resist reductions. The power of domination does fail sometimes in their projects to pin other actors down; people can work to enhance the relevant failure rates'. This failure of capital to pin other actors down could be seen in these two case studies too. For example, water resisted attempts to contain it either in CBA analysis when it undermined the idea that it could be ordered by the Foss Barrier, or the flood defence that was identified to need new construction at Terry Avenue. This brings to mind Bakker's (2005) work that talks of water as an 'uncooperative commodity'. This becomes plain to see when the material relationality of water comes up against the process of commodification that looks to strip an actor of its associations, its relations, its context so that it might be treated as an object to be sold or exchanged. Strang (Strang, 2004) highlights this when talking about the meanings attached to water only being understood through its socio-cultural connections in place. So in returning to Haraway's observation here, how might this 'failure rate' of capital be enhanced? Certainly, engaging with the materiality of water seems a good start, as Krause and Strang (2016) indicate when advocating research approaches that think *through* relationships with water.

Understanding the place for social values in this picture however remains messy. What would it mean for social values to be put to work in enhancing the failure rates of capital? While I was attempting to trace these actor-networks as opposed to attempting to use social values explicitly, I nevertheless became a part of these actor-networks myself. I would explain to actors the context of my research and the interest I had in social values. Such an inquiry, seemed to make sense to participants with whom the ideas at times struck a chord. For example, one of the residents enrolled in the Terry Avenue case study said,

'And that is a sense in, in a way, almost for me, you know, when the Environment Agency talk about engaging with communities, it's almost like, engage with communities, not just when you're doing stuff, engage with the community that lives

on the river that lives near the river. What do they value? That's what really struck me about your work. I thought, wow, I've never thought of it like that. How do they know what we value? (Participant - #1)

As Ecological Economics and the work around value pluralism illustrates, understanding how best to allocate resources in contexts such as environmental management, necessarily concerns a plurality of values that cannot be measured by CBAs or necessarily indicated by monetary values alone. Indeed this is where the social values discourse emerges. What is relevant here though is that people in both case studies contested the very ability of the value of capital and its leaky black-boxed associations with CBA to allocate resources efficiently. That is, CBA was deemed to fail in achieving the only thing it claims it can do well. This is the central claim of the ever-expanding market logics and the value of capital.; that it is an efficient way of organising and allocating resources. Yet here in Terry Avenue, the cost of the defence was considered as far too expensive for what was needed (re-calling the *'Rolls Royce option when a Morris Minor will do'* comment). Similarly, the CBA at Clifton Ings certainly left actors feeling like there was a need for compensation and that the defence project itself, which was 'barely viable' was limited in considering alternatives.

To summarise then, as revealed by ANT, social values must be able to directly contest these leaky black box associations, preventing these stabilising mechanisms from prematurely turning matters of concern to matters of fact. The next questions then are how can social values work to ensure the failure rates of dominant actors and work with actors that seek to form networks that might make better use of resources towards futures reflective of the living with frame.

3.5.1.2. Opening up the social to include the more-than-human

Understanding the 'social' of social values became a question of tracing the associations and paying specific attention to the material relations, between human and more-than-human through which values are embedded, generated and indeed seem to emerge. In this way, an ANT analysis moves social values research away from questions with limited scope around possible group formations, or compositions or even size of the group, consisting of humans alone. Instead ANT allowed us to open up questions of the social to include more-than-human.

What's more, participants themselves found it easy to talk about the types of values that might emerge through relations with more-than-human actors. Participants readily spoke of the agential power of water, to attract them, to make them feel calm, even to fill them with awe and respect. Living with water wasn't simply a matter of 'what can water do for us', as the economics discourse would have us believe. When the FoRM volunteer showed me around the Rawcliffe Meadows site, he did not talk about these ecological values as though they simply existed 'out there' and happened to provide a set of services to themselves as a group. Instead he spoke of their relations with the more-than-human world; how the different habitats and species helped shape their practices and experiences or similarly how they

themselves helped shape the more-than-human relations too. This finding echoed strongly with the attempt to include the more-than-human in the (2019) non-monetary valuation study I conducted with Kenter; here again participants found it easier to talk about the more-than-human through their relations which increased after the prompts to consider the more-than-human in the interviews. A similar point is made by Batavia and Nelson (2017) where relational values are described as ‘experiential analogues’ to ‘subjective intrinsic values’. We must consider reconceptualising social values to be open to an expanded ontological lens that allows such values to be co-constitutive of their more-than-human relations. These values would be responsive to the context-specific constitutions of the social in ways that could indicate towards ways of human and more-than-human living together differently. The implications of how such an expanded ontological lens for social values might look will be explored in the next section and will go on to guide the final case study too.

3.5.1.2.1. Are we decentring humans?

While an ANT lens indicates towards the need for an expanded ontological lens to better include the more-than-human that co-constitutes the ethical and political stakes in decision-making, we must take heed of certain criticisms of how ANT claims to achieve this. On this point then, is the criticism of ANT that it fails to account for ‘asymmetrical relations’ (Clark, 2020). This relates to the charge of correlationism that certain ‘object-oriented-ontologists’ (OOO) would accuse ANT of committing (Harman, 2018). This is the worry that in focusing on the human-more-than-human relations alone, i.e. that all representations of more-than-human must necessarily *correlate* with human relations, there may be the tendency to overlook the significance of certain relations that do not involve humans very much at all. As Clark (2020, pg. 159) illustrates, ‘if too much attention is focused on the inter of interconnectivity – or in some registers, the intra of intraconnectivity – there is a risk that we underestimate the power of the non-human to take us by surprise, to undermine or overwhelm our collective endeavours. To put it another way, privileging the mutuality of human– non-humans relations will encourage us to direct our inquiries to objects, events and processes where ‘we’ and our non-human ‘others’ are discernibly co-present – in the process discouraging us from dwelling sufficiently on the more distant, withdrawn or obdurately inhuman’ (Clark, 2020, pg. 159).

The account of hybridity that ANT offers focuses on the highly complex socio-technical assemblages with which human and more-than-human are undoubtedly co-present (Braun, 2010). Of course, as the discourse surrounding the Anthropocene indicates, this is a largely justified response to the fact that the presence of humans, in terms of anthropogenic effects or impacts on the planet, is demonstrable in nearly all corners of the globe. However, as Clark (2020) points out such an assumption that the more-than-human only exists in relation to humans might actually subjugate the emergence and the possibilities for more-than-human relations to ‘surprise’ or to develop in uncertain ways. While I don’t think this point takes away from the methodological advantages to an ANT approach it does bear thinking about for

future considerations of social values. Indeed the very premise of intrinsic values is based on the idea that there might exist some values in the more-than-human world that are not entirely dependent on humans (O'Neill, 1992). While many of the 'varieties' of intrinsic value that then emerge from that basis are dualist in their ontology, it seems important to not lose sight of this basic premise entirely (O'Neill, 1992). This is worth thinking about in the next chapter when considering how to reconceptualise social values in such a way that leaves them open to not only include more-than-human relations with humans but also to acknowledge more-than-human relations with more-than-human. Such an account of social values would acknowledge asymmetry too.

3.5.1.3. *Evaluating hybridity*

The last concern here is the ability of ANT as a method to not only *describe* actor-networks but to somehow *evaluate* them too. When using ANT as an approach to analyse a river restoration project, Eden and Tunstall (2000, pg. 271) highlight the methodological advantages ANT has in moving beyond typical debates around philosophical tensions in nature-culture that often characterise the restoration literature; i.e. 'nature good, humans bad' as they refer to it. However Eden and Tunstall (2000) also recognise the shortfalls of this ANT approach when it comes to the link with decision-making and policy. This hinges on the realisation that ANT as an analytical tool is very useful in retrospective analysis yet not so helpful in prospective claims about what might be desired in the future. In part this is because ANT attempts to foreclose attempts at 'moralising' or making judgements too soon; (Latour, 1990 pg. 130) states that 'we refuse to accept judgements that transcend the situation'. Eden and Tunstall (2000, pg. 271) conclude their analysis with a point that is pertinent for the remainder of this thesis; 'So we have two incompatible halves of a restoration theory: ANT traces restoration as environmental transformation but draws back from evaluation; philosophy morally evaluates restoration as environmental policy but from a dualistic standpoint which fails to appreciate hybridity and thus undermines its own prescriptions. Neither is satisfactory because neither does the whole job. Nor can we combine them because of their utterly different view of the relationship between nature and society. Despite the theoretical satisfaction and interest derived from ANT in geography recently, if we want to contribute to the ongoing debate about the worth of restoration as environmental management, we shall need theoretical frameworks that both appreciate and evaluate hybridity'.

This is of course crucial for the wider consideration of the aims of this thesis. ANT has offered us a methodological lens here to unsettle boundaries between nature-society and expand the ontology of the social. However, ANT seems to fall short on account of not being able to evaluate the actors and networks themselves. This criticism of ANT in part falls back on a broader criticism that has been charged at the method. That concern is around the question of understanding the motivations or the underlying reasons that motivate actors to act in these actor networks; this question essentially is a

question of understanding the values of the actors themselves. In this regard, it seems that ANT indicates towards a theory of actors that is difficult to distinguish from the homo-economicus at the centre of neoclassical economics that social values seeks so keenly to challenge and move beyond. In this regard ANT could be seen as holding this exploration of social values back. Lave (2015), in referencing McCellan (McClellan, 1996 pg. 203) illustrates this point well, 'the "A" in ANT describes rationalizing, interest-maximizing actors strongly reminiscent of homo economicus and the core subjectivities espoused in neoliberal (and neoclassical) theory'. The concern here for critics such as Lave (2015) and McCellan (1996) is that if ANT cannot distinguish its theory of the actor from the core actor within neoclassical economics, then the methodological approach can be coopted or 'appropriated into neoliberal organizations and research agendas'. Lave (Lave, 2015 pg. 219) claims this has taken place 'to the deep discomfort of critical nature/society scholars who regard ANT as a politically radical theoretical approach'.

While this may seem like a troubling accusation for ANT, Lave (2015) does not engage with the direct attempt by Callon (1999) to defend ANT in the face of such an accusation. Callon (1999) talks explicitly about the dangers of the actor being taken to be both the 'homo-economicus' and 'homo-sociologicus' which though are often assumed to be polar opposites, actually share the common assumption of 'individual agents with perfectly stabilised competencies'. Callon (1999) refers to this as 'homo-clausus' as a person 'closed in' on themselves; the former defined by acting through rational self-interest, the latter acts as though acting in perfect accordance with the social structure of the group. Instead, Callon (1999, pg. 8) borrows from Granovetter (1985) to talk of the social network in which 'agents' identities, interests and objectives, in short, everything which might stabilise their description and their being, are variable outcomes which fluctuate with the form and dynamics of relations between these agents.' This account seems to evade the charges of homo-economicus acting at the centre of networks that Lave (2015) accuses of ANT. What's more this description in its recognition of the effects of dynamic relations between agents, serves well in the social values discourse with its emphasis on the processes of value formation, and generation that may be affected by the very actors involved. Put another way, this account leaves the network and actors *open*, as opposed to closed, to the inclusion of more-than-human actors and their relations co-constituting the fabric of the social through which we might come to understand the values at play.

In this way, I don't take these criticisms of what motivates the actor to act in ANT as a knock down blow for ANT, in fact, borrowing from Callon (1999) and Granovetter (1985), I believe noting this criticism can serve to strengthen what any account of social values must entail. My conclusion is that though ANT is a useful tool in beginning the exploration of the potential for to consider social values in FRM and sustainability transformations, it may not be the answer for how social values can be put into *practice*. ANT has demonstrably helped explore how both the social of social values might be constituted differently and how they could subsequently enter into decision-making by highlighting and encouraging the specific failure rates of the value of capital for example. Yet for the next steps we may need to engage

more seriously with the evaluative questions that emerge from understanding hybrid networks; how do we evaluate the kinds of ethical and political stakes that emerge in such human more-than-human (extended to more-than-human and more-than-human) assemblages. As Whatmore (1999 pg. 30) identifies, 'I do not think that one can, or ought to, look to ANT to provide some sort of ready-made compass. None the less, there are useful beginnings here for journeys out of the impoverished wor(l)d of N/nature'. ANT has certainly challenged the impoverished understandings of nature as well as the social, yet in the next chapter we may need to turn our attention to the question of how to work with social values as a form of 'compass'. Not necessarily as a moral arbiter, but perhaps as a conceptual tool that can help guide, or rather facilitate decision-making in ways that centre on democratic engagement. In the next chapter I will pick up on these reflections of the use of ANT to work into reconceptualisations of social values.

3.5.2. Flood Risk Management as a set of de-futuring practices

Lastly in this chapter I want to return to the implications that these case studies have brought to light on FRM practices. What these case studies revealed was the way in which FRM might be understood through what Whatmore (2013) and Mol (1999) have referred to as ontological politics. Ontological politics makes the basic assertion that reality is never a given as though it somehow precedes the very practices that interact with it (Mol, 1999). Instead our practices shape the very realities in which they take place. This resembles the way in which Law (2004) talks about how researchers might better deal with 'messiness' in research concerning what might be considered the 'social'; that our methods and concepts co-create the realities that we are looking to describe. These points emanate from this shared recognition that ontologies are multiple and that actors acting, or being enacted, come to shape the realities within which they exist (Law and Mol, 2008). Ontological politics is not concerned with how we know things to be the case (epistemological questions) but instead on how things come into being. With this in mind then, we might view FRM as a set of practices that do not simply seek to describe flood risk and subsequently manage the problem, but instead as practices that in themselves come to play a role in how we understand the reality of flooding to have emerged. For the remainder of this section, I am going to explore how this notion of ontological politics of FRM might suggest how FRM practices could be carried out differently.

To do this I will draw upon the work from the field of critical design thinking and specifically the notion of 'de-futuring' that Fry (2010) talks of. 'De-futuring' is a preferred term to 'unsustainability' for Fry (2010), in that it gestures towards the way in which practices, particularly in thinking about design, can reduce the possibilities for acting otherwise. White (2019pg.40) draws on Fry's work to consider the implications for ecological democracy summarising this notion of defuturing as 'the propagation of systems of production, consumption and lifestyles that, through their environmentally destructive forms,

are literally stealing or radically narrowing our future possibilities'. White (2019, pg. 40), then links this characterisation of de-futuring to the kinds of logics that were so clearly evident in the FRM decision-making processes - 'in its dominant, commercial, capitalist configuration, design is suffused with instrumental rationality; it is technocratic, depoliticised and has become central to the current de-futuring project'. Fry (2010) makes the point that designers often overlook how the things that are designed, have an after-life in that they, in effect, go on designing worlds around them. Emphasising the central importance of design as a concept in socio-ecological systems and political imaginaries, Fry (2010) doesn't limit the notion of 'designers' to 'design professionals' but design thinking can be applied and indeed must be applied to nearly all modes of thought. I do not intend here to take on Fry's (2010) assumption that it is a unique feature of humans to be 'self-designing' beings, as though it is something other beings do not possess; for example, I find it hard to think that more-than-humans don't design their environments, such as spiders designing their webs, beavers creating dams or fungi creating networks of nutrient distribution in forests, or 'wood-wide webs'. Rather I do look to take Fry's emphasis on the idea of de-futuring and think this concept through the practices of FRM.

The first notion that 'de-futuring' calls to mind here, and in particular relation to the economy-environment-democracy nexus, is the idea of 'path dependency'. Dryzek and Pickering (2018) identify path dependency as a central characterisation of what they refer to as 'holocene institutions'; i.e. institutions not fit for the Anthropocene. In terms of systems thinking, path dependency can be understood as a form of 'locking in' or a feedback loop in which every decision that is made leads to limited options further down the line. That is, decisions taken in the present necessarily restrict our options, or rather our possibilities, for acting otherwise. If FRM is looking to enact futures differently, then this is clearly a pressing concern at the core of FRM practices. In thinking about FRM then, this can clearly be seen as evident in the notion of the levee effect where decisions to build upon the now protected floodplain leads to greater likelihood of more severe flooding (Baldassare et al., 2013)

So how might this de-futuring be countered? Looking further afield, 'Radical Help' by Cottam (2018) looks at how we might revolutionise the welfare state from the basis of many of the same observations that characterise FRM decision-making. Of particular interest here however is the 'shared principles' she develops along with the participants in her studies that have first-hand experiences of dependence on welfare provision. One of these principles is that of starting not with identifying risks but instead creating *possibilities*. Cottam (2018, pg. 209) states, 'This approach contrasts with the twentieth-century systems that assess risk and then attempt to manage it. That perspective is destructive. It encourages us to focus on what might go wrong rather than build towards what could go right.' As a result Cottam (2018, pg. 209) recognises, 'Our needs and the accompanying risks grow, and so our systems shift yet further resources into managing more risks. A singular focus on risk becomes a self-fulfilling prophecy.' This resonated strongly with some of the conversations I encountered across these two case studies. The distinction between possibilities for living with water differently that other values indicated towards were often suppressed or obscured when they were enrolled into management systems focused on the risk to capital

alone. As set out in the introduction, part of the reason for focusing on social values in this thesis is that it encourages us to take a step back from risk thinking, to consider what do we first come to think of as being risk *worthy*; what are the stakes on the table in terms of future possibilities of living well with water.

To bring this example back to the FRM discourse, I will draw from Lane et al., (2011) who expose how the practices of flood risk analysis in the UK are in a sense imagining flood futures. Recognising the constraints to decision-making around CBA and government guidance in the Green Book as well as the value of capital, in the way that these case studies have demonstrated, Lane et al., (2011) go on to highlight how this process can restrict ideas about what might be *included* in possible futures; that is the process of flood risk analysis centred on CBA restricts possibilities for acting otherwise. Lane et al., (2011) point out that owing to the need for CBA to be evidence-based, FRM practitioners implicitly decide what evidence, or observations about the world from the past and present to include or exclude in their flood risk models in order to make decisions about the future (DEFRA). In so doing, this process of *assembling*, of what actors and their associations, to include and exclude, involves imagining very specific flood futures. In terms of what's included, it is typically hydrological data that describes the world independently of humans' place in it, again imposing an objective view of the world 'out there' which is assumed to be inherently stable, predictable and passive (Linton, 2014). Specific model adjustments may also be included, such as percentage increases in rainfall due to climate change or, in the case that Lane et al.,(2011) explore, assumed policy regulations that prevent development on floodplains. While the exclusions are many in terms of human and more-than-human actors, it is often the plural knowledges of local communities, as alternative ways of knowing and living with water that are left outside these assemblages (Acharya and Prakash, 2019). This is what Lane et al, (2011) attempt to challenge in their calls both here and elsewhere to democratise the process of knowledge production in flood risk science (Landström et al., 2011). However, going further for the purposes of our inquiry here, another example of an exclusion, is the pluralities of values, which are rarely taken into consideration in modelling, even in socio-hydrological modelling (Wesselink et al., 2017). Wesselink et al.,(2017) point out the difficulties that remain within socio-hydrological analysis of including the is largely because the inclusions of plural values can entail unpredictability which present difficulties for producing *evidence*-based decision-making. However it is precisely this unpredictability, or these *possibilities for futures otherwise*, that FRM policy and decision-makers are now keen to explore when differently about living with water.

As Cottam goes on to say, there is a way in which the welfare state in its managerial design, actually creates a culture of dependency through making itself indispensable to the problems it is attempting to address. It's almost like putting plasters on a person without asking them how they keep getting recurring injuries and whether there might be a way this could be prevented. In a similar way, FRM is designed to make itself as an institution indispensable to the problems it is charged with addressing; FRM putting plasters (flood defences) on the perceived problem (living with water). This creates a culture of dependency, both on the part of the communities who are vulnerable and exposed to higher and higher risk of flooding but also within FRM practitioners themselves. The hard wall at Terry Avenue supposedly

only has a life span of 10 years which means, the decision-making process will likely be started all over again by 2030. So what might happen if we think about institutions that centre not on perpetuating problems but instead on making their roles *redundant* to the problem they are interested in. That is, what if FRM centred on questions of how might we imagine our socio-ecological systems in ways that did not consider flooding to be a problem? To reverse the phenomenon of de-futuring design, Fry talks of re-directive practices, as capacity to direct towards possible plural futures. So how might FRM become re-directive, by way of being practiced differently? Dryzek and Pickering (2018, pg. 103) indicate that the opposite approach to governance based on path dependency is ‘reflexivity’ as ‘the capacity of structures, and systems to question their own core commitments and values such as justice and sustainability, then make changes if necessary’. How would it look if FRM possessed such reflexivity; how might FRM decision-making take place if there were spaces to question its core values?

In this section, I have argued that Flood Risk Management as it is practiced in the past and present has been characterised not just by hierarchical technocratic decision-making that alienates communities but through a set of practices that can be understood as de-futuring. That is, FRM practices are, by design, limiting in their possibilities for creating futures otherwise. In the next section I will explore how social values might be reconceptualised so that it might, to borrow from Sullivan (2013 pg. 69) ‘transmute’ the de-futuring practices of FRM ‘into democratic and vivacious socio-ecological sustainabilities’. This will be the task ahead then and the task that social values must be able to engage with. In this way, our attention will be to reconceptualise social values on the basis of the implications that these opening case studies have offered. How can social values facilitate transitions through the contested political logics and the contested ontological paradigms that emerged across both case studies? Fundamentally the question becomes one of how might social values as a concept better engage with the implications of ontological politics. Ontological politics is not simply the combination of ontology and politics, but instead it is crucially concerned with the ethical and political stakes, what is valuable, when we consider the practices through which realities come into being. This for me is where social values in both discourse and crucially in its practical applications needs to engage.

4. Facilitating transitions; Social values as a ‘fuzzy’ tool

‘The ultimate stake of politics ... is not even the struggle to appropriate value; it is the struggle to establish what value is.’ David Graeber (2001, 88)

‘... separating ... was severely detrimental to subsequent thinking and has left us with a legacy which is now a real mindbender to try and overcome.’ Doreen Massey (1999 pg. 62)

The barriers to implementing social values in FRM as described in the previous chapter and the first two case studies were revealed through the contested political and ontological paradigms of FRM. As a result the task now becomes one of how social values can be reconceptualised in ways that could navigate such barriers. Specifically, in relating this concern back to chapter 2, how might social values be reconceptualised at the economy-environment-democracy nexus so as to *enable*, or *empower*, social values to ‘move between’, or rather facilitate the shifts between, the economic, political and ontological paradigms that the logics and technocratic practices of FRM seem incapable of moving through. This question becomes key to the idea that social values might be able to facilitate shifts towards future human-nature relationships reflective of the ‘living with’ frame.

In this chapter I will explore how social values can navigate the ethical and political stakes that emerge through assemblages such as in the context of FRM. I will argue that this can be done through reconceptualising social values as a fuzzy tool that is always situated, as though operating in a liminal space between things as they are and as they might become otherwise. Focusing on 3 key dualisms that I argue hold back social values, I will explore how social values might be reconceptualised in three important ways; 1) it expands upon an anthropocentric and humanist account of social values, 2) it moves beyond the static, mechanistic view of the world towards working with processes of change and 3) it expands upon our understandings of how we come to know what matters.

4.1. Environmental to Ecological revisited

One of the key differences that demarcates the range of ideological responses at the economy-environment-democracy nexus that was introduced in chapter 2 was that of the ontological distinction between environmental and ecological. Beyond terminological similarities, both approaches to economics and democracy could be seen to lead to a different set of implications depending on whether environmental or ecological preceded it. While in chapter 2 this was presented relatively superficially, acknowledging the ranges of responses that derive from this distinction, here I want to revisit this difference more seriously, specifically focusing on two concepts that are core aspects of ecological

economics, the idea of the economy as ‘embedded’ within the environment and the notion of social metabolism.

4.1.1. Embeddedness and social metabolism

Firstly the idea of embeddedness within ecological economics is celebrated as a key ontological shift from environmental economics. The core tenet of environmental economics sees the environment as an external pool of resources, a subset that can be extracted from to benefit the economy and the passive backdrop for its externalities. However, recognising that economic systems are embedded within the environment as Ecological Economics does, shifts the basic assumptions of what economics ought to be concerned with. No longer, can we assume ‘infinite growth’ of economic systems with the recognition of biophysical limits of the environment as set out in the natural and physical sciences being adopted as central concerns for ecological economists. As an example, this kind of approach has been popularised through Raworth’s (2017) ‘Doughnut model’ for economics, which consists of identifying a ‘safe-operating space’ for an economy where it can meet social needs and stay within planetary boundaries. This conceptual framework itself, including the notion of safe operating space, is based on the work of scientists Rockström et al.,(2009) who identified planetary boundaries as a concept that revealed tipping points and the limits to which humans must abide. Such thinking poses serious questions of economic systems regarding whether or not it is possible to decouple economic growth from material resources; i.e. extraction, consumption and waste. The key point here is the recognition of material limits that might frame how we make economic decisions (Söderbaum, 2013, Kolinjivadi, 2019).

This sense of embeddedness has been noted in the democracy literature too with Dryzek and Pickering talking of ecological reflexivity as something they aim to ‘embed’ within in democratic systems of governance in a way reminiscent of the call within ecological economics. As Dryzek and Pickering (2018, pg. 149) indicate, this kind of work goes beyond the institutional setting; they suggest, ‘(this work) must also involve a challenge to the dominant discourses that effectively suppress distress signals from the non-human world. Such a challenge would help constitute a democracy whose engagements could open up spaces for listening and reflecting, and so entry points for non-human “actants” into deliberative systems.’ The authors then go on to point out that ‘There are intimations of such possibilities in global biodiversity governance as economistic discourse gives ground to alternative ways of thinking about biological diversity and human relationships to ecological systems but much needs to be done to make such engagement consequential’. Such ‘intimations’ refers to the recent developments in the IPBES valuation frameworks around Nature’s Contributions to People (NCP). The Life Framework of Values (LFV) might well be the latest further development or ‘intimation’ of such possibilities in challenging dominant economic discourses. This sense of ecological reflexivity seems to invoke certain similarities to the discussion of embeddedness within ecological economics. Dryzek and Pickering (2018) talk about this reflexivity as a form of ‘listening to’ earth systems or the more-than-human world. But understanding what this ‘listening to’ might mean could equally refer to conventional environmentalism or green politics

of ‘advocating for’, or ‘representing nature’ (Eckersley, 1999, Eckersley, 2011). Here again, Dryzek and Pickering (2018) remind us that the capacities of the earth frames the kind of possibilities for democratic thinking and decision-making.

However the notion of embeddedness seems to keep us somewhat trapped in a dualistic mindset. For example, Braun (2008) points out the notion of embeddedness implies that economies and societies, even if recognised to be *within* the environment, still maintains an exchange from ‘within’ to ‘outside’. This criticism resonates with similar concerns around the notion of social metabolism, or more specifically the ‘metabolic rift’ between nature and society. This concept has proven a popular one particularly among Marxist geographers and political ecologists who look to demonstrate the different material and temporal processes through which economic systems and ecological systems interact. Moore (2017) explains this point well through what he calls a ‘double yes’ that the kind of thinking around this notion of a metabolic rifts leads to; ‘Are humans part of nature? Yes. Can we analyze human organizations as if they are independent of nature? Yes. Metabolism-centered studies, like much of critical environmental studies, face an unresolved contradiction: between a philosophical-discursive embrace of a relational ontology (humanity-in nature) and a practical-analytical acceptance of Nature/Society dualism (dualist practicality). It has been one thing to affirm and explore the ontological and epistemological questions. But how does one move from seeing human organization as part of nature towards an effective—and practicable—analytical program?’ (Moore, 2017, pg. 292).

This same question could be asked of this thesis now, and such a criticism could be charged at the social values discourse more generally. Despite certain suggestions in the right direction, social values has not yet done enough even to convince people that it can philosophically embrace a relational ontology (Raymond et al., 2021). Conceptualising social values in this light then seems to be unsatisfactory as it is still concerned with nature and society separately; as though focused on ‘comings and goings’ of ‘nature’, in and out of exclusively human value systems.

Relating to the discussion in section 3.5, I am interested in social values attending to the dynamic but also emergent and immanent character of assemblages - that they might become something different.. Gibson-Graham et al., (2016) argue for the need to re-embed economies within ecologies in much the same way that ecological economics would recognise. However they go one step further, acknowledging that such a ‘re-embedding’ cannot take place through the persistence of the market logics as the central organising force of human, non-human relationships. Instead Gibson-Graham (2016) argues for the need to resituate human within ecological communities *as well as* re-situating the non-human in ethical terms. Applied in the context of FRM, this position also finds itself aligned with the recent call from Strang (2020b) to re-imagine rivers as sites of ethical encounters. In their piece in ‘A Manifesto for Living in the Anthropocene’, Gibson-Graham (2015) indicates in more detail what this sense how we might make such a transition beyond simply describing different economic relations; ‘We must construct a different

vocabulary and language of economy that can register the variety of ways in which economic goods are produced, transacted, distributed, financed and owned. When we take an appreciative, descriptive, and less systemic approach to our economic world we are able to see specific geographies and histories of economic interaction. We can begin to discern ethical practices of economy that maintain, sustain and enlarge ways of living well together with each other and earth others. Once we reveal a diverse economic landscape we can begin to track and theorize the economic dynamics we might like to encourage.’ (Gibson Graham et al., 1999, pg.106)

These last points set the scene for the task ahead in this chapter. Collectively these ideas such as ‘embeddedness’ and ‘social metabolism’ that are at the heart of ecological economics don’t simply call for new conceptual frameworks or analytical tools that describe and appreciate the dynamics of these relationships, even if those tools describe those relationships in ways that effectively capture their hybridity, uncertainty and complexities. Rather, these ideas also call for a radical re-thinking of what comes *next*, ‘what comes after entanglement’ (Giraud, 2019); how can concepts deal with the ethical and political stakes that emerge from these complex, uncertain, hybrid encounters? This kind of concern reflects similar calls that were raised at the end of the last chapter too around the capacity of ANT not just to describe or rather appreciate hybrid networks but also to evaluate them as Eden and Tunstall (Eden et al., 2000) declare to be so important. This sense of ambiguity, or sense of in ‘between’ a ‘philosophical-discursive’ embrace of how things ought to be and a ‘practical acceptance of where we are’ sums up the position social values finds itself to be in. In this chapter, rather than shying away from this seeming paradox, suggesting social values ought to be concerned with one or other of the horns of this dilemma, I am going to argue that social values power lies precisely in its ability to move between these tensions.

4.1.2. Breaking glass ceilings

In setting out the introduction to this thesis I pointed out the concern that social values, amidst escalating social and ecological crises, could simply remain a commentary from the side-lines of economic and political decision making. Put another way, social values in their current conceptualisations fall short of enabling the radical socio-ecological formations needed. By way of analogy, earthworms play a crucial role in creating good soil health; decomposing organic matter and ensuring good soil structure though leaving tunnels behind them allowing oxygen and water to permeate the soil. After rainfall in urban areas, earthworms come to the surface to find water to help them breathe however as a result they often end up stranded on impenetrable concrete. Restrained, they find it hard to return to the soil where they can do their work. As the sunlight of day warms and dries the concrete surface, they are at risk of drying out too. This is a similar way to which I see social values and their current conceptualisations. They have potential to facilitate transitions, to enable socio-ecological flourishing however they need to be helped back into the ground, free from the restraints that prevent them doing their work.

To emphasize this point, I will briefly draw on Hammond's (2020) notion of 'glass ceilings'. Hammond (2020) talks about the need to break glass ceilings in order to enable the deep sustainability transformations that are yet to happen and are so desperately needed. In describing these 'glass ceilings', Hammond (2020) outlines the kind of 'political grammar' that ensures certain systems perform in certain ways which can prevent people from thinking differently and from enacting change. Hammond (2020, pg. 174) points out that although 'ecological, economic, and political material facts ... play a part in determining the space for societal change, a capacity for transformation depends also on the society's perception of its social reality and future options, formed by the sum of its members' thoughts and political imaginations and how they inform public discourse (for example, how open rather than set-in-stone the society's future paths are perceived to be by citizens, how free and rewarding they find their engagement in public dialogue on it, and how reflexive and creative the ideas put forward within such dialogue).' This leads Hammond (2020, pg. 174) to go on to say, 'hence, it is possible that one part of what has been preventing a deeper breakthrough towards sustainability is a glass ceiling that is cultural in nature: one set by a given construction of social reality, made up of a given set of meanings and imaginative horizons.' This notion of glass ceilings as the 'perceptions of social realities and its future options' that can frame or restrict the democratic possibilities for making transformative decisions is an idea that strongly resonated with what I identified during case studies 1 and 2. Cost-Benefit Analysis for example was yielded as a glass ceiling that prevented FRM practitioners from being able to practice FRM differently. In being branded as an objective matter of fact, so as to settle disputes and remove issues from contestation, the perceived economic reality of how FRM decisions are made became a glass ceiling for thinking about FRM differently. Similarly the perceived social reality of FRM as a practice that keeps dry places dry and wet places wet, separating people from water at all costs enacted an ontological dualism that also became a 'glass ceiling' preventing making decisions differently.

If social values, at the economy-environment-democracy nexus, are to realise their potential in facilitating transitions as transformative practices they need to be able to break through these glass ceilings, these constraints on possibilities for things being otherwise, for other imaginaries. I will argue that these glass ceilings are highlighted through economic, political and ontological paradigms through which both FRM and social values are currently practiced. These paradigms have both respectively been shaped by a dualist worldview full of dichotomies. I will aim to illustrate ways that social values can operate in the ruins of these dichotomies, not by way of denying their existence, nor proposing such dualisms are abandoned, as they have been powerful constructions that have shaped the realities that we live in and live with today. Instead, social values must be able to move between such concepts, offering pathways to more relational and more generative futures. In the following sections then I want to think through social values as a tool that can facilitate this very task of 'breaking through glass ceilings' facilitating transitions between economic, political and ontological paradigms.

4.2. Social values as a fuzzy tool

In this section, I will set out what it means for social values to be considered as a fuzzy tool. Specifically I will draw on the ways in which social values somehow sits in between, or in a sense is suspended between a range of dichotomies. I characterise this feature of social values as the ‘fuzziness’. Fuzziness, like liminality, implies a state of transition, a blurring of boundaries where something confers a sense of being in flux. It is precisely these qualities of fuzziness however that I think social values ought to embrace, as the complexity and messiness has been embraced before (Kenter et al., 2019a). This fuzzy quality has been observed as a useful notion to frame a shared ontology for governance of maritime heritage. von Negenborn (2021) recognises maritime spaces as particularly difficult to coordinate governance efforts owing to three features of what might be considered common heritage; 1) the existence of *political disagreement* (between UN member states) regarding the extent of heritage in marine areas, 2) the way in which what constitutes the heritage itself is in *fluctuation*, owing to things like species migration, never staying one place and lastly, 3) owing to epistemic *uncertainty*. Von Negenborn states (2021, pg. 11) ‘only if we acknowledge the heritage’s blurry boundaries and the impossibility to capture it by its components, we will succeed in putting the morally loaded concept of a common heritage to practice’. von Negenborn (2021) looks to establish a shared fuzzy ontology for the purpose of justifying a more holistic, ecocentric grounds for marine environmental governance, recognising that ecocentrism justifications in the past have fallen short of meeting objections on grounds of eco-fascistic implications; prioritising the stability or integrity of ecosystems can overlook the importance of the individuals within such ecosystems. While the context for turning towards embracing such a fuzziness differs from the context here, I look to similarly turn towards the qualities of fuzziness in the conceptualising social values. The motivations for establishing this fuzziness will be owing to the recognition that social values has its conceptual roots in the social sciences, a field marred by such dualisms; denying these, or attempting to reconnect them may ignore the historical differences that remain so powerful and harmful. Just as von Negenborn (2021) turns to the characteristics of the marine environment that pose difficulties for value orientations in marine governance, I will here turn to the challenges posed by water more specifically to ‘force thought’ during the ‘ontological disturbances’ that emerge in floods, when boundaries are blurred or are in fluctuation (Whatmore, 2013). In each of the following sections I will first set out the dualism in question and identify how it can pose serious constraints for thinking and practicing social values. Then I will attempt to draw on other fields, broadly within the environmental humanities and cultural geography and indigenous scholarship, to demonstrate possible ways of reconceptualising social values in the liminal space between such constraints.

4.2.1. Nature and Culture

The first dualism of modernity and the one most cited is that of the distinction between nature and culture. This dualism has already been outlined in earlier chapters and the implications of this distinction that is emblematic of the western worldview and at the heart of western political and economic institutions, has been well rehearsed (Muraca, 2009). In chapter 3, I demonstrated how this dualism is practiced in FRM through the treatment of water as an abstracted object, a passive substance that acts simply as a conduit for resources and as a drain for waste. This abstracted view of water is considered central to the operations of FRM and water ‘resource’ management more broadly (Linton, 2010). However whilst we have touched on these implication for FRM, it is worth now turning to the implications of this dualism for understanding social values. This is all the more important as we begin to consider, as the FRM policy intends, ways of valuing living *with* water, making decisions based on ‘nature’ such as NFM (Raymond et al., 2017). A trend is developing however that with the growing interest in such nature-based approaches, there are seemingly more and more researchers turning their attention to focus on more-than-human agency, entanglements and encounters in fields such as critical heritage studies and urban design and planning (Maller, 2021, Maller, 2018, Steele et al., 2019, Maller, 2019, Robertson, 2018, Harrison, 2015). There seems to be a recognition that promoting nature and heritage is not a neutral course of action, but a value-laden terrain which requires navigating the ethical and political stakes of living with more-than-human worlds. So how might social values contribute to this trend and be considered fit for the task of navigating the kind of ontological politics outlined in chapter 3.

As previous chapters have indicated, the association of social values with environmental valuation frameworks is the main approach through which social values has claimed to represent or include the environment in valuation and decision-making. In understanding people’s social values in association with frameworks such as ecosystems services and nature’s contributions to people, the aim is for researchers to communicate the environment and its functions as providing a set of services through which they then aim to gauge an understanding, or rather elicit, the importance people ascribe to such services. Put another way, ecosystem services act as a form of interface between ‘ecological values’ and ‘social values’ (Bryan et al., 2010). Such dualisms are found to have implications peppered throughout the sustainability science discourse; natural scientists and conservation practitioners who are primarily concerned with ‘ecological values’ are found to have more ecocentric, or biospheric, value orientations whereas social scientists are more likely to be anthropocentric, concerned with understanding social and cultural values (Sandbrook et al., 2019). While such discoveries are unsurprising, the assumption of a nature-culture dualism underlying all of this work, means that researchers pursue case studies as though in constant search of the perfect balance of social and ecological values in total harmony with one another. For example, Bryan et al., (2011) have carried out a spatial assessment to identify correlations between social values towards ecosystems and ecosystem services and ecological values of certain sites. However such studies and inquiries presuppose the very distinctions that they aim to connect. The aim in their study is to inform management strategies about improving site management, i.e. where ecological value is high and social value is low then one ought to aim for environmental education and community engagement to

balance these outcomes. This coheres with the same context and scope of Chien and Saito's (2021) recent work looking to evaluate the socio-ecological 'fit' of urban rivers in Taiwan, linking this work directly back in to the same intersections of economic discourse (the authors are concerned with urban ecosystem services provision) as well as adaptive governance. However as pointed out in an earlier chapter, such an approach often assumes the core problems to be that there is a disconnection between people and the rivers in these contexts. This links back to earlier chapters where it was shown that more traditional valuation approaches may not suffice in the context of urban rivers and waterways where ecological values have been 'lost' due to urban degradation or are in need of 'rediscovering' (Everard and Moggridge, 2012).

The well-rehearsed criticisms of these valuation frameworks that act as an interface between social and ecological values then however have variedly focused on the ethical, ontological and practical implications that follows from adopting them (Jax et al., 2013, Silvertown, 2015). A common occurrence between these criticisms has been that of the dualist ontology at the heart of these frameworks. The specific dualism at the heart of these valuation frameworks is that between nature and society, or nature and culture. This dualism as explored earlier in diagnosing the traditional approaches to FRM, assumes nature as a distinct entity that exists 'out there', a passive backdrop to human lives. In this case then valuing nature, simply becomes a question of valuing how it suits our ends, treating the environment as a means, an instrumentally valuable pool of resources. This has serious implications for how we think about economic valuation, as Muraca (2009) indicates when talking about this understanding of nature as kept outside the 'city walls' referring to society. Though Muraca (2009) focuses on economic thinking, the implications can be drawn out along the nexus in association with how we think about democracy too. Muraca states (2009 pg. 171) 'Here plurality is at home, all preferences are welcome and never questioned as far as they take place within the walls and accept the presupposition of a nature infinitely at disposal as source and sink. The very fundament of our economic system is indeed nature as a presence-at-hand, nature as passive matter, nature as a silent source to be exploited.' Such a quote references the earlier quote from Plumwood, reflective more broadly of the eco-feminist critique of human exceptionalism that treats nature as only instrumentally valuable; 'We struggle to adjust, because we're still largely trapped inside the enlightenment tale of progress as human control over a passive and "dead" nature that justifies both colonial conquests and commodity economies' (Plumwood 2007 pg. 1).

It might not be totally fair to brandish all work development in the area of environmental valuation in this light, as there has been progress towards recognising the agency of nature in 'shaping' society and culture too. For example, existing valuation frameworks, like Fish et al., (2016) 'cultural ecosystem services' have recognised the way in which nature and culture 'shape' and 'enable' each other. Similarly, elsewhere there is an increasing acknowledgement of the way in which ecosystem services are 'co-produced' that suggests that the idea of agency of the more-than-human world is increasingly being considered in valuation (Palomo et al., 2016, Raymond et al., 2018). However even advances like these are still being articulated from a dualist worldview where the 'biosphere' and 'culture' are still understood as distinct categories

(Kolinjivadi, 2019, Comberti et al., 2015). This aligns with the kind of critique that Braun (2008) charges at the use of the notion of ‘embeddedness’ and that Moore (2017) indicates when people talk of social metabolism and ‘the metabolic rift’. These ideas, though based on a recognition of the mutually evolving and shaping relationships between nature and society still largely seemed to be trapped within a dualist ontology. As Comberti et al., (2015) points out valuing the environment only according to goods and services leaves little room to value and appreciate reciprocity and cultivation; does a gardener value their garden simply because of the services it provides (‘provisional services’ such as food production, fruit and vegetables or ‘cultural services’ such as aesthetic values) or does the gardener get something more out of it, finding the practices of care that constitutes gardening to be important? I want to argue that social values ought not be considered as a cultural phenomenon alone or something confined within the guarded city walls of ‘society’ but instead as a fuzzy notion, a sense of things mattering that moves beyond simply dichotomous outlooks; neither ‘values of nature’ expressed by people, nor ‘values of people’ held towards nature. To examine such a position however, it is necessary to dive into world of axiology, to explore specifically the ‘trifecta of environmental values; instrumental, relational and intrinsic.

4.2.1.1. Social values, articulated intrinsic values and relational values

In considering how social values might be considered ‘in between’ nature and culture as though suspended, we might first turn our attention to the subject-object divide. This divide assumes that humans, as active subjects, act on a passive, more-than-human world, as objects. Thinking of the more-than-human world as objects in relation to us humans as subjects has two consequences; 1) that there is a universal understanding of reality, or one understanding of ‘Nature’ and 2) that this nature exists out there independently of our place in it. Traditionally in environmental ethics and philosophy, this dichotomy has been assumed as the basis for how valuing takes place, with the valuing subject conferring value onto an object (Tadaki et al., 2017, O’Neill et al., 2008). From here, this subject-object division is the basis for the debate between instrumental versus intrinsic values; the valuing subject either confers value onto an object according its use or benefits to themselves or the valuing subject confers value onto an object something that is valuable in and of itself (O’Neill et al., 2008). Instrumental versus intrinsic values have been paired with anthropocentric and ecocentric value orientations a like and the distinction between the two approaches has been the cause of heated tensions and disagreements in the field of conservation and environmental management over the past century – though of course the theoretical disputes go back further than that. However there have been two recent attempts ways out of this dilemma for environmental values that I will briefly explore here; relational values and articulated intrinsic values. Specifically I will argue that social values can incorporate both of these types of values and that the two notions though related, offer ways of thinking about social values in an expanded ontological sense that move beyond typical anthropocentric and humanist approaches to valuation.

Firstly, the ‘relational turn’ in sustainability science and the emergence of relational values as a ‘third way’ to consider valuing the environment, unsettled the stalemate of instrumental versus intrinsic values (Chan et al., 2018). Justifications to protect nature do not have to be based on grounds of communicating nature’s instrumental value to humans on economic and pragmatic terms nor does the argument rest solely on moral trump cards or rights-based approaches that look to protect nature in and of itself. Instead we might consider the ways in which the *relationships* between nature and people are seen to matter and prioritise these in decision-making instead (Himes and Muraca, 2018, Chan et al., 2018). This approach has led to something of a boom in relational values research (Muraca, 2016, Himes and Muraca, 2018, West et al., 2018, Stålhammar and Thorén, 2019a, Deplazes-Zemp and Chapman, 2021, Chan et al., 2018). Part of this explanation of this boom is that relational values is not a new concept at all, but instead is a way of expressing things to matter that resonates with people’s everyday experiences far more successfully than the philosophically heady, or abstract, notions of intrinsic value, nor the ethically insufficient language of instrumental value (Batavia and Nelson, 2017, Saxena et al., 2018). Relational values have also been indicated to be part and parcel of how indigenous and non-western ontologies have viewed the environment to matter over a far longer time period than ‘modernity’ (Saxena et al., 2018, Gould et al., 2019b). Finally, relational values, based within a relational ontology, offers a strong synthesis with the approaches of following the relations that ANT offered in chapter 3 as has been advocated by West et al., (2020) too. However while this is a benefit it also poses potential difficulties. If we are to talk only of the value, or importance of relations between people and more-than-human worlds what of those contexts where the presence of *humans* is not so keenly felt? This builds on kind of criticism of ANT that Clark (2020) makes, outlined in the previous chapter. This criticism that understanding human agency in changing the world is only ever possible through understanding humans’ relations with the more-than-human world, somehow obscures the asymmetry of human-nature relations. Clark et al., (2018 pg. 144) point out how planetary thinking leads to other ways of thinking about ontology; ‘The idea of a specific universe, planet and evolution as the origin of our social being has very different implications - for it draws us into domains that are before, beneath or beyond the human presence. In these regions or worlds there may well be all manner of entanglements and co-productions— but they do not involve ‘us’.

Here again we seem to fall back into the trap of how to talk about value, as the importance of more-than-human worlds that are not necessarily centred on humans, either instrumentally nor relationally. The point above however, gestures towards the original outlining of the *living with* frame that O’Neill et al., (2008) outlines, and Kenter and I (2019) later developed. This living with frame indicates the sense in which the environment matters according to recognition that the planet is shared, that there has been life long before human existence and likely will be after (O’Connor and Kenter, 2019). Importantly this does not mean I am interested in values purely in *absence* of humans, as Rolston (1991) would, but more by the different means through which we can talk about and practice processes of valuation that *decentres* humans. Decentring humans can be practiced in multiple ways that do not necessitate the removal of humans from the equation. This is an important distinction to make, owing to the way in which neoliberal

conservation has been motivated by this notion of intrinsic value that often segregates species and ecosystems from human communities, often through a colonial land grabbing approach. This kind of tensions at the heart of neo-colonial conservation can be visualised well through the perspectives between land sharing and land sparing debates (Fischer et al., 2014) So how might we think of social values as incorporating relational values and yet somehow open to this way of talking about values that does not centre humans?

Returning to the stalemate dilemma of intrinsic versus instrumental values an alternative that I proposed along with Kenter (2019) was the concept of '*articulated intrinsic values*'. This notion of articulated intrinsic values was based on O'Neill's (1992; O'Neill et al., 2008) definition of the different types of intrinsic value. This can be understood as strong objective intrinsic value, where the evaluating agent articulates value in the sense of '*goodness for*' without references to themselves. This is opposed to the weak account of objective intrinsic value whereby '*goodness for*' is expressed in the absence of humans entirely. It was the former concept that we chose to re-formulate as '*articulated intrinsic values*' in ways that did not deny the presence of humans but did not necessitate their involvement. These articulated intrinsic values were elicited in response to prompts in interviews along the lines of understanding, '*How could we better represent the interests of marine species and habitats in this area within management decisions?*' '*As well as 'What management outcomes would most benefit marine species and habitats in this area?*' (O'Connor and Kenter, 2019, pg. 1256) What this case study showed is that this way of articulating what matters in ways that does not centre humans is not simply characteristic of some imaginary of indigenous ontology that exists in the global south but it is part and parcel of the language that people living on the coasts in the UK (south west England and north west Scotland) articulate. Upon reflection however, this form of articulating '*goodness for*' while allowing space for nature to enter into valuation processes does little to unsettle the subject-object division that is the focus of many criticisms. These are largely along the eco-feminist lines of critique remain concerned that approaches that look to advocate for, or represent the interests of the environment, are the same paternalistic approaches to valuation that look to confer values on a passively waiting subject (Warren, 1997). As outlined in the opening sections, this thesis instead looks to follow the implications of an expanded ontology through the shift from '*articulating for*' to '*articulating with*' the more-than-human worlds as Haraway outlines (Haraway, 2008, Haraway, 1992). What does this notion of articulating value with, as opposed to for mean?

While Clark's criticisms of ANT based on a form of '*planetary thinking*' may have posed a stumbling block for relational values, his later work with Szerszynski (2020) may indicate a potential way out. Explaining the concept of earthly multitudes, Clark and Szerszynski (2020) illustrate through popular terms in earth sciences such as '*climate tipping points*' or '*ecological thresholds*', that we are now confronted with the possibility that the earth itself is capable of shifting to alternative states of being; that is the earth is capable of being *otherwise*. This idea, they go on to show, challenges the very core notions of agency that is at the heart of social sciences that the social acts on and affects the earth but instead flips this notion around to think of ways in which the earth acts *through* the social. In this way, articulating *with*

the more-than-human worlds might mean to become more attuned to the ways in which the more-than-human expresses itself through the social too. This might resemble a call by Latour (2004) where researchers are encouraged to 'learn to be affected' by more-than-human agents. This idea also echoes with Strang's (2020a) key work in understanding the meanings of water that are not simply understood as abstracted values that takes water out of its socio-cultural context but instead can be understood when thinking *through* the materiality of water (Krause and Strang, 2016). Reconceived in this way, this thesis would look to understand what social values are *generated* or come into being through the material relations with water; that is the values of the actor-networks or assemblages that are constituted by water and its relations to human and more-than-human actors. As Tsing (2013a) puts it, when we start to think of, and look for, more-than-human socialities, it starts to become all the more strange to think that we ever thought of the social as exclusively human. Depending on the context, or rather the assemblage between human and more-than-human actors in the networks, social values may be constituted through both relational and articulated intrinsic values. Understanding social values in this way can support the kind of work that Given (2018) encourages by focusing greater attention on our relationships with the more-than-human and ways of living well together; examining our relations with soil through the notion of conviviality (Given, 2018).

Importantly, social values remains a distinct value concept to relational values. The key distinctions are i) because social values allows space to include the conceptualisation of articulated intrinsic values and ii) because social values retains a focus on the process through which values emerge and are *generated* (Gould et al., 2019b). Retaining a focus on the process of valuation and decision-making itself is one of the distinctive features that puts social values at the intersections of the economy-environment-democracy nexus. Furthermore there remains another important distinction through which social values retain a distinctive feature to relational and articulated intrinsic values. If we recall back to the commonalities in the various conceptualisations of social values, one such feature was the shared expression of social values as being 'other-regarding' or in some way pertaining to the 'common good' (Kenter et al., 2019a, Kenter et al., 2015). Without here exploring the connotations of establishing what a common good might be, this seemingly outward facing, or other-regarding feature that does not centre a sense of value or importance on the relations, benefits, or use of something to themselves is a core feature that for me remains crucial to understanding social values and retaining the concept from relational values. This is also powerful because this commonality of social value conceptualisations puts it in radical opposition to the basic individual self-interested homo-economicus that acts as the basic unit of neoclassical economic valuation methods. While this heralds back to the economic literature and the history through which social values emerged as an alternative approach that focused more on the political mediation of value as opposed to the aggregation of individual utility or preferences, the significance of this point is increasingly explored in other fields. For example, Nixon (2021) talks about the prevalence of qualities such as cooperation, coordination in plant communication as an alternative evolutionary basis that might inform an alternative

mode of being in political and economic systems to the neoliberal models that remain centred on the ‘selfish gene’.

So now we have quite a different picture of social values from the one we started with. As opposed to social values simply relating to nature through valuation frameworks, acting as a gateway to the realm of ecological values, we might now consider social and ecological values as one and the same. In this way we might consider social values not as confined by the dualist worldview of nature and culture but instead freed from it, as though operating in the dynamic interplay between the two constructed boundaries. While this has remained fairly theoretical, I will briefly outline these implications through a short narrative that recaps the value types and their developments so far. Then I will move on to the other dichotomies that can be seen to restrict social values thinking and applications.

4.2.1.2. *A re-telling of social values*

This argument I’m formulating here might be visualised by a short series of ‘re-tellings’ of social values based on the Clifton Ings case study outlined in the previous chapter. Here I will track the developments in social values conceptualisations that I have outlined here in this previous section. This is both based on the social values discourse but also synthesis some of the auto-ethnographic field notes that I had recorded over the course of the research project; reporting the constant and iterative process of reflection on the concepts I was thinking through and using over the course of the fieldwork. To borrow once again from Eckersley’s synthesis of the different versions of ecological democracies, outlining ecological democracy 1.0 and 2.0, I will here outline the variety of social values ‘versions’ so as to bring this theoretical discourse back to reality.

Social values version 1.0

So in returning to the case study at Clifton Ings in York, the first notion of social values I had in mind which was most close to the social values discourse at the time, was that of understanding the social values of the various ‘stakeholders’ of Rawcliffe Meadows and Clifton Ings, that is restricting the social to humans alone. These ranged from the community groups, Friends of Rawcliffe Meadows (FoRM), Tansy

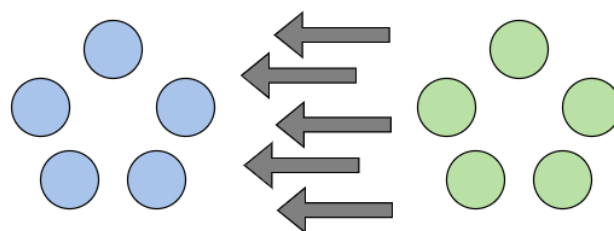


Figure 3 - Sketch of social values version 1.0 – Aggregation of social values of humans (blue) deriving from nature (green)

Beetle Action Group (TBAG) and many local residents who passed by or used the meadows either for commuting on the cycle track or walking their dogs. Here I could have carried out a social valuation of some form, through understanding how the meadows mattered to these stakeholders. For a detailed assessment here then I could have attempted to ‘map out’ the social values, alongside the ecological values of the site, so as to see how they correlate, with the ‘ecosystem services framework’ helping to link these two value concepts together (Bryan et al., 2010, Brown et al., 2020) More specifically, I could have aimed to establish the social values in relation to the *regulatory* ecosystem services linking the much evidenced role of healthy floodplain meadows, absorbing and storing excess water and so regulating flood impacts during heavy rainfall. However this couldn’t seem to resonate with the groups here, though FoRM were aware of the role of floodplain meadows in flood risk reduction, these were not the primary reasons the meadows mattered to them. Indeed when I would ask the various members from FoRM and TBAG question relating to why the site mattered, they would all readily point out the biodiversity and the sense of peace and wellbeing that they would get whilst helping out on the site. I was quickly given pamphlets and brochures which detailed the history of the site before the groups began to restore the ecology, all of which easily expressed the significance of the meadows and the variety of habitats and species to not just themselves but to the city of York, culturally and historically (Hammond, 2017). Such examples could have related to cultural ecosystem services, pertaining to which I could have aggregated the individually expressed, yet other regarding, social values to understand the way in which the ecology of the site mattered to people as a community (as visualised in figure 16 below). Such a process may have been helpful for the management of the site; however such a process would have had little effect in the FRM decision-making process.

Social values version 2.0

In time I began to trace, following the ANT methodology outlined in the last chapter, the relations between the actors, including the members of the community groups and the more-than-human actors too. In one of my conversations with the FoRM volunteer, he would keenly point out the development of the site and FoRM’s role in the development of its ecological interest and value; how the site achieved a SSSI status in 2013, 23 years after they took on the care of the site. It became plain to see that this was not simply a set of ecological values or ecosystem services from which people extracted the benefits or the values to humans alone. Instead people were part of the network of relations, part of the ecological system. It did not make sense to value the species and habitats without consideration of their own roles in creating the habitats. Relational values were easily expressed according to practices of care that helped establish and maintain the site. The decision of the EA to overlook the role of FoRM in the maintenance and sustainment of the ecology of the site, overlooked the fundamental relations that constituted this site’s coming *into being*. For example images 10) to 13) below taken from the FoRM website highlight the changes that developed through their restoration efforts;



Image 10 and 11 - Volunteers creating the pond in 1991 (left) compared to image taken of the pond in 2014 (right). Taken from FoRM website - <https://rawcliffemeadows.com/about-the-site/pond/>

Perhaps akin to the notion of socio-ecological values that is increasingly popular in the resilience discourse to understanding socio-ecological networks, viewing this web of relations as inclusive of people and their relations to nature would lead to more ecologically sensitive and sustainable outcomes; the group may not have been excluded from the conversations and decision-making process of the site and alternative approaches to reinforcing the barrier bank may have been explored with the help and consultation of the group who may have acted as advocates for the ecological interests of the site,



Image 12 and 13 - Volunteers preparing the 'funnel' to establish seed beds in 1991 (left) compared to the wildflower meadows with a wide variety of grass and plant species taken more recently (right). Taken from FoRM website - <https://rawcliffemeadows.com/about-the-site/pond/>

through expressing their relational values. This was evident when the translocation of both the grass and the tansy beetle populations were discussed, exploring whether the tansy beetles would 'cooperate' with the move. This discussion was limited however without the consideration of the TBAG group whose context specific knowledges based on such relational values may well have been better placed to consider whether or how the beetles might cooperate with them.

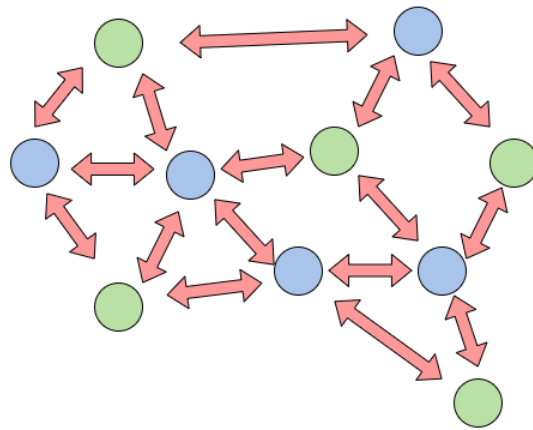


Figure 4 - Sketch of social values version 2.0 – Social values expressed through relations between (red arrows) humans (blue) and more-than-human (green)

Social values version 3.0

There were other parts of the conversations with FoRM and TBAG groups that pointed beyond simply the relations between people and nature, simply human and more-than-human relations. In being given an early tour of the site, this individual from FoRM articulated the relations between a mosaic of habitats that far exceeded why this meadows mattered to themselves as a group; either through the language ‘services’ provided or the benefits they personally received. While they would point out their role and practices in establishing the relations, the individual would talk of the relations that established between species and habitats too. Often the pond would be referred to as attracting a range of bugs, butterflies and water plants that in turn attracted more birds. In such cases there would be no reference to the individual himself as the ‘evaluating agent’ (O’Neill, 1992, O’Connor and Kenter, 2019). These articulated intrinsic values indicated towards the relational values between species, in ways that moved beyond the anthropomorphising sense of acting as advocates for nature; there was rarely an assumption of what was good for these species. Similarly there was an awareness of the uncertainties around species that may come and go; there were mentions of otters using the adjoining blue copse beck and certain types of birds were detected to have visited the site in times following high river levels, or low floods, when the presence of people passing through, i.e. human disturbance, was lower than usual. The articulated intrinsic values were generated through these assemblages; these hybrid networks of practices of care from the FoRM members and the sense of conviviality between the different species and habitats, could be identified as social when their associations between them were traced and in motion. Thinking of these values as social values with reference to the people and nature relations alone would miss out on key relations that formed and generated further social values in the *process* of the network coming into being. Social values here in this expanded ontological sense includes both the human and more-than-human though, to borrow from Tsing (2015), the human has been de-centred as the ‘protagonist of this story’ of social values. Humans are not considered absent, as the recognition of the relational values acknowledges.

However the expanded social values version 3.0 can accommodate the articulated intrinsic values that are articulated *with* and *through* the development of the species and habitats and their own relations without

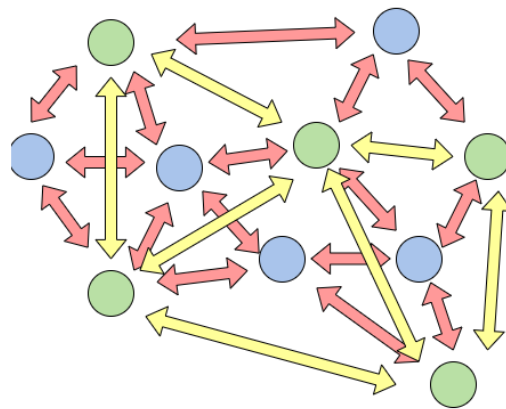


Figure 5 Sketch of social values version 3.0 - social values expressed through both relations between (red arrows) people (blue) and more-than-human (green), as well as between more-than-human actors (yellow arrows)

reference to the relations to people themselves. This avoids the potential criticism of dualist approaches that may view the ecological values of the site as distinct from the social values of people and yet it also avoids the trap of policies looking to exclude human presence from the site entirely, recognising the role of people’s practices of care in maintaining and developing the site. In the FRM decision-making process, this would, like social values version 2.0, have entailed a sense of context specific local ecological knowledge that would have been crucial in understanding the ecology of the site. Such knowledge would have recognised the importance of the floodplain meadows in both regulating flood risk but also in attracting a greater biodiversity of life. Centring such social values in this expanded ‘3.0’ sense may have led to a very different decision-making process, turning on its head the assumption of ‘trade-offs’ feared by the EA through the phrase ‘can’t always protect people *and* nature’. ‘Social values 3.0’ does not move beyond such nature-culture dichotomies but instead works between these notions incorporating through an expanded ontological approach.

4.2.2. Stasis and Change

“No man ever steps in the same river twice, for it's not the same river and he's not the same man.”

Heraclitus, Fragments

The dynamic character of rivers, as referenced by the famous Heraclitus quote above symbolises an ontology that is markedly distinct from the mechanistic view of the world that dominates today. Graeber (2001) touches on this very distinction in Greek philosophy where Heraclitus clashed with Parmenides,

identifying the outcome of their dispute as having instrumental consequences in the 'western tradition' later developing the ontology of modernisation. Graeber (2001), in imagining what a theory of value might look like that concentrates on the value of actions as opposed to 'objects' draws on this dispute. Graeber (2001 pg. 50) spells this dispute out, 'Heraclitus saw the apparent fixity of objects of ordinary perception as largely an illusion; their ultimate reality was one of constant flux and transformation. What we assume to be objects are actually patterns of change. A river (this is his most famous example) is not simply a body of water; in fact, if one steps in the same river twice, the water flowing through it is likely to be entirely different.'

This relates to the discussion of value for the same reasons that were touched on when exploring the nature-culture dualism and the underlying subject-object division that plays a role in this division too. The general assumption of valuation then is that a) value is a subjective expression of the importance of b) a separate, fixed and distinct object. The former proposition of this twofold assumption a) will be explored in the next section looking at the dualism between 'is' and 'ought' whereas here, the focus will be on b) that 'objects' exist are fixed, static things. Graeber (2001) in his assessment of the impacts of this debate between Heraclites and Parmenides acknowledges the 'irony' in that denying reality to be a constantly changing process of *becoming* as opposed to a 'fixed structure out there'. This 'irony' revolves around this dichotomy of stasis and change and how the pursuit of representing reality as static and fixed has only revealed the way in which reality is constantly in flux. Put another way, western science's attempts to understand reality has constituted a set of instruments, apparatus and measurements attempting to represent reality as best as possible through first imagining what is 'measurable' as a discrete objects. However in so doing, nature's immanent, emergent character only indicated through concepts such as uncertainty and complexity, constantly reveals itself. Graeber (2001, pg. 51) talks through the consequence of this dualistic worldview, 'we have been able to create a technology capable of giving us hitherto unimaginable power to transform the world, largely because we were first able to imagine a world without powers or transformations... The crucial thing, though, is that in doing so, we have also lost something. Because once one is accustomed to a basic apparatus for looking at the world that starts from an imaginary, static, Parmenidean world outside of it, connecting the two becomes an overwhelming problem'. This poses obvious problems for thinking through social values in relation to environmental decision-making. If valuation methods are only capable of measuring value through viewing reality as fixed states and objects then, the changing nature of reality will be missed by valuation methods. This is of course especially difficult in the context of FRM and turning towards nature-based approaches that focuses on the processes of allowing rivers to restore their connections to landscapes.

The history of FRM for one has been based on exactly this kind of approach of drawing up boundaries to better understand 'the river' through models and an abstracted view of water as confined between two lines (Da Cunha, 2019). Da Cunha (2019) explains how ever since Alexander the Great first viewed the Ganges and drew it as a line on a map, this very representation of rivers has taken hold and been performed through practices from landscape and architectural design to FRM that we see today. Da

Cunha (2019) notes that there is evidence that inhabitants living along the Ganges ecosystem often talked of the Ganges instead as a 'rainscape'. Similarly the closest notion to a river that these people may have spoken of would have pointed to the sky, recognising that it's the rainfall that sets the parameters for their relationships to water and living with wetness as a state, far from a notion of a fixed river (Da Cunha, 2019). This feature of concentrating on the 'flow' of water as opposed to rivers as fixed entities in themselves is also convincingly set out in Edgeworth's (2011)'Fluid Pasts'. Here Edgeworth (2011) demonstrates, it is not simply that people shaped rivers but urban areas too continually adapted to where water seemed 'to want to go', emphasising the power of transformation of water itself as opposed to people acting on a passive nature.

In exploring social values as a fuzzy concept, capable of moving from a dualist to a relational ontology, it must be capable of acknowledging this dualism, between stasis and change, yet also allow itself to be freed from the constraints in thinking this way. To first clarify what these 'constraints are', I will briefly turn to the field of heritage studies, where this dualism is at the heart of tensions in heritage practice. The field of heritage management, and the heritage discourse, mirrors many of the same tensions and discussions that take place in environmental management and conservation. It is arguable that the two are separate at all, especially in light of the heritage approaches that look beyond natural and cultural heritage as discrete categories (Harrison, 2015). This stasis versus change tension has been problematized through more critical approaches to heritage that have tried to place emphasis on practices and cultural traditions as 'intangible' heritage that moves away from the fixity of things as material objects (Harrison and Rose, 2010, Smith and Akagawa, 2008). Rather than thinking of heritage management as a linear and infinite process of preserving things from 'the past, in the present and for the future', many heritage researchers and practitioners are calling for different ways of practicing heritage that work with decay and material processes of change (DeSilvey and Harrison, 2020, DeSilvey, 2012). The changing character of reality means that such a battle to manage objects as fixed and unchanging entities will always be a constant battle. On the other hand simply 'letting things be' denies humans' place in this evolving changing reality (Pétursdóttir, 2013). Just as Fredriksen (2014) talk about stabilising mechanisms in valuation as creating moments of order out of more complex processes, values can play a role in helping create and shape processes as opposed to either fighting change or stepping back entirely. Jones (2017 pg. 26), in recognising this difficulty, outlines how social values as a concept itself might need to be reconceived so that it might be more operational in such contexts in heritage management; 'the dynamic nature of social values, and their at times elusive and intangible qualities, often sit in stark contrast to other forms of value that members of the heritage sector have often seen as more intrinsic, namely historic, scientific and aesthetic values. It might therefore be preferable to conceive of social value as a process of valuing heritage places rather than a fixed value category that can be defined and measured.'

So how can this more dynamic character of social values operate in this in-between, in this fuzzy liminal space between reality as static and reality as change? As Bennett (2010) points out, when we take things out of their context, we *abstract* them from their own ecologies. This makes it difficult for individuals to

express the meaning or significance of something. For example the idea of a river out of its socio-ecological and cultural landscapes loses its many meanings (Strang, 2004). Moreover just inquiring as to the values of 'rivers' may do little to recognise that people who are affected by flooding often observe water to come from unexpected directions, demonstrating flooding to not just be a matter of rivers spilling its banks into houses but as wider landscapes filling up with water coming up through drains, pipes and even toilets (Krause, 2016, Walker et al., 2011). This reflects the way in which water demonstrates this agential force to *affect* people in all sorts of ways that defies our understandings of where water is *supposed* to be (Whatmore, 2013). So the implication here is that rather than thinking about valuing *rivers* as objects, we might consider valuing *water* as a relational being. But there's more, ensuring that valuation never takes place outside of a web of relations, doesn't just recognise the need for a 'context-specific' social valuation (Rawluk et al., 2019). In such a view, water is still the *object* of the valuation as though passively waiting to have various meanings, social and cultural, conferred *on* to it (Krause and Strang, 2016, Bakker, 2012). Instead the focus ought to be on what social values come into being *with* and *through* water. While this opens up the possibilities of how social values in FRM might be understood as a process amidst a more dynamic understanding of reality, we must still consider what it means to think of these values as social too; the social, like rivers, are constantly in flux, it is impossible to isolate either as a fixed object. This is especially the case if we are to accept the premise from Latour (2005) that the social is meaningless both when it is considered to consist of humans alone, as well as being something that is ever locatable at a fixed point in time. This 'social' can only ever be understood by tracing these relations between actors, amidst these entanglements, importantly whilst in *motion* (Latour, 2005). Elsewhere this resembles Ingold's notion (2011) too that we can only ever understand the world in motion. Escobar (2020, pg. 72) draws on Ingold (2011, pg. 131) to outline how "worlds without objects" are always in movement, made up of materials in motion, flux and becoming; in these worlds living beings of all kinds constitute each others conditions for existence; they "interweave to form an immense and continually evolving tapestry". So in following these associations, or relations between complex webs of human and-more than human we might come to understand values themselves to dynamically *emerge*, never resting or becoming fixed, but continually changing. In the context of flooding then, as I have already looked to argue, this means including water into our understanding of the social. This is a move at the core of the hydrosocial research paradigm, reflecting the way in which humans and water constantly come into being with each other, shaping and being shaped by each other (Linton and Budds, 2014, Krause and Strang, 2016, Krause, 2016). In this way water embodies a relational ontology well, taking on, as Escobar (2020, pg. 71) describes in relation to the character of mangrove forests, a 'rhizome-like logic' which is 'very difficult to map and measure, if at all; this logic reveals an altogether different way of being and *becoming* in territory and in place' (emphasis added). Such a rhizome-like logic of water stands in stark contrast to the mechanistic abstraction of water that has defined FRM practices in the UK, reflecting the shift from a dualist to a relational worldview.

While we may be better able to conceive of these social values as expressible *with*, rather than *against*, the changing flux of reality, how can we speak of social values in relation to models and frameworks that still look to represent nature. Once again, returning this discussion to the economy-environment-democracy nexus, Dryzek and Pickering (2018), talk of the failure of models to capture the uncertain and ever changing character of climate and ecological concerns. Instead they call for ‘living frameworks’ that themselves can constantly shift and are capable of changing themselves to changing circumstances if need be. Frameworks that can recognise that social systems, as human, non-human networks are not fixed but constantly in motion. Such a framework needs verbs such as ‘living’ to describe and evaluate relationships. The Life Framework of Values does precisely this; focusing on the relationships that matter as opposed to the sets of objects or ‘goods’ and ‘services’. In the life framework, the frames indicate ways of moving between worldviews with the prepositional terms (‘from’, ‘in’, ‘with’, ‘as’) doing the ‘heavy-lifting’ of indicating shifts in worldviews. Social values as a fuzzy tool, ought to be placed at the centre of such a framework; ready to be mobilised so as to move between frames yet never resting in one. To summarise then social values are capable of working with processes of change, both if we understand them as being constantly in flux, dynamically evolving in between beings, and if we understand them in relation to ‘living frameworks’ that accommodate and work with such relational ontologies too.

4.2.3. Is and Ought

Exploring FRM through questioning the ontological paradigm in which it is practiced, as well as pairing this exploration with the speculative possibility of democratising this FRM decision-making through social values may fall prey to the charge of committing the *naturalistic fallacy*. This charge can be explained as something of a ‘missing gap’ between what we take to be an ‘is’, or descriptive statement about the world as reality and that of a normative, or prescriptive statement about how the world, or reality ‘ought’ to be. The ‘missing gap’ in this perspective then, lies in the link, or some might say leap, between knowledge and value; that you cannot derive an ‘ought’, a value statement, from an ‘is’, a factual statement (Sayer, 2011). This dualism runs so deep through social science research that such a gap in this thesis might be considered a ‘gaping’ hole in the eyes of many social scientists. In fact this tension is demonstrably troubling for the social values discourse, with the tension of social and relational values being applied in either a descriptive and normative sense splitting opinion (Stålhammar and Thorén, 2019, Kenter et al., 2019). This splitting opinion is made visible through well-rehearsed debates on whether the role of social scientists as sustainability researchers can be squared with ‘activists’ stances, of whether that clouds the ‘unbiased’, or ‘neutral’ stance that social scientists are supposed to stand by (Pirgmaier and Steinberger, 2019). In fact this dualism runs right to the core of Ecological Economics, a discipline that has emerged from criticisms of mainstream neoclassical economics that claims to be value-free, or as close to an objective science as possible. Ecological Economics’ recognition of and centrality placed on, the

biophysical or material limits to economic growth, as a descriptive, 'is' statement with the value pluralism approach that looks to understand what matters to people, as a series of 'ought' statements is seemingly bound by these claims of committing a naturalistic fallacy (Spash, 2012). The same problem can be said regarding tensions in ecological democracy between recognising the 'need' to make political, economic systems more sustainable and also recognising the 'ought', or normative ideal, of emphasising democratic process over outcome. Such differences also amount to the core, albeit simplified, theoretical distinction between the sciences more broadly concerned with describing reality and the arts and humanities, concerned with how reality might be otherwise. This causes a whole series of debates and tensions that have already been touched on in chapter 2 in the social values discourse, around the role of researchers and their place in social values research; are social values researchers role's simply to describe people's values or ought they intervene and look to affect changes in people's values (Manfredo et al., 2017a, Ives and Fischer, 2017, Manfredo et al., 2017b).

While these are just some of the implications that follow from this dualism, it's important to understand how this acts as a constraint on social values in the context of FRM. In chapter 3, it was evident that cost-benefit analysis acted as an obstacle to local democratic processes which looked to contest decision-making. In fact, CBA's seemed to be appealed to by FRM practitioners as though matters of fact. It was appealed to as a though it was an objective, as value-free, device that aimed to close down matters from being contested. This relates to the naturalisation of economics, a phenomenon which through a history based on empiricism and logical positivism has come to stand in place for a theory that describes reality as opposed to a theory that discusses how reality ought to be. This has enormous consequences if we think in terms of the tensions at the economy-environment-democracy nexus. For example, Earle et al., (2016) compellingly illustrate the way in which the uncritical acceptance of mainstream neoclassical economics particularly through the education system has fundamentally undermined democracy in that there is now an uncritical acceptance of many economic methods and statements which goes hand in hand with technocratic forms of governance; statements like 'that's not how the market works', 'how are you going to pay for that', or famously 'money doesn't grow on trees', a claim that perfectly summarises the confused perception of the relationships between ecology and economy. As Earle et al., (Earle et al., 2016) point out, as a result of this uncritical acceptance of neoclassical economics, 'power is given to economic experts as the accepted spokespeople for society's economic knowledge to shape [the] political goals and means of achieving them' the result being that 'citizens increasingly live in a world they cannot shape'. This should signal distressing alarm bells to those at the environment-democracy nexus discourse who are thinking about democratic design in ways that may empower citizens to want to shape society more sustainably. The *naturalisation* of economics, or more appropriately the market, has been part and parcel of this same tendency to treat economics as a science in public discourse that effectively sets the parameters or limits in democratic decision-making (Callon, 2007). The efforts by Whatmore et al., to democratise the science of FRM has been largely to uncover how things that may be considered objective or 'matters of fact' in FRM are often value-laden and contestable (Lane et al., 2011, Latour, 2004b). One

of the main ways this group of researchers demonstrated this was to focus upon, and the use of, technologies which are often drawn upon in order to make decisions seem apolitical; ‘technologies’ in the case of FRM referring to things such as flood risk models or cost-benefit analyses (Donaldson et al., 2013, Braun et al., 2010). This process of ‘de-politicising’ flood risk science, serves to remove what may be contestable out of the reach of the public (Lane et al., 2011). By politicising flood risk science then, or, to borrow from Latour (2004b), turning these matters of fact into ‘matters of concern’, the aim is to expose how the way in which knowledge is produced is, just like flooding, through an assemblage. Understanding how this assemblage has come into being can help us to think through how it might be assembled *differently*. For example, in understanding what actors and their relations are included and excluded in producing knowledge can reveal how certain ways of knowing may be excluded; ways of knowing that may be so vital in thinking about living with water differently. Surfacing, through ontological politics, the ethical and political stakes of what matters, reveals the underlying values driving knowledge production. While this approach in FRM could be seen as a way of attempting to collapse the ‘fact’ side of the fact-value dichotomy, how might we collapse the value side of this dichotomy, to break free of the idea that values are simply the opposite of facts. This is important because in their confinement to one side of the dichotomy, values are simply relegated to subjective expressions of what matters. This discounts any considerations of value from being taken as evidence in guiding decision-making itself; something that is crucial when objects like CBA are themselves turned to as forms of evidence. Social values must somehow be up to the task of ‘de-naturalising’ these processes, through challenging appeals to objects such as CBA, yet also elevating the understanding of what matters, that is the ethical and political stakes, in these assemblages to be central to decision-making.

So what if we are to reconceive social values in such a way that it does not fall victim to committing the naturalistic fallacy in the first place. To begin I want to draw on the work of Sayer (2011) who critically reflects on the role of values in social science research more broadly. Sayer (2011) says the naturalistic fallacy is guilty of a category error, mistakenly applying the laws of logic to values. This is a category error because in reality, values are actually about relations between basic needs and desires. For example, if a person states ‘the fact’ that they are hungry and there is an apple in front of them then it is not up to logic to work out whether or not they ‘ought’ to eat the apple. In summarising this perspective Sayer (2011 pg. 4) states, ‘The distinction between is and ought, that has dominated thinking about values in social science, allows us to overlook the missing middle, the centrality of evaluation. It obscures the nature of our condition as needy, vulnerable beings, suspended between things as they are and as they might become, for better or worse, and as we need or want them to become’.

The move by Sayer (2011) to collapse the fact-value distinction is motivated by the same goal as outlined above by the thinking drawn from Science and Technology Studies; to get away from the idea of ‘objectivity’ in research in being considered as synonymous with value-neutrality. While Sayer (2011) takes a particularly humanist approach in outlining values, as why things matter *to people* alone, he challenges the social sciences to take more seriously, i.e. as forms of evidence in itself, the kinds of value-oriented

reasoning that it usually dismisses. Part of the reasons for such inclusions is that it can actually *help us* get a better understanding of reality; the core aim of social sciences after all. Sayer (2011) uses the example of the strong value orientations of feminists who pick up on the sense of injustice and inequality that others, notably men, may have missed based on their own socio-cultural understandings of reality. Without this value-orientation, as a sense of what matters, i.e. in this case *equality*, there is something lacking from the understanding of reality – the fact that women are oppressed. Further still this value-orientation not only picks up on this understanding of reality but can lead to changes in the material world that can *change* this reality; working towards a future reality where women are treated equally. In this way, values are a vital part of the puzzle when thinking through how things come into being; as constitutive of what makes reality.

What I find particularly promising by the perspective offered by Sayer (2011) is the way in which the very act of valuing itself is seen to take place in a state of suspension, not by way of simply calculating options on the table, but through an attention to *needs* and *desires* concerning how things could be different. Sayer (2011, pg. 54) states that, in such an example of facing someone who is starving, ‘the force of the ‘ought’ here is not a matter of the logical relations between statements, but of bodily needs or compulsions – states of *being or becoming*, not statements’ (Emphasis added). In this way, the ‘is-ought’ dichotomy no longer becomes an insolvable tension that really ends up getting us nowhere. As Sayer (2011) points out the fallacy is guilty of committing its own naturalistic fallacy; simply stating the ‘fact’ that you can’t derive a value from a fact, does not therefore entail that you ‘ought’ not to derive values. In collapsing this dichotomy, our understandings of what valuing *is* and *can be*, radically shifts.

Paying attention to such needs and desires, or crucially, the states of *being* and *becoming*, means acknowledging different ways of knowing and valuing; for example, attending to emotions, attuning to one’s body and to the environments you find yourselves in. Such a perspective has been tentatively explored by Raymond et al., (2018) in looking into the implications of an embodied perspective on the co-production of values. Approaches like this mark a fundamental shift from the assumption that valuing is a process that takes place internally within the abstracted mechanistic logics of the instrumentally rational economic agent. Instead valuing is conceived through a dynamic interplay of mind, body and environment through which understandings of *what matters* emerges. Admittedly, this account by Raymond et al. (2018) remains somewhat dualist in its attempt to make cuts between concepts; the subject still ultimately being the valuer considering an abstracted object (the authors focus the study on valuing ecosystem services, albeit now recognised as co-produced). However such approaches show promise for our inquiry here in that the ontology of valuing itself becomes expanded to include the more-than-human in the networks of understanding what matters, as explored in section 4.2.1.2.

The key point here however is that in identifying the ‘*force of the ought*’ to emerge from the states of being or becoming, the means through which we can come to understand what matters radically expands. This may indicate a sense of ‘listening to’ one’s body, or ‘listening to’ earth’s system that entails a different set

of skills, or ways of knowing than the more calculative capabilities that a purely instrumental rationality presupposes. This different way of knowing would pay much more attention to embodiment, how our senses connect us to the world and break down our concepts of self from the environments and ecologies we are embedded within, as Abram (2017) examines in 'Spell of the Sensuous'. This form of knowing is well documented in the anthropological literature from Ingold's (2011) work on movement and being in motion with others described through the idea of 'dwelling' in the biosphere - an idea which has informed novel directions in resilience thinking – see (Cooke et al., 2016) – to Kohn's (2013) seminal work that challenges anthropology to expand its attention to interpreting meaning by including the more-than-human world in its analysis and scope. Similarly the expanding field of multispecies thinking and ethnographies pay attention to exactly such forms of 'listening to' and 'attentiveness to' more-than-human relations that indicate towards other worlds and ways of being (Kirksey and Helmreich, 2010, Pacini-Ketchabaw et al., 2016). Social values researchers and practitioners ought to pay much more attention to such fields and look to collaborate with researchers who use such methods and tools to effectively decentre the human in these analyses of what matters; understanding ethical stakes of decision-making that emerges from networks of human and more-than-human relations. This is what Given (2018) demonstrates is possible when we look at our relations with soil through the notion of 'conviviality'; in recognising our being as part of an interconnected web we might focus our attention on ways in which we might live well with one another that generates and enables socio-ecological flourishing.

In describing the Epistemologies of the South, an ontological framework that Escobar (2020) outlines in 'Pluriversal Politics', Escobar (2020; 2019) draws upon the Colombian notion of 'sentipensar' which roughly translates as 'to think-feel'. In a footnote, Escobar (2019 pg. 14) acknowledges the origins of the terms '*sentipensar and sentipensamiento*' as being '*reported by Colombian sociologist Orlando Fals Borda as the living principle of the riverine and swamp communities of Colombia's Caribbean coast. They imply the art of living based on thinking with both heart and mind.*' The difference between this approach and the kind of modernist rationality approach characterised by dualism when considering current political decision-making is significant. For example, during this thesis project, an ongoing decision-making process has been taking place over the proposed expansion of the Leeds-Bradford Airport expansion, up the road from where I have been living (the planes coming in to land are visible and audible from where I live). The case has become hotly contested largely due to the efforts of a campaign group that have sought to appeal against the decision based on well-evidenced data that such a decision would be contrary to national and international climate targets and nationally agreed carbon budgets. When this case became the subject of a council planning meeting, the plan was approved despite the huge range of objections. The reasons the airport expansion was advocated was due to the increase in economic prosperity it might bring to the local community. The reasons that each of the councillors cited for accepting or rejecting the proposal were documented live on social media at the time and one in particular caught my attention as particularly exasperating. This councillor, voting in favour of the expansion, was cited on social media (Twitter, 2021) as saying the 'decision is a case of going with the heart (rejecting expansion) or going with the head

(supporting it), saying 'if we don't take this economic opportunity, someone else will'. This divorce of the 'head' from the 'heart' here is what permits the kind of reasoning here that ignores or silences the *think-feeling* of the needs of the planet *and* people and leads to a fundamentally de-futuring decision. Yet it is also reflective of the is-ought dichotomy here, through which what mattered, as social values, was not considered as valid evidence for the case, but rather categorised simply as the opposite of reason. If social values don't work to challenge or collapse the 'is-ought' fallacy that constrains their potential to be used in decision-making, then they will continue to be ignored by political and economic decision-makers.

In a similar manner to Dryzek and Pickering's (Dryzek and Pickering) focus on radically re-imagining institutions of the modern world, Escobar (2020, pg. 79) recognises that because 'we cannot be intimate with the Earth within a mechanistic paradigm, we are in dire need of a new story that might enable us to reunite the sacred and the universe, the human and the non-human'. What I am gesturing towards here then, from collapsing the 'is-ought' dichotomy is in a sense the re-aligning of the '*force of the ought*' away from the internal logics of relations between propositions to the rhizome-like logic of identifying what matters through being and becoming with the earth. This sense of what matters in attending to the various ways of being and becoming with the earth, sits well with the same notion of social values being concerned with the ethical and political stakes of living well together amidst human-more-than-human assemblages earlier identified. The conceptualisation of social values that we are arriving at then is close to what Batavia and Nelson (2017) articulate when discussing ecofeminist critiques of traditional intrinsic value conceptions. They propose (Batavia and Nelson, 2017 pg. 370) a "radical re-imagining' through which "value' is *neither* an objective fact nor a subjective judgment, but a dynamic reality produced, interpreted, and enacted in the interplay of human and nonhuman agents [emphasis added]."

Not only does this reconceptualisation of social values open up to '*sentipensar*' ('think-feeling') with the earth and more-than-human agents, but also to ways of attuning, or listening to these shared needs or desires too. It is worth drawing more specifically on the 'feeling' aspect of this notion of *sentipensar*. Emotions, as Sayer (2011) points out, like values are often disregarded in the social sciences because they are deemed to cloud the judgement of fact-making or knowledge production. However emotions are essential ways of tapping into needs and desires, as states of being and becoming, both of people and planet. This is becoming a key avenue of research within conservation literature, though it remains relatively unexplored as of yet within the social values discourse. For example, Batavia et al., (2021) argue that emotions should be conceived as having a central role in conservation decision-making; they use the example of compassion and characterize it as an emotional experience of interdependence and shared vulnerability with more-than-human others (Batavia et al., 2021). Such an emotional experience then, in its ability to reveal interdependence and shared vulnerability directly links to this sense of identifying the states of being and becoming, through which the 'category' of valuing is more concerned. In a similar manner, Schroeder (2013 pg. 127) carefully traces the etymology of the word 'value' in English, to demonstrate its fundamental connections to emotions as a sense of motivating toward acting; "The English word "value" comes from an Indo-European root, wal-, which means "to be strong." Related

words derived from the same root include "valor," "validity," and "valence"... In the English language, it appears that the concept of value is metaphorically linked to ideas of motivation and emotion. Both "motivate" and "emotion" come from an Indo-European word meaning "to push" or "to move"... The etymology of these words suggests that when we say something has value, we mean that it has the *strength* to move us *emotionally* and *motivate* our behaviour [emphasis added].

This is nothing new to the notions of value, even the most ardent defenders of a dualist ontology would happily link values with 'motivations towards acting'. However, seen in the light here of thinking about how we understand and appreciate the '*force of the ought*' not to come through logical relations between propositions but between relations of needs, desires, states of being and becoming, emotions can be a very important indicator of what matters. Schroeder (Schroeder, 2013) goes on to identify 'felt values' as a crucial value concept that moves away from thinking about value simply in the cognitive and analytical sense which in turn considers the outcomes of decisions alone, but instead, 'to a more affective and experiential perspective, in which the process of making decisions matters as much as the end results of decisions'. To demonstrate the significance of this point, I want to turn to an article written about someone who until recently denied the science of climate change (Lothian-McLean, 2021). This individual claimed that in this state of mind, no matter what evidence was thrown his way he would deny the science even further, importantly he reflects this was driven by the fact that he did not care. This was the case until a series of moments where he felt more vulnerable, at first culturally and later when encountering species when snorkelling. These experiences challenged what mattered to him, 'the tricky part about climate change denial is that, for me, I didn't alter my thinking because I stared at data until my eyes bled or was shouted out by someone who disagreed. It came from being vulnerable and open, re-examining my beliefs and understanding what was at stake. Holding the sand in my hand, petting that turtle'(Lothian-McLean, 2021). This encounter with other species signals a call by Latour (2004a pg. 205) to the sciences to 'learn to become affected' by the more-than-human world, meaning to become "effectuated", moved, put into motion by other entities, humans or non-humans'. This perspective along with the 'think-feeling' perspective offered by Escobar (2020) then radically alters the way we might think about *how* we come to understand what matters; as was the case with this individual this wasn't through the logical relations between propositions, or evidence in front of them, but instead it was through emotional experience of feeling vulnerable, recognising our condition as needy, vulnerable beings suspended between things as they are and as they might be otherwise.

An important caveat here however is to distinguish this notion of social values as shifting to a concern in attending to the needs and desires of people and planet (putting it bluntly) and that of an early trend in environmental values characterised by 'post-materialism' (Schlosberg, 2019, Inglehart, 1981). This is an important caveat as the notion of post-materialism signals a distinctly dualist as well as elitist form of environmentalism. Post-materialism essentially claims that shifts towards pro-environmental concern and behaviour only emerges once material needs are met and satisfied. Such a position emerged from Inglehart's (1981) ethnocentric observation that in affluent western societies, environmental behaviours

and concerns were becoming particularly popular amongst those who, once their basic needs were met would turn their attention to their quality of life, which included environmental concern. This account of post-materialism has been incredibly influential with much thinking in green political thought based on this line of reasoning. As Schlosberg (2019) points out however, environmentalism has never been disconnected from material needs. Rejecting the distinction between ‘subjective expression of value’, and ‘objective material’ problems, Schlosberg (2019, pg. 4) acknowledges that social values have always been socially constructed in ways that inform people’s understandings and responses to objective material problems; ‘the connection between social values and the condition of everyday life, for example, has been central to the practice, theory, and demands of environmental and climate justice movements’. Such an observation, Schlosberg (2019, pg. 4) notes has been at the core of an emerging paradigm called sustainable materialism; ‘The argument here is that it is exactly this combination of material goods and subjective values – the perception that they must be inseparable – that is at the heart of sustainable materialist movements. In other words, environmental movements never moved beyond the material, and so the post materialist framework has always been inadequate.’ This paradigm of sustainable materialism sits well with the account of social values both as re-conceptualised in this section here but also in terms of practicing social values as a concept grounded at the economy-environment-democracy nexus as I will go on to demonstrate.

So drawing this section together then, I have argued for the consideration of social values as fuzzy tool that acts in some kind of liminal space, somehow suspended between assumed distinctions of nature and culture, is and ought, stasis and change. I have looked to highlight that the key components that make up ‘the force of the ought’ are not logical relations between propositions but instead the relations between states of being and becoming otherwise. This expands the means through which we come to understand what matters; through needs, desires, emotions, listening to or ‘*sentipensar*’ with the earth. In this way social values can be understood as suspended in this middle ground, in the centrality of evaluation between states of being and becoming. While this may have seemed like an abstract and speculative task, it’s important to return these discussions to the economy-environment-democracy nexus by way of properly grounding social values as the next chapter will do in framing this discussion through the idea of a ‘pluriversal lens’. However for now, it is worth consider how the conceptualisations offers ways past the tensions and challenges I identified earlier that characterise working at the intersections of the economy-environment-democracy nexus. In moving through nature-culture and stasis-change binaries social values shifts the focus instead on to the processes of change themselves that include an attention to the more-than-human world and their relations. In this way nature is included as part of the process of understanding what matters whilst understanding what might be considered ‘good’ ecologically speaking (that is, the outcome) becomes part of the inquiry process in itself; in understanding the ethical stakes that emerge in such processes. This understanding of what might be considered a good outcome, what ought to be done is carried out through centring the relations of needs, desires, emotions, listening to and articulating with, for example, water; think-feeling with the earth.

Gibson Graham (2008 pg. 615) asks researchers interested in performing economic systems that are not destructive or oppressive of people and nature, 'how can our work open up possibilities?' 'What kind of world do we want to participate in building?' 'What might be the effect of theorizing things this way rather than that?' While this chapter has been speculative and indeed theoretical, the hope is that it might open up possibilities amidst processes of change rather than close them down. Social values, here in this chapter, have been radically re-imagined in ways that can both challenge the dualist worldview, yet not deny its existence and offer pathways, or ways of moving beyond these dualisms to more relational ways of living with, living *well* with, each other. To visualise this point, let's return once again to Da Cunha's notion of 'the river' not as an object (waiting to be valued) but as a constructed reality that is materially practiced, by landscape designers or FRM planners alike, through the repeated drawing of lines on a map that represent water as confined between two lines. Da Cunha (2019) powerfully observes however that, in recognising how this reality has come into being, it might open up our imaginations to how we could live with water differently. He notices specifically that during times of flooding, when water breaks free of imposed constraints, the lines that have been drawn are temporarily erased and our imaginations are engaged as to how these lines could be drawn *differently*. It is in these brief moments where such lines are erased, these moments where we are suspended between things as they are and things as they might become, that social values are so powerful; it is in these moments that we can see glimmers of social values ability to facilitate transitions towards alternative futures; towards futures otherwise.

5. Grounding social values; introducing a pluriversal lens

By way of consolidating the reconceptualization of social values that is core to this thesis, I will elaborate here on what I will coin as a ‘pluriversal lens’ for social values. A pluriversal lens captures the fuzziness of social values that this last section has outlined whilst, crucially, marking a point of intervention in the social values discourse. The fuzziness of social values as outlined in the last chapter lies in the ability of social values to be freed from the constraints of a dualist ontology in such a way that social values can facilitate transitions between worldviews. This fuzziness enables precisely the kinds of moves that chapter 3 identified social values to be capable of. For example, freed from the is-ought fallacy, social values can contest premature appeals to economics as though ‘matters of fact’; this serves to denaturalise economics in ways that can directly unsettle the technocratic logic of FRM as practiced today. Similarly, freed from the constraints of a nature-cultural dualism, social values can now consider the ways in which the social is constituted through more-than-human relations as well as human relations, allowing us as researchers to pay better attention to the more-than-human in understanding what matters. In each of these moves social values facilitates shifts in worldviews; transitions between ontologies. In this way, social values can be seen to now be performing the kind of work that Escobar (2020) calls for in pluriversal thinking, also indicated by Gibson-Graham’s (2008) call for work that ‘opens up possibilities’. I want to operationalise this fuzzy ability of social values through the introduction of a pluriversal lens for social values. While

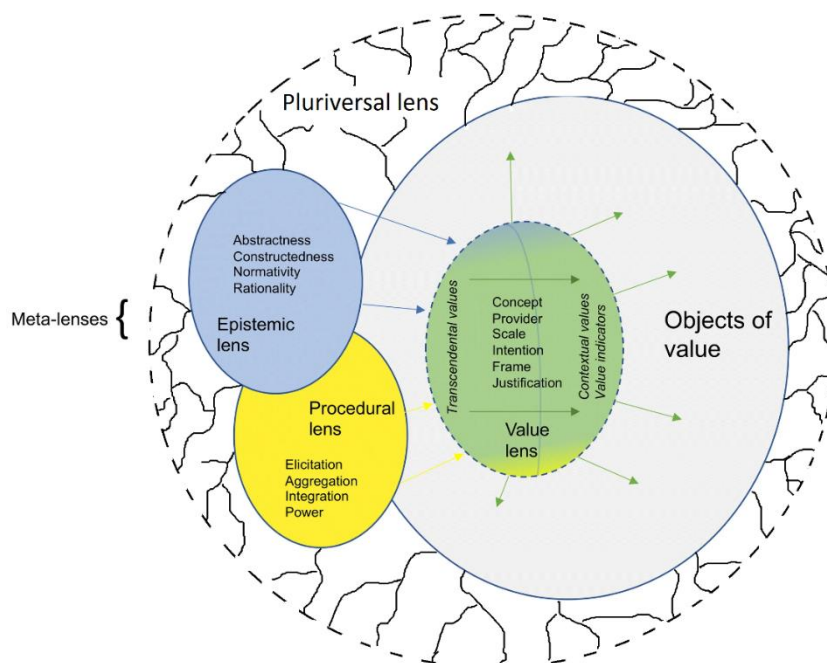


Figure 6- Adapted from Kenter et al., (2019) – a ‘Pluriversal lens’ for social values attempts to emancipate social values from its dualist constraints to a more rhizome-like ontology

Law (2004) identifies the need for social science methods to work within the messiness of ontological politics, the social values literature has also embraced the ‘messiness’ of values research to develop conceptual frameworks to navigate through the diversity of conceptualisations and applications of values (Kenter et al., 2019). Such navigation, Kenter et al., (2019) indicate, is possible through the idea of ‘meta-lenses’; an ‘epistemic’ lens and a ‘procedural’ lens. These lenses frame the diverse approaches to producing knowledge about values as well as the range of processes by which researchers work with value plurality (processes of integration, aggregation, conflicts of power) (Kenter et al., 2019). In addition to these lenses I propose a pluriversal lens that in itself frames both the epistemic and procedural lens, as outlined in figure 6, as an adapted version of the Kenter et al., (2019) social values framework.

A pluriversal lens then frames this fuzzy ability of social values to facilitate transitions between ontologies in such a way that breaks the glass ceilings that Hammond (2019) talks of as obstacles for democratic transformations. However a pluriversal lens does more than this, not only does it pose a ‘way out’ for those who could be seen as caught up in the de-futuring practices of a dualist worldview such as FRM decision-makers, it can also signal a call of attention towards the under-valued and yet desperately needed political projects around the world that disrupt the dominant order to the neoliberal system. For example, Escobar (2020, pg. 75), when describing the motivations for using the ‘pluriverse’ as a design concept as well as a political project states that the pluriverse is a ‘tool, first, for making alternatives to the one world, plausible to one worlders; and second, for providing resonance to those other worlds that interrupt the one world story’. This aspect of a pluriversal lens in effect, also serves to enhance the relevant failure rates of dominant actors such as capital. A pluriversal lens centres the plural ways of knowing and being that is fundamental to achieving the recognitional justice that Indigenous peoples across the global south are fighting or on daily basis (Muraca, 2016). A crucial part of a pluriversal lens draws upon the performativity of social values and social values methods. Offering a way out for those trapped in a dualist ontology, while offering solidarity for those fighting for a world where many worlds exist is a performative task. I say this here because, there remains the doubt in the social values discourse as to the role of researchers in such processes. Understanding that social values researchers and their efforts to understand the ‘values of nature’ are a part of making the very worlds they are trying to describe is a crucial starting point for enacting a pluriversal lens as the next section will go on to show. To re-iterate this point, this can be seen throughout the broader environmental values discourse. For example, ecosystem services and natural capital have been used as ‘leveraging tools’ to help communicate the values of nature to economists and decision-makers (Sullivan, 2018, Gómez-Baggethun et al., 2010). However in the practices of attempting to *describe* these values of nature as objects, or matters of fact, these very descriptions have in turn often become the objects of value themselves; valuing turns from framing why the natural world matters, to framing why natural capital matters, or as Sullivan (2018) explains the leveraging tool becomes a ‘fabrication device’. Turnhout et al., (2014 pg. 337), summarise this worry, ‘as with all assessments that use proxies and indicators to express value, the inevitable risk is that the proxies and indicators come to stand for and substitute the thing that is actually valued. In that way, indicators

and categories have the capacity to *remake reality* in their own image because they not only change the way we understand biodiversity but also how we treat it in conservation practice’ [emphasis added].

(Robertson, 2012)

A pluriversal lens is not simply critical of such efforts. Instead, the point is that in acknowledging the performativity of valuation practices we might be attentive to the propensity towards using the tools and frameworks as though they are fixed, or a matter of fact. We might air caution in appealing to frameworks that blind us to the complexities of the ecosystems with which we are concerned (Norgaard, 2010).

Acknowledging the care we need to take with the concepts, frameworks and methods we use can in practice open up a range of possibilities rather than closing options down. For example, we might look to use valuation frameworks in ways that both ‘appreciate and evaluate hybridity’ whilst treating them as living frameworks capable of changing, to frame the various ways, or entanglements or assemblage through which values come into being (Eden et al., 2000pg. 271). For example, in the life framework of values, the living *with* and living *as* frames can open up space for the appreciation and articulation of possible more-than-human social values (O’Connor and Kenter, 2019). This does not ignore the fact that living from nature is not still important; instrumentally valuing the way in which we are provided with food, water, shelter, regulated by air, soil and climate remain crucial parts of the picture. However the idea that these processes serve humans alone would no longer dominate our attention at the cost of all else that matters. Introducing a pluriversal lens for the social values researcher is like switching on the light for an individual previously making their way around a dark room with only a torch, fixated on one corner. That’s not to say that a pluriversal lens is a totalising perspective or that there exists ‘one room’ (far from it, for want of a better analogy, it would be like realising that they’re in just one room of a whole building) but now the social values researcher is aware of the range of possibilities to explore as well as now being able to see themselves as part of the room. In this way, a pluriversal lens for social values is primarily concerned with possibilities, how can our work open up possibilities to alternative ways of living well together.

I will now in the remainder of this chapter indicate how a pluriversal lens can do precisely this by focusing specifically on social values methods. A pluriversal lens can expand on the range of approaches, that social values researchers might be concerned with or have at their disposal. While this will not serve as an exhaustive list of such possibilities, it will intimate towards future directions of research for social values.

5.1. Expanding the design of social values; identifying ‘possibility spaces’

To demonstrate the way in which a pluriversal lens ‘opens up’ the work of social values research, I will briefly outline what I will refer to as the ‘possibility spaces’ of social valuation design. This will serve to show how we might expand the methodological advances of social values research in line with the kinds of reconceptualisations of social values that I have so far proposed in this thesis. In recognising that our

methods and ways of practicing valuation can themselves come to create, or *perform*, the very relations and dynamics through which things come to matter we must think critically and reflect upon the *design* of valuation methods. Frederiksen et al., (2014) talk of ‘possibility spaces’ in the context of thinking through the implications of understanding techniques of valuation through assemblages in a similar approach to chapter 3. In so doing they consider the notion of ‘possibility spaces’, as ‘relational spaces ordered by different topological rules that set the conditions for what forms and actions are possible’ (Frederiksen et al., 2014, pg. 6-7). This follows from the authors interest in the ‘particular way in which different assemblages come to be configured, moreover, *may set up or constrain* different capacities and possibilities for future action’ [emphasis added] (Frederiksen et al., 2014, pg. 6-7). In this light then, thinking about the *design* of valuations itself can help shine a light on how possibilities for valuing differently might variously set up or constrain different capacities and possibilities too. Thinking about valuation processes in this way is not dissimilar from Vatn’s (2009) notion of value articulating institutions that has become a key concept in Ecological Economics. Vatn (2009) defines institutions as the rules, norms and conventions that shape appropriate behaviour, actions and how people interact with each other and with the environment. Vatn (2009) goes on to illustrate how valuation methods ought to be considered an institution for the reason that the ways in which they are designed and carried out are defined by a similar set of rules, norms and conventions. Vatn (Vatn, 2009 pg 2208) outlines a set of questions that the design of valuations ‘either implicitly or explicitly respond’ to; ‘Who should participate, on which premises and according to which role? How are they supposed to participate — in writing, orally, individually, via group meetings etc.? What counts as data and which form should it have: prices, weights, arguments etc.? Specifically, can incommensurable values be included? How is information conveyed to participants and how is data produced? How are conclusions reached?’

These questions are useful building blocks, however I argue that such questions can be more usefully framed through the lens of ‘possibility spaces’ where even these questions themselves may play a role in setting the parameters for how values are formed, elicited, organised, compared and so on. If we are to re-frame valuation in this light then exploring how social values can be operationalised in the expanded ontological sense articulated in the previous chapter, becomes one of articulating a set of choices for the researcher in thinking through the methodological design of the valuation approach. This section then is similarly motivated by Tadaki et al., (2017 pg. 7) typology of environmental value concepts, where they try to help environmental values practitioners through the complexity of working with values; ‘For practitioners facing a confusing array of conceptual approaches to environmental values, we propose that thinking about values methodologies as “technologies of participation” can highlight normative concerns about equity and power in environmental decision-making ... All types of applied values research involve structuring the (non)participation of particular local actors and experts in decision-making processes. Whichever approach is used, particular roles are implied for experts and publics’.

Once again this notion of technologies of participation gets at something close to the notion of possibility spaces that I am employing here. Rather than developing a novel framework however, I want to draw on

a range of typologies by Vatn (2009), Raymond et al., (2014) and Tadaki et al., (2017) to consider briefly the implications of how possibility spaces might be opened up through a pluriversal lens for social values. As stated previously, the aim here is not make an exhaustive list, far from it. The aim is to demonstrate how a pluriversal lens can identify certain points of intervention, possibility spaces, in the design of methodologies that can lead to more generative outcomes. Table 2) (See Appendix) intends to give a broader outline of how different methodological approaches and indeed paradigms can align with one another as well as in relation to the LFV. However both for the sake of the argument I am trying to develop here as well as to set us up for the methodological approach I experiment with in the next chapter, I will briefly focus on what I identify as 4 key areas for a pluriversal lens to make an intervention; 1) perspective on rationality, 2) appeal to legitimacy, 3) sites of valuation and 4) pluralising value indicators.

5.1.1. Perspective on rationality

The first element that I will focus on here is the underlying rationalities that can underpin the design of a social values methodology. The underlying rationality can pre-determine from the outset the possibility spaces for how and what kind of values may be elicited from the context. The most common rationality used in economic valuation more broadly let alone social values, has been an *instrumental* rationality. Instrumental rationality employs forms of reasoning whereby the means are evaluated or judged according to how successful they are in achieving specific ends. In this way values can be ranked, aggregated, or 'traded-off' against one another according to how important something might be in achieving some particular outcome. This perspective on rationality immediately comes up against the process versus outcome tension on the economy-environment-democracy nexus because the process of understanding social values through instrumental rationality becomes limited in that it is constrained by the imposition of a pre-defined outcome in mind. This is not to rule out social values as employing an instrumental rationality, but rather that researchers using an instrumental rationality must be clear with those who participate that intended outcomes have likely already been established.

Another perspective on rationality that has become increasingly prominent as an alternative to the instrumental rationality outlined here is that of communicative rationality typical of the deliberative paradigm (Zografos and Howarth, 2010). Communicative rationality differs from instrumental rationality in that participants come together to develop reasons and arguments with the goal of reaching shared understanding and mutual agreement (Zografos and Howarth, 2010, Habermas, 1984). Raymond et al., (2014) note that while most social values methodologies have been underpinned by an instrumental rationality there has been an increasing turn towards more this more deliberative paradigm. This paradigm, they recognise, 'places emphasis on communication and argumentation, and combining lay and expert perspectives on the decision-making process' as opposed to the 'instrumental paradigm where the emphasis is on rating, ranking and spatially identifying social values' (Raymond et al., 2014 pg. 146). This

communicative approach to rationality then focuses more on the process as opposed to the outcome. However once again we return to the process versus outcome tension at the nexus, as only focusing on the process as reasons and argument with the goal of reaching shared agreement, leaves open the possibility of outcomes being reached that are far from beneficial to the supposedly ‘incommunicative’ more-than-human world⁷.

The instrumental and deliberative paradigms outlined here are not mutually exclusive, with Raymond et al., (2014) advocating for approaches that can combine elements of the two. Nor are these approaches to rationality the only two. For example, Edwards et al., (2016) recognises the limited scope of both approaches. On the one hand, instrumental rationality with its pre-defined goals leaves little room for novel outcomes or unexpected solutions that can emerge from participatory research. While on the other hand, communicative approaches centre too much attention on consensus building in ways that leave little room for contested experiences or contested spaces which can in themselves be productive tensions for thinking about problems differently. Instead Edwards et al., (2016) propose an interpretive-deliberative rationality which takes the attention to the deliberative process of discussing and exploring a problem yet allows more creative thinking to interpret a problem differently. This type of rationality leads to the authors (Collins et al., 2018) advocating an arts-led dialogue methodology to elicit cultural values. This has been called a critical emancipatory approach by Kenter et al., (2019) for its ability to reach unexpected outcomes and generate novel solutions to complex problems. This is closer to the kind of thinking a pluriversal lens would look to offer and indeed provides the building blocks for how this might look.

A pluriversal lens to social values then would challenge the limits of ‘rational discourse’ around dialogue and deliberation that, as the previous chapter explored largely separates values from facts and knowledge production. In collapsing the distinction, ways of reasoning through emotions, or through embodiment might also be encouraged as important approaches to generating social values (Batavia et al., 2021, Raymond et al., 2018). This expands rationality to be open to the rhizome-like logic that Escobar identifies as being articulated through ‘sentipensar’, as think-feeling. In this way a pluriversal lens of social values now works with a range of ways of knowing and being that can open up thinking and reasoning to imagine alternative futures *with* water and the earth as opposed to apart from it. Lastly, there have been intimations towards approaches to valuing nature through the lens of biomimicry which may also develop novel methodologies that both appreciate and evaluate living *with* the more-than-human world (Dicks, 2017).

⁷ My approach with Kenter (2019) to include more-than-human perspectives in considering social values intended to target this particular ‘possibility space’; I explored whether we might consider the more-than-human as an extended community of those who we might consider to be part of this communicative rationality. I have reflected upon that approach elsewhere in the thesis. Though successful in eliciting consideration of more-than-human perspectives the approach did little to unsettle the representational logics of subject-object valuations to date.

5.1.2. Appeal to legitimacy

The next '*possibility space*' for making decisions differently concerns the political logics that are appealed to in the set of choices a researcher makes. These choices can be framed through a consideration of *who* gets to participate in decision-making as well as *how*. This concern can more broadly be framed as an appeal to legitimacy. Traditionally the social values discourse, 'occupied' by a dualist ontology, frames this question of an appeal to legitimacy through the political logic of representation such that this question becomes narrowed simply to 'types of representativeness' (Raymond et al., 2014). These types of representativeness have been described as both 'statistical' and 'political'. Statistical refers to the aggregation of data, through either ratings, rankings of preferences that may be revealed or stated. Whereas political refers to the representation of those who are affected or the stakeholders who are concerned in the first place. Like the deliberative paradigm, the assumption here is that over the course of the valuation process, consensus is reached and the 'voice of the community' is settled in ways that means it can be represented in the decision-making process (Cumming and Norwood, 2012, Ranger et al., 2016). Such an approach that looks to create representations of what matters to people, to represent their values, can never be complete and always involves political decisions along the way; questions such as who considers or decides the groups that are 'affected', at what stage might consensus be agreed or 'settled'. Responses to these questions are often implicitly made by the researchers through assumptions about decision-making and policy as a linear cycle where the weight of a decision is assumed to be in the final stages where all factors have been considered. Decision-makers in such scenarios are assumed to be outsiders, the neutral arbiters who are best placed to judge these representations. What such an approach doesn't allow for is space for dissent, for disagreement or for contested spaces (Edwards et al., 2016). Thinking in this way, the cracks in the logics of representation begin to emerge. Even finding one individual to be a 'representative' stakeholder becomes problematic. Typically stakeholders are defined as those who would have a stake in decision-making, yet such stakeholders are usually defined by their organisational, business, or institutional roles as opposed to being affected as members of the community. Even assuming people can be representative of their roles in which they are enrolled becomes difficult to maintain as we saw in case study 2 with the ecologist for the EA exposing the tensions and disagreements in ontological paradigms between different practices within the EA itself. This is also exemplified by 'local residents' usually being considered as just one category amongst the list of stakeholder types. For example, during the Marine Ecosystems Research Programme (MERP) for which I contributed research exploring the social values of the marine environment along the West Coast of Scotland here again stakeholders included representatives from the tourism industry, environmental regulatory institutions, environmental NGOs, fishing industry to name a few. However, amongst the 40 interviewed, 'local residents' accounted for a representative group of 2 people. While this could be a shortcoming of the sample we selected, this is a typical approach amongst researchers conducting stakeholder mapping exercises.

The criticisms of the logics of representation hinted at here have been increasingly contested and their limitations recognised elsewhere indicating towards a whole field of research methodologies that look to go 'beyond' representational theories (Lorimer, 2005, Muhr, 2020, Thrift and Dewsbury, 2000, Thrift, 2000). While such criticisms indicate towards departing representation, the move within the social values discourse remains confined within its logics, with only intimations of challenging, or rather reframing it as Edwards et al., (2017) looked to achieve. For example, as recognised by Kendal and Raymond (2019 pg. 1339), 'the careful definition and sampling of the population of interest is critical to determining aggregated group level values. Too often in values' research, the population of interest is defined by convenience rather than in a manner that is closely connected to the values that we are trying to measure: the general public, visitors, stakeholders, or local people. A useful approach to identifying a meaningful sample frame distinguishes between communities of place, interest, practice, and identity'. Kendal and Raymond (2019) go on to variously define the scope of these more meaningful notions of communities. Here the authors have identified the shortcomings of certain approaches to representation, yet they remain committed to reframing the communities to be represented rather than the logic of representation itself.

So what alternative approach to appealing to legitimacy might a pluriversal lens propose? Burns (2007) in exploring the principles for Systemic Action Research (SAR), sets out an alternative to representation as that of political *resonance*. Resonance looks to build upon the political interest and involvement of those with whom issues *resonate*. By resonance, Burns (2007) says he is referring to how 'people 'see' and 'feel' the connection between things', that 'they 'know' that it is related to their experience' and that 'they are 'energised' and 'mobilised' by such connections. As Burns (2007, pg. 54) indicates, 'resonance may be a more useful concept than representativeness for both identifying issues of concern and possibilities for mobilisation'. It is this possibility for *mobilisation* that can become so generative in creating and performing the kind of networks that may become powerful enough to take on the power of capital, in ways that appeals to representation fall short. In reverting back to Kendal and Raymond's (2019) indication towards more meaningful communities, we might re-consider the idea of communities of place. While the authors indicate that geographical location 'is a poor predictor of values', their definition of its scope offers promise for thinking through a pluriversal lens for social values (Kendal and Raymond, 2019, pg.1340). Communities of 'Place' are identified as geographical location and context yet defined by 'social, political and/or natural boundaries' (Kendal and Raymond (2019, pg.1340). As I am not interested in predicting values in this research project, but precisely the *unpredictability* of values that may emerge, this notion of thinking about place poses an important possibility space for a pluriversal lens for social values to intervene. What about re-imagining communities, framing publics according to assemblages and networks, of perhaps 'ecological communities' as opposed to socially constructed boundaries. This is what Strang (2020b) recently makes the case for in re-imagining 'the river' as a site for ethical encounters. Rather than pre-define what the ecological communities might be, understanding the various assemblages in any given context could in itself be the first step in understanding the community through which we

would seek to understand the social values that emerge. This approach building on resonance between actors who see and feel the connections between things, connections that centre on material human and more-than-human relations may offer a more mobilising and politically generative basis from which decisions could be made. This indicates towards a very different appeal to legitimacy than that of a representational logic.

5.1.3. Sites of valuation

The third possibility space I want to explore here is that of the sites of valuation; where valuation takes place or is assumed to take place. This might typically not be considered an important factor to consider when carrying out social values research. The deliberative research paradigm, characterised by the communicative rationality approach largely looks to settings through which people can reason with one another. This usually takes the form of mini assemblies, or community spaces where group meetings can take place. Within this deliberative paradigm, theorists such as Mansbridge (2012) have also pointed out the significance of focusing on when and where deliberation happens. Mansbridge et al., (2012) point out that an attention to this question of where deliberation happens can enhance the design of creating a more democratic system. Drawing on her earlier work of ‘boundaries of the system’, Mansbridge et al., (2012, pg. 9) set out four key areas of what they identify as the ‘deliberative system’; ‘the binding decisions of the state (both in the law itself and its implementation); activities directly related to preparing for those binding decisions; informal talk related to those binding decisions; and arenas of formal or informal talk related to decisions on issues of common concern that are not intended for binding decisions by the state’. What this recognises is that the weight of decision-making does not simply take place in one specific place alone, i.e. parliament in the UK, or in local councils, or the offices of the EA, but it can also be distributed across settings where other types of deliberation take place. Mansbridge et al., (2012, pg. 8) demonstrate this with an example, ‘thus the widespread societal conclusion that discrimination in hiring by race and gender is unjust is reasonably described as a collective decision, resulting in part from certain binding state decisions but also in large part from hundreds or millions of individual and institutional decisions based on widespread collective discussion and interaction. The lack of a clear decisional point in such emergent decisions provides one more reason why looking only at a part of a system can cause one to miss significant phenomena that affect deliberation’. This last point that focusing on ‘one part of the system can cause one to miss out on significant phenomena’ strikes a chord with what I am trying to argue that a pluriversal lens can do for social values. Recognising that the weight of decision-making is distributed and that indeed informal spaces can also play a role in the formation of collective decision-making means that we do not need to centre the sites of decision-making on formal spaces.

To bring this point back to the economy-environment-democracy nexus, consider this critical summary of the idealist position of a post-materialist account of values from Schlosberg (2019, pg. 5), ‘the argument is that people get materially comfortable, develop post-materialist values, participate in

representative democracies to insist that public policy be reflective of these new values, and the state responds with new and improved policies.’ While deliberative democracy has strongly influenced social values research and such critical developments from Mansbridge et al., (2012) highlight possible developments for social values to explore, there remains something of an assumption that this is the trajectory of social values in decision-making too; social valuation methodologies are typically designed to ‘feed into’ decision-making in more formal spaces. While this may be successful in some contexts, it overlooks the flaws in liberal democracy outlined in chapter 2. So how might a pluriversal lens for social values challenge this centring of formal spaces and look to build resonance in those communities where ‘the hundreds or millions of individual and institutional decisions’ take place ‘based on discussions and interaction’ (Mansbridge et al., 2012, pg. 8).

Admittedly many in the social values discourse do recognise the need to consider the places in which valuation takes place. Instrumental valuation methods are typically desk-based, calculating preferences through pre-established or secondary datasets often drawn from surveys. Such valuation processes take place *ex situ*, away from the specific context where such representations have been drawn from. This can lead to a sense of exclusion as well as suspicion on the part of those whose values are supposedly being aggregated and then represented. Recognising such shortcomings of not being in the places in which the valuation concerns has led to more social values research methods attempting to engage more with place, to establish a sense of place or understand the identities of a place that can shape people’s values. The motivation behind using the Community Voice Method (CVM) is precisely that you are interviewing people in their own locations, in the very places that matter to them (Ranger et al., 2016; Ainsworth et al., 2019). This can make the participants feel at ease whilst it can also capture some of the essences of what makes a place important; often these methods are video-based Ainsworth et al., (2019). However while these approaches centre on developing methodologies that might get closer to the values, or might improve the way in which values are elicited, what if we consider the sites of decision-making as part and parcel of the attempts to include the more-than-human in our understandings of the social.

The importance of place is a key topic for social values research, the significance of place for the valuation methodologies themselves is rarely discussed or considered. Yet place, as the recognition of being embedded in the environment, is crucial when we are trying to think of ways to better include the more-than-human in our decision-making, frameworks and valuation methods. It would be like a team of footballers discussing ways to draw in more fans and draw in more supporters in the changing room not realising that the stadium beyond the dressing room is heaving with fans already. Westlund (2010) illustrates this point in the field of peace and conflict studies. Westlund (2010) draws upon an observation noted by a Mayan priest at a workshop by Lederach on peacebuilding delivered to Guatemalans - after the talk the priest approached Lederach and pointed out ‘Your framework is missing the earth and skies, the winds and rocks’. This interaction forms the basis of Westlund’s (2010) argument that points out that peace and conflict frameworks have always overlooked the material relations in which the negotiations take place. Drawing on the benefits to individuals’ mental wellbeing and, crucially, *emotions*, Westlund

(2010) observes from three case studies that took place in ‘natural settings’ that peoples ties to the ecologies of the place was a key component in understanding the conflicts and what mattered to people. Westlund (2010) concludes that nature has always been an active participant in the peacebuilding process yet this role has largely been overlooked.

While this may not seem like a ground breaking realisation, perhaps in part owing to how *intuitive* it is, Westlund (2010, pg. 310) identifies it as a key avenue for future research in peace and conflict studies, stating, ‘in addition to considering these places for future processes, another important approach to understanding the traces left by the natural world may be similar to the one taken here: reviewing stories of past processes with attention to the patterns and felt rhythms in the stories. There is, however, one problem in looking for such patterns in the scholarly literature. In a field that has long favored what Schirch refers to as ‘talking heads’, accounts tend to be sparse on details about setting and context.’ This resonates with the social values discourse too where settings and contexts are rarely considered as part of the possibility spaces of valuation design. A pluriversal lens then would look to pay specific attention to the sites of valuation, recognising that such sites can be the settings through which the more-than-human might be recognised as an active participant. This signals a call towards advances in the field of More-than-Human Participatory research where one of the key avenues for designing such participatory approaches that is advocated by Noorani and Brigstocke (2018) is to create ecological encounters. Noorani and Brigstocke (2018) draw up on Whatmore (2013) who draws precisely on such ecological encounters, recognising such encounters for their politically generative potential. The authors indicate that ‘through intentionally building stages and spaces for the intermingling of human and non-human agencies, and slowing practices down, hybrid forums of knowledge and expertise can offer innovative practical and political responses’ (Noorani and Brigstocke, 2018 pg. 26).

Attention to being in place is part of what motivated the attention to embodiment in Raymond et al., (2018) approach to understanding how ecosystems are co-produced and so there are intimations towards the importance of social values researchers being in place. Similarly Denton et al., (2021) have recently explored the potential for methods that capture some of the embodied, immersive experiences that can matter so deeply to people. These authors creatively experiment with a ‘swim-along’ interview method to understand more about the benefits of cold water swimming (Denton et al., 2021). Recognising this importance and the way in which ecological encounters may signal towards different ways ‘of being and becoming in place’, as Escobar (2020) reminds us, may also open up possibilities for social values working with emerging methodological approaches such as multispecies ethnographies. These methodological approaches look to explore possibilities of human and more-than-human living well, or flourishing together, such as Tsing’s (2015) attention to more-than-human socialities. Including such methodologies into social values ‘arsenal’ could create a more attentive disposition towards exploring ways in which social values, in the expanded ontological sense, may be generated (Van Dooren and Rose, 2012, Tsing, 2013b, Tsing, 2015).

Thinking about place and creating ecological encounters is not a far cry from FRM either. For example, the performance-based storytelling approach of Scott-Bottoms and Roe (2020) has challenged the technocratic framing of FRM to redistribute agency to communities affected by flooding and living with water, performing new understandings of what it means to be a hydro-citizen. These performances were always in place, either performing besides a river, or attempting to follow water through a city. I will draw inspiration from such methodologies in the final case study that I explore in the next chapter.

5.1.4. Pluralising value indicators

Finally, the fourth possibility space I will explore here is that of pluralising the value indicators themselves that are used in social values research. Without re-entering the tensions of using monetary valuation debates once again here, it is worth reminding us of the dilemma many social values researchers feel that they face. As Harvey (1996, pg. 156) summarises, ‘at this point, the critic of money valuations, who is nevertheless deeply concerned about environmental degradation, is faced with a dilemma: eschew the language of daily economic practice and political power and speak in the wilderness, or articulate deeply-held non-monetizable values in a language (i.e. that of money) believed to be inappropriate and fundamentally alien.’ A pluriversal lens for social values then must open up the possibility spaces of working with value indicators in ways that don’t necessarily fall in to this dichotomy. It is worth starting however by pointing out that social values does not see the field of valuation as binary as this quote by Harvey (1996) would make it out to be. Monetary values, understood as value indicators, reflect a set of choices amongst the plurality of choices, or rather possibility spaces for social values researchers. The idea that monetary values are simply indicators of broader value concepts such as transcendental or contextual values has been established as a foundational understandings of social values in environmental management (Kenter et al., 2015). The aim here has been to open up thinking to allow for broader, plural values to guide decision-making and how value indicators are established. However I would argue that the implications of this move have the potential to be much more politically powerful or forceful as it can equip people who are affected by decisions to declare ‘this monetary value does not reflect our social values’ (or something more punchy to that effect). Many social values researchers still find it hard to escape the felt ‘need’ to always translate social values back to monetary values, even if the process through which they have been generated has been so deliberative and the values have changed as Orchard-Webb et al., (2016) illustrate in their Deliberative Democratic Monetary Valuation (DDMV) methodological approach.

A starting point for thinking about value indicators through a pluriversal lens might be to identify how value indicators are useful. Value indicators usually communicate to economists, policy and decision-makers the importance of something. However often value indicators are only assumed to talk about the *performance* of something. For example, recent study by Breyne et al., (2021) looked to distinguish between social value *indicators* and socio-cultural values by way of distinguishing between the way in which

ecosystem services are measured by indicators to understand the *performance* and the *importance* of those ecosystem services respectively. This distinction calls to mind the earlier notions of valuation as being in between things as they are and things as they might be otherwise, between a descriptive statement and a normative statement. I want to consider what it might be to consider developing social value indicators that can incorporate both the performance and importance of something.

Another such move is that offered by Caillon et al., (2017) who recognise the limitation of approaches such as that above of Breyné et al., (2021) which remains dualistic in its treatment of social and cultural values and indicators at one end paired with ecological values and indicators at the other. Caillon et al., (2017) point to the use of single metrics that measure social wellbeing on the one hand and ecological wellbeing on the other as buying into the underlying assumption that environmental decision-making must necessarily involve trade-offs at some basic level. Instead Caillon et al., (2017) start with the recognition that if we are to strive for a joint social and ecological wellbeing, that is, the kind of socio-ecological flourishing that might be reflective of the living with frame, then we need to think about indicators differently. The authors state, ‘We advocate for comparable investment in indicators that integrate the specific well-being of ecosystems and the relationship between humans and nature that maintain these wellbeings. Equitable conservation strategies can be achieved only if we believe in a joint future for ecological and human well-beings by (1) actively engaging with the diversity of knowledges, practices, and ontologies (i.e., different realities with complex relations between distinct categories of being; for example, between humans and nonhumans, such as landforms, spirits, rocks, trees, energy), (2) moving beyond the dichotomy between people and nature, and (3) giving nature a voice’. (Caillon et al., 2017, pg. 27)

These threefold motivations for developing biocultural approach to indicators can be likened to the motivations for developing a pluriversal lens for social values outlined in the previous chapter. In this way, these projects with shared motivations can link in and with support one another. Biocultural indicators themselves are described to be inclusive of values, knowledges, practices as well as natural processes, yet they do have commonalities between them such as they denote a ‘connectedness to nature’ or a ‘sense of place’ and crucially, they are locally defined and context-specific (Dacks et al., 2019). Dacks et al., (2019, pg. 7) describe the importance of outlining how biocultural indicators ought to be locally defined; ‘biocultural indicator development is a complex process that often involves weaving across different worldviews... Since opportunities for communities to participate in indicator development are rare, creating space for communities to identify their resilience characteristics is valuable in itself, as it gives communities a chance to discuss their observations and goals, empowering them to chart their own path forward’. This centring of communities and finding ways to communicate what matters in socio-ecological assemblages is reflective of the approach of a pluriversal lens for social values and gestures towards possibilities beyond the dominance of monetary values alone as indicators of what is important. Once again Kohn (2013) offers insights here too, drawing on indigenous thought and examples of how meaning is understood through symbols not just in the human world but more-than-human world too.

The aim in this chapter has been to highlight how social values research and the development of methodologies can be seen through a range of possibility spaces. Turning our attention to these possibility spaces has hinted at the ways in which a pluriversal lens for social values could be operationalised through expanding on the range of methodological choices that researchers have traditionally made in understanding social values. In this chapter, I explored the ways in which a pluriversal lens would 1) challenge the perspective on rationality, to include other ways of knowing, thinking and feeling such as embodiment and emotions; 2) consider more politically mobilising appeals to legitimacy than representation, drawing on the notion of political resonance to think about generating communities of resonance through socio-ecological assemblages; 3) to reflect on the sites of where valuation takes place going beyond the formal spaces of decision-making and to explore the significance of creating ecological encounters and 4) open the door to a new way of working with indicators that are locally and democratically defined in themselves, such as the notion of biocultural indicators. In these ways it starts to become clear to see the impact a pluriversal lens would have on social values research, opening the door to a range of methodologies that could benefit social values research. In the next chapter I will outline how I tried to experiment with social values design by putting a pluriversal lens into practice.

6. Performing social values through a pluriversal lens

‘A river is like a mirror: it reflects the care given by people whose lives depend upon it. A scald on red ground or the slow death of a river reveals more than troubled ecological relationships – they are signs of broken social relationships’ (Muir et al., 2010)

‘What of all the diverse human economic activities that cannot be capitalized and priced? What of the relations between human and environments that are not about ‘servicing’ but are about mutual care and stewardship? What about the developmental dynamics that are not driven by accumulation, the releasing of potential, creative restructuring and structural maintenance? Indeed, if it is the capitalist economic system (albeit in the form of a new ‘regime of accumulation’) that persists, how might radical transformation and a new development trajectory come about?’ (Gibson-Graham et al., 2016) pg. 705

The power of a pluriversal lens for social values lies precisely in its ‘fuzziness’; in its ability to transition between ontological framings. Referring back to West et al. (2021) signposting of putting relational approaches to work in sustainability science, the authors indicate the aim is to generate concepts that are ‘are better situated in context, open to revision, and usable for the task at hand’ (West et al., 2021, pg.111). While the approach far has been to work forward from tracing relations whilst re-negotiating concepts, the last task at hand in this thesis is now to tentatively test whether the concept, that is a pluriversal lens for social values, might be usable in FRM. So this is where this final chapter stands, drawing upon the two case studies in chapter 3 and the re-negotiation of concepts in chapter 4, I want to explore what it means to perform social values through a pluriversal lens. I will experiment with some of the possibility spaces identified in the previous chapter in order to explore what kind of practical interventions a pluriversal lens can offer. Firstly however, let us return to the specific questions posed by FRM and the difficulties posed by the emerging new paradigm for FRM of nature-based solutions and learning to live water. This will be of specific relevance to this chapter as the final case study follows a local beck (small river) restoration project.

6.1. Social values to work with water?

As established in earlier chapters, the current practices of FRM poses problems for how decision-makers might think about flooding differently. This is most evident in the identified need to transition to more ‘nature-based approaches’ that move away from the kind of hard engineering we saw at Terry Avenue and on Clifton Ings. One of the main avenues for work in this direction has been Natural Flood Management (NFM) which focuses largely on measures taken upstream of rivers to slow the flow down before reaching more concentrated urban areas and cities (Bark et al., 2021). One such management approach is river restoration. Restoration approaches may range from removing weirs, de-culverting, sometimes

referred to as ‘daylighting’, re-meandering otherwise straightened channels, or simply creating more ‘space’ along the river banks for the water to go (Eden and Tunstall, 2006, Baker and Eckerberg, 2013, Westling et al., 2014) . These options can be seen through various policy and landscape design catchphrases such as ‘room for the river’ or ‘making space for water’ (de Bruijn et al., 2015, Jones and Macdonald, 2007, Prominski et al., 2017). If we take Eden and Tunstall’s (2006 pg. 662) claim that the European approach to living with rivers was essentially to ‘bury them, turn them into canals, line them with concrete and build upon the (now protected) floodplains, then these approaches advocated today seem to aim towards directly reversing these hard-engineering processes.

While this may be recognised as necessary, it seems as though the *way* land management decisions were taken in the past has not been so scrutinised. As a management approach, river restorations can also extend into urban areas where rivers and waterways become highly entangled with urban infrastructure. In this paradigm, managing where water goes in urban areas has become a question of navigating underground gas pipes, electricity lines, or underground broadband cables. Restoration then has to date been practiced with exactly the kind of decision-making centred on technical expertise that characterises FRM.

As the opening sections of this thesis demonstrated, the technocratic governance of FRM practices obscures understandings of how such decisions can include the ‘social’. The modernist tendency to treat water as an abstracted substance, devoid of its material relations and cultural or spiritual significances is at the heart of why technocratic governance fails to include the social in its perspective, and attempts at management, of water (Berry et al., 2018, Linton, 2010, Strang, 2005, Strang, 2014). However, as this thesis has hopefully communicated by now, in its critical stance towards what might be assumed by the social, this omission of FRM is not simply a result of treating people and communities as passive recipients of decisions, but also nature. The exclusion of questions of the ‘social’, might be rephrased as FRM missing the ‘liveliness’ of both people and nature. This is of course especially important in urban areas where such changes to the ways people live with water will likely generate interest and become potentially controversial, or hotly contested, issues. This is hinted at in the literature on restoration, where there are repeated calls for *social* restoration as well as ecological restoration (Eden and Tunstall, 2006, Light, 2006). Reflecting this tension along the science-policy nexus, Eden and Tunstall (Eden and Tunstall) talk about this as a need to translate the significance of such projects to communities not just for ecological values that may be generated but for the potential social values too. This can be seen as the core motivation in Everard and Moggridge’s (2012) efforts to ‘re-discover’ the value of urban rivers through the lens of ecosystem services to ensure people, not just scientific experts, recognise the plural ecological values that rivers can offer. This appeal for restoration of social values as well as ecological, is best described in the following passage by Light (2006, pg. 173); ‘Such an approach assumes that the only relevant criteria for what counts as a good restoration are scientific, technological, design, and economic factors. There is also an important moral dimension to a good restoration, namely the degree of public participation involved in such projects. This view argues that there are unique values at stake in any

restoration that can be achieved only through some degree of public participation in a project, for example, the potential of restorations to help nurture a sense of stewardship or care between humans and the nature around them. Such social or moral values to the community augment the other values of restoring the ecological condition of a site *per se*.

The 'social' is once again here considered distinct from the more-than-human such as the technological and scientific factors for example. However the point Light (Light) makes recognises how important it is that restorations are not simply considered technical engineering projects that are done 'to people'. While this perspective offered here neatly summarises the omission of social values from restoration, I want to challenge the notion that social values is confined simply as a discrete category. Just as Light (2006) recognises the project might not be considered a success if it does not consider the ways in which people are involved, it is also worth considering how successful the project will be if water is not 'involved' in the process too. As noted in an early conversation with a hydro-geomorphologist who emerged as a local resident in this final case study, many restoration projects are now led by 'big business' who take 'off the shelf' proposals to different contexts (Participant #12). This has the consequences that water may not take to the restoration over time and may defy the new channels that have been engineered for it. Such a one-size fits all approach overlooks context-specific assemblages of material relations that must be taken into consideration as part of the design.

To demonstrate the point I am trying to make here, we might see the view reflected by Muir et al., (2010) at the start of this chapter of Aboriginal people in New South Wales, Australia, which the authors juxtapose to the Western view of science and knowledge. For Aboriginal people living with the Darling River basin, when a river showing signs of poor health, it is indicative of the poor health of the community too. This point is crucial when we consider the social values discourse. For example, if we look at du Bray et al., (2019) study which tried to see if local cultural perceptions and values of rivers correspond with cultural ecosystem service valuation studies of four major urban rivers around the world. du Bray et al., (2019) highlight how ecosystem service valuations largely do not correspond with people's everyday experiences as people perceived the rivers to be passive and 'dead'. In this way the rivers were perceived to be lacking the capacity to provide any 'services' at all. Restoring the agency of rivers, then is indistinguishable from restoring the social values that might emerge. In this way, valuation as a practice can only be carried out with and through water, almost as a participant itself that may play a role in shaping and indicating towards what the possible outcomes might become.

So how might such a consideration of social values 'working with water' apply to a FRM context in York? Whatmore et al. (2009), whose work has been influential to this thesis, illustrates ways in which such an approach might be facilitated. In their work, they brought together natural and social scientists along with community residents to collaboratively pool their knowledges, making use of technical expertise but also situated, local knowledges through the form of stories, photos and video footages. Models demonstrating where water might go during heavy rain, were contested and challenged with local knowledge and

experiences of where water has been before. This process of ‘slowing down reasoning’ in turn led to novel solutions being trialled, such as ‘bunds’ upstream, a form of NFM (Whatmore, 2009). Slowing down reasoning also lead to slowing down the flow; in turn, how might slowing down the process of valuing go?

Whatmore et al.’s (2009) work effectively democratised decision-making in two ways. Firstly everyone could explore the issues at hand in ways that left the process open for knowledge claims to be contested rather than excluding such criticism, or attempting to close down disagreement (Donaldson et al., 2013). Secondly, the process built upon the power of water, during flooding, to ontologically disturb people’s everyday understandings of reality, or the socio-ecological fabric of their lives, as a potentially generative phenomenon to think differently about living with water (Whatmore, 2013). These two approaches act as prompts for the approach I take in this final case study. My approach will take the form of a speculative inquiry as to whether the reconceptualization of social values, indicated through the introduction of a pluriversal lens, can do the kind of work that NFM and nature-based policies to FRM require; that is, to find ways of working with and valuing *with* water as opposed to against it. The aim then is to practice social values in ways that can appreciate and amplify the ‘rhizome-like’ logics that modernist ontologies have to date been unable to work with (Escobar, 2020). A pluriversal lens for social values aims to do just this, unsettling the dualist ontology that binds and constrains possibilities for implementing social values in FRM that were identified in chapter 3. To begin, I will outline below the methodological approach I took in this final case study, with particular attention to expanding key possibility spaces with the design of social values research that were outlined in the previous chapter.

6.2. Speculative methods; intervening with care

Throughout this research project, I have felt myself ‘pulled’ towards making a practical intervention in a decision-making process and in carrying out a form of valuation itself. Perhaps this pull was in part driven by the ‘social science-heavy’ side of the social values discourse that looks to make empirical claims and demonstrate an evidence-basis for policy and decision-making. Indeed the early conversations with the York council’s flood risk management officer demonstrated the need for an ‘evidence-base’ of an alternative valuation approach as demanded; though one which demonstrated ‘value for money’, a troubling starting point for someone who was primarily concerned with the potential of non-monetary values. To this effect, I had first set out on the research project intending to carry out some form of a qualitative non-monetary valuation project that could ‘feed into’ decision-making. For example, I explored the approach of a Multi-Criteria Analysis or perhaps even a deliberative valuation workshop whereby options might be deliberated and weighed according to the values that were elicited from the community and from those who would be affected by a FRM decision. However ‘feasibility’ studies behind closed doors meant that community actors, in this case St. Nicks Environment centre, even York city councillors, were themselves often out of the loop as to what the possible management options

would be. For example at one stage, I was invited on to one of the online zoom calls between the EA and St. Nicks where the lack of feasible options around the originally proposed de-culverting of the beck through St. Nicks fields were revealed; the reasons cited ranged from technical difficulties around avoiding underground pipelines and cables in a heavily urbanised area to the prospect of a low wall surrounding the park backing on to neighbours gardens which was cited as not being ‘popular with the local community’. Such a statement seemed to often be thrown arbitrarily in to the conversations by way showing some form of consideration for the community despite there being little to no engagement taking place. I made efforts to slow down my thinking and desire to carry out a social valuation as the networks were still developing and emerging. In this way, while I remained keen to make some form of intervention, the question of intervening became a troubling one. I resisted this urge to settle or to clarify what ‘might’ be at stake and instead follow the actors involved. However this following was always something ‘more-than’ the tracing of the ANT approach in case studies 1 and 2. I approached these networks and the issues they presented as matters of concern, or rather, as influenced by de la Bellacasa (2017) idea of ‘matters of care’. De La Bellacasa (2017, pg. 66) outlines the notion of ‘matters of care’ as ‘a proposition to think with: rather than indicating a method to “unveil” what matters of fact are, it suggests that we engage with them so that they generate more caring relationalities. It is thus not so much a notion that explains the construction of things than it addresses how we participate in their possible becomings. Caring here is a speculative affective mode that encourages intervention in what things could be.’ The indication of ‘caring’ as a ‘speculative affective mode’ resonated with the sense of fuzziness of social values outlined in the previous chapter. While the social values discourse is predominantly concerned with developing methods to ‘unveil’ the values in a given context, in this final case study I became more interested in ways in which I could participate in the ‘possible becomings’ of social values as though they were *in the making*.

The question then became one of how to pick up on the ‘*force of the ought*’ that might entail imagining possibilities for how things could be different. However in exploring this ‘force of the ought’, through such a speculative affective mode, I would not simply be observing as though from the outside but I was also a part of the early conversations that were identifying the needs, desires, and emotions concerning what was at stake in this project early on. Again de la Bellacasa (2017 pg. 143) offer clarifying thoughts here; ‘Interventions in co-shaping do not necessarily need to be a normative move by which an “enlightened” social scientist or humanities scholar would put on the ethicist hat and adopt the role of an arbiter pointing out the right and wrong ways to go in the technoscientific moral maze—but as an immersed participant in the field. More than following the actors, less than showing “the” way.’

In this manner, the question became one of how to understand and generate social values *with* the actors involved, beginning to think through the material relations that were matters of concern. I attempted to avoid any pre-conceived ideas regarding the *outcomes* of how the restored beck might look in ways that would signal the approach of ‘showing the way’. However more than this, I was not an external observer, only present simply to measure people’s perceptions of the beck as it was restored (Westling et al., 2014).

Instead the speculative affective mode I used in this final case study aimed to build upon ecological encounters, creating moments where more-than-human and human actors could listen to each other, become affected by one another and to encourage the think-feeling with the earth that might generate emergent understandings of what matters. In this way then, I was interested in practicing a social values research methodology that attends to the ‘possible becomings’ and ‘encourages interventions in what could be’. By practicing social values in this way, the question of design of the project becomes a central task; how to create encounters for people to participate; how might this project create opportunities for communities with whom this work might resonate to get involved. How might more ecological encounters, that do not centre on what matters to humans alone, feature in this design to encourage thinking and valuing with the more-than-human too?

6.3. Case study 3: Osbaldwick Beck, Hull Road Park

The final case study looks at a small river, a beck, restoration in Hull Road Park, the largest greenspace in the city centre of York. In the 1950’s Osbaldwick beck which runs through Hull Road Park was blocked



Image 14 - Young volunteers helping with the early planting after the landfill site had been ‘capped’ - Taken from St. Nicks website - <https://stnicks.org.uk/>

by a series of weirs which effectively turned the beck in to a series of ponds. The proposal for this project then was to partially remove the weirs to restore the flow of the beck, reducing water levels in the process. This case study came to my attention near the beginning of the research project and unlike the previous two case studies, it was presented to me by one of the EA project leads I interviewed as a ‘win-win’ for people and

nature. The project involved a community environment centre called St. Nicks, a site labelled as the ‘green heart of York’. Such a claim would have been striking for residents in the area in the 1980’s who were only familiar with the site as a landfill. The fields, which were once the meadows and ancient woodlands of the nearby church and hospital of St. Nicholas, had been excavated for clay during the industrial revolution. An on-site brick factory turned this clay into bricks for the development of residential housing in the area. These pits then became used as landfill dumps when the extraction was over. It was only in 1994 when the site was eventually capped with a thick layer of clay (50,000 tonnes worth) so as to prevent any methane gas leaks and possible underground fires from the decomposing landfill below, that the site was no longer used in this way⁸. A key player in campaigning for this site to subsequently become a space for nature was the same YNET (York Natural Environment Trust) that had played an integral role in setting up the Friends of Rawcliffe

⁸ <https://stnicks.org.uk/>

Meadows site in the second case study. Since the site was capped, the ecological restoration has now turned the site into an important biodiverse habitat and nature reserve. St. Nicks environment centre itself has become a successful environmental charity that works across the city of York, delivering a local recycling service, restoring and connecting up natural habitats and providing eco-therapy services for many residents in the local community.

As opposed to the highly technocratic process of identifying the need for an intervention as described to me at Terry Avenue, the need for the project taking place at Hull Road park was largely driven by the natural habitats manager for St. Nicks as opposed to the EA. Though the EA were taking responsibility for the engineering works, i.e. the partial removal of the weirs, St. Nicks were to be charged with the responsibility of leading the restoration works thereafter. I met with this Natural Habitats Manager, Jonathan, early on in the project where I joined on a locally advertised walk to ‘discover the urban becks’. On this walk, I felt taken in by Jonathan’s view of the urban ecosystem. The issues he was concerned with were not confined to any one species but to a range of species and how they related to each other; the habitats were talked about only in relation to other habitats and he would speculate in a humble and open way about the possibility of linking up ‘ecological corridors’ throughout York, pointing to old ‘strays’ and ‘Ings’ that surrounded York. This way of understanding the ecological networks we were embedded



Image 15 - Aerial view of Hull Road Park and Osbaldwick beck that runs through it

within was demonstrably indicative of a relational worldview. The idea of restoring this beck strongly resonated with Jonathan and with other St. Nicks staff; they could see and feel the connection between things in this park, and the wider reaches of the beck, it related to their everyday experiences, and they were energised and motivated by the project (Burns, 2007).

Jonathan, indicated plans to restore the beck in Hull Road Park, which was currently constituted by a stagnant series of ponds blocked by weirs, to a more ‘natural’ free flowing beck that might meander its way through the park. This project presented a perfect context to explore the themes of this thesis research questions. The beck had been blocked by weirs in the 1950’s so as to create an amenity feature in the formation of this series of ponds in the



Image 16 Osbaldwick beck separated from the rest of the park, confined by hard concrete edges

local park for residents. However over time, as the previously flowing beck became stagnant, silt was no longer easily washed away or carried downstream and so deposits would build up. This meant the beck needed dredging at regular intervals. This process was an expensive form of management for the council that in recent years has faced economic cuts and restrictions to its activities. This management approach of dredging at regular intervals was the only approach people in the local community were familiar with. The series of ponds had been fenced off due to the risk factors of entering or falling into the water which was made hazardous both because of the poor water quality but also because of this sludge like silt that would make escaping difficult. The fenced off beck however perfectly resembled the severing between the local community and the water itself, as Image 16 demonstrates. To present this final case study I will describe how I practiced a pluriversal lens for social values through three key phases.

6.3.1. Research phases

Whilst I was keen to design and practice a social values methodology guided by a pluriversal lens, I was also aiming to be collaborative and work in partnership with St Nicks who were leading the project. As a result, I had many individual meetings and conversations with Jonathan both to establish a shared understanding and working relationship but also to clarify the ways in which I could help this St. Nicks project. From these conversations it became clear, that Jonathan wanted to generate interest in the project that might encourage volunteers to help out with the scheme, but also the kind of interest that might lead to people taking on the care for the beck after St. Nicks own role comes to an end. This enabled us to plan collaboratively on how working through social values might not just help inform the design of the project but also mobilise and generate interest in the maintenance of the project long into the future. This collaborative process of checking that the work could contribute towards the aims of St. Nicks here continued throughout the design of the three following phases.

6.3.1.1. Enrolling participants; unsettling ontologies

I was keen to begin collaborating with the community to understand how people felt about this project as well as offering ways for the community to have a meaningful involvement with the development of the plans of this project too. During calls between EA and St. Nicks staff leading this project, I was told by the EA to hold off in speaking to the community until they are ready so as not to start offering false promises; such is the fear of being held to expectations by people in the local area.

I felt myself occupying a middle ground between the EA, St. Nicks and the local residents, proposing how my research could help each of them; that I could help the EA with their attempts to do community

engagement differently, that I could provide a space for local residents to voice their concerns and what matters to them outside of the formal political routes, and to St. Nicks that I could help generate interest and support for their restoration project. Being embedded in this network, revealed the same tensions that I had been tracing in case studies 1 and 2. The EA would often ask me not to engage with communities just yet as they were wary of committing too early or over promising. Though this was an important concern, there were contradictions in their messaging in that at other stages, discrete notices had been pinned around the St. Nicks site and Hull road park indicating the intention of the EA to carry out works. I found myself curious to reverse such a dynamic, to understand first what matters to the community about any potential project, as open-ended as the project might be. In the very early stages the planned discussions between the EA and St. Nicks was that the scheme would de-culvert (bring to the surface) a section of the beck that had previously been channelled underground. On a dark, rainy day, with increasingly soggy flyers explaining my research project, I first attempted to engage with local residents, asking them if they were aware of any such plans and if so, how they might feel about it. I largely focused on a row of houses who, should the beck be de-culverted would now have a waterway that was previously underground and out of sight, running at the foot of their gardens. This occasion turned out to be something of a false start, with few residents having much knowledge about the beck even existing let alone being restored. The idea of it being brought to the surface didn't seem to register, nor concern them. One resident, on hearing that the EA were involved, suddenly became interested, stating '*I want a word with them*'. Upon asking what about, the resident complained about a tree in St. Nicks fields that leaned over the fence, shedding its leaves into their garden. The resident wanted to call the EA to have them take it down for this inconvenience. I felt resistant during such encounters to dismiss this concern as a disregard for 'nature' or a lack of care. Instead, this was one of the earlier conversations that highlighted how the ontological dualism that the EA performed not only impacted their FRM practices but also in their socially perceived role as 'agents of the environment'. Where nature was inconvenient or uncontrollable, i.e. where nature exerted its agency, the EA were held responsible. I recognised how unsettling this ontological paradigm might be challenging and door knocking might not be a very appropriate method of enrolling participants nor in engaging people with the material relations that were of concern.

This process of enrolling participants was not only one of managing to negotiate expectations between the EA, the community and St. Nicks but also having to maintain one foot in the door of the decision-making process between the EA, the Council and St. Nicks too. This proved difficult as the decision-making process was largely behind closed doors. The slow communication between the EA and St. Nicks meant the timeline of the project was difficult to predict. This process carried on during coronavirus where meetings and conversations with the various 'stakeholders' were held online. Eventually, the EA, now happy that they could proceed with the project, partially removed the weirs in Hull Road Park on one afternoon with very little prior notice. By the following day, the beck looked like it had been almost entirely drained with only a small trickle of water slowly flowing and branching out across the exposed

silt. What was left after the partial removal of the weirs could only be described as a wasteland, with pungent smells from decades of silt build up and lack of oxygen for the breakdown of organic matter. The ponds had been treated like an open landfill site where no longer needed items could be thrown over the fence and disappear from sight. As the weirs were partially removed, the remnants of this past relationships with the beck, like the anthropogenic effect on geological formations that the Anthropocene discourse seeks to acknowledge, were suddenly overnight laid bare for all the community to see and to come to terms with. At the time I compiled a list of the range of objects and animals that were suddenly exposed for the human eye to see just from the walkway beside the beck, taken from my journal at the time,

“Trolleys, shopping baskets, ducks, scooters, bikes, wallets, rats, keys, footballs, shoes, clothes, countless plastic bread bags, crisp packets, mooring hens, drinks cans, hair dryers, hair straighteners, an electric drill, toy guns, vinyls, leeches, CDs, tapes, videos, a cashier’s till, road traffic signs”

This decision to partially remove the weirs without any proper community engagement, took place within weeks of me holding the first of two community engagement stalls where I had advertised my research project working alongside St. Nicks to hear what matters to the community regarding this project.



Image 17- Photo taken of Osbaldwick beck, weeks after the weirs had been partially removed



Image 18 - Photo taken of Osbaldwick beck, weeks after the weirs had been partially removed

Prior to holding the community engagement sessions, during one of the early events held by Jonathan and St

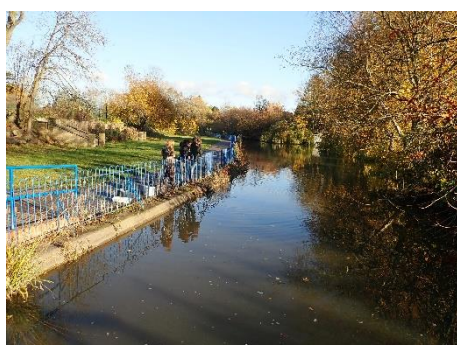


Image 19- Photo of Osbaldwick beck from bridge before partial removal of the weirs



Image 20 - Photo of Osbaldwick beck from bridge after partial removal of the weirs

Nicks, where I first encountered the project being outlined as a possibility, one local resident surfaced as a key actor for the duration of the project. This individual, whose garden backed on to the beck, it emerged was a hydro-geomorphologist university researcher who was greatly enthused by the prospect of this project both from a professional expertise basis but also as a local community member. In an early meeting I had with this person, he told me about how he grew up near a free-flowing beck and how they dynamics of water had always fascinated him, largely because of the way no river is ever the same. He spoke not simply *about* water but seemed to recognise the agency of water in the way he spoke too. The beck restoration then clearly resonated with this individual in ways that I could identify he would be a key asset for the project's momentum. At one stage in talking about restoration projects in a broader context, he excitedly (and I *assumed* jokingly) referenced a conversation with a colleague whereby they had identified that one of the best ways to restore rivers would be to 'bomb' the concrete edges and banks so as to ensure water would be completely unconstrained to be able to create its own new routes and meanders. While of course this seemed extreme and a far-fetched management approach, it perfectly demonstrated the stark contrast in terms of perspectives between this form of expertise in thinking about ways of living with water to that of the highly managerial and controlling perspective of FRM engineers and decision-makers.

6.3.1.1.1. Community engagement stalls

The lack of engagement to this point, left the project that had been dubbed as a win-win in the sudden risk of being a potential disaster. The community engagement to this point, led by the EA had been more reflective of the recently abandoned DAD (Decide, Announce, Defend) approach where the only 'community engagement' that was said by the EA to have taken place was a notice being pinned up on a lamppost beside the park entrance to announce the works. Such attempts to announce decisions to the community clearly offered little to no opportunities to respond, have their say or get involved; that is, there was evidently a democratic deficit. This deficit in opportunities for the community to express their concerns and what mattered to them motivated my approach to create similar notices that would be placed prominently around Hull Road park indicating a series of 'community engagement stalls' where myself and St. Nicks wanted to hear what mattered to the community to help shape the project.

The two sessions on two different dates were held at different times of the day; the first from late morning till afternoon on a weekend and the other on a late afternoon till early evening in the middle of the week with the to aim to attract a range of local residents that worked to different schedules. We placed this stall and gazebo right beside the beck, so that it might attract people who come close to the beck on a day-day basis. In this way, we were looking to attract a community with whom the issues *resonated*. Yet also on this stall, we brought along two water quality sampling trays. This was based on a previous workshop I had attended at St. Nicks, which was all about identifying freshwater invertebrates as key indicators for monitoring water quality in local waterways. On that occasion a large group of people

from the community keenly attended with a wide range of ages and the discussions naturally shifted to focusing on ways of cleaning the waterways so as to attract rarer or more 'valuable' indicator species. Collecting a bucket of water and silt from the bed of the beck and then pouring it out on the trays alongside an invertebrate identification sheet, allowed people of all ages, though it was especially attracting for young people, to encounter the tiny beings that live in and with the beck. These mini encounters with the invertebrates became a recurring tool over the course of the three research phases, proving a crucial way to understand the stakes of the project.

The motivation for the stalls to fill in the democratic deficit existing on the project to that point was evident from the very minute I arrived along with Jonathan from St. Nicks. Queues of people were already waiting to speak with us as we set the stall up on the first session. Whilst I knew filling a role in this democratic deficit could be exposing, I was admittedly taken a back in the first hour with the level of anger and upset that the community were expressing. Rarely would this anger remain directed towards us for very long. Initial outburst would quickly be resolved owing to mistaken cases of identity or responsibility, i.e. upon pointing out I wasn't from the Council, or the EA. However even in these cases, the emotional responses were important. The now drained beck looked far from attractive and these people were clearly demonstrating care towards it. We would repeatedly be asked questions such as '*when is the water going to come back*', '*why aren't they dredging it*' or simply disbelief from passers by asking '*is this it?*'

Over the course of the two sessions however, we had spoken to around 100 people, with just over half of those leaving the engagement with their contact details for further opportunities to get involved in the project. Many of these had been people who came by the stall with feelings of anger and distrust and they left feeling motivated and empathetic to the restoration scheme. It seemed that this sudden coming face-face with the past combined with the aesthetics of the now desolate space elicited the range of emotions that mostly reflected anger at the lack of involvement or say over the making of this seemingly new reality. However there was also a sense of loss and remorse for the past and for the memories and practices that were associated with the ponds. A member of one family told me that he had come along to make sure water was put back in the beck and had been asked by his daughter in the morning whether he was going 'to save the beck', this came after the couple had talked about being raised in the area themselves and having memories of feeding the ducks as young kids. I asked people 'why this beck mattered to them' yet at times I would refrain or ask this in a less direct and tentative manner as they were already responding to this pre-formulated question and further prompts may have only seemed insensitive given the state of the beck in front of our eyes. Several people remarked that this wasn't the beck they knew so they didn't even feel able to talk about what mattered to them in this project. The change had thrown people's sense of what mattered other than a plea for a reversal to how it was previously. In some conversations there was a visible sense of anger and hurt that this action had already begun without engagement, which I could only empathise and agree with. This was not how I had planned to begin this social values practice.

However what encouraged me here was this overwhelming sense that at this point in time the social values generated through this blue-green space were in *suspension*. With the process of change in motion, what mattered to people seemed to be suspended between past and future, how it *was* and how it *ought* to be. While this wasn't planned, there was a real sense with which we were collectively confronted with the material reality that we had been left with, which opened up the question of 'where do we go from here'. Admittedly, clarifying my role as a university researcher (i.e. not with the EA, or Council) and acknowledging the poor decision-making process to date, helped ease some of the heated tensions around the project already developing. I quickly found that the simple act of jotting down notes from each of these individuals' perspectives made each person feel calmer as though they were respected and listened to. Often this would quickly allay much of the initial anger and removed myself from being on the defensive back foot in these dialogues. However, in remaining engaged with what mattered and what was at stake in this process, people felt more reassured that there remained *possibilities* for futures being otherwise. Not only did the feeding of the ducks reoccur as a main concern but also a large number of people felt the birds would disappear and took huge pride in listing off the variety of species that they encountered in this park. Here there was resonance with other people who came by saying they had seen similar species earlier in the day, or on the other hand were quick to point out which species had seemed to flee since the water had gone. It wasn't that this community didn't care for the ecological networks in this park, nor that they didn't understand the ecological values of the beck and simply needed to 're-discover' them (Everard and Moggridge, 2012). It was simply that their material practices, their way of living in this environment on a daily, weekly, in fact lifetime basis had not been considered. This is why the anger, suspicion and distrust seemed to emerge. Yet by focusing on these practices, and upon these specific material relations that seemed to matter, i.e. the practice of feeding the ducks with the family, or certain passers-by spotting their favourite birds and species, there remained possible futures that we could work towards. We talked about the design of the restoration being open, and that while there may not be as many ducks currently, we could try to create 'offline ponds' with more stagnant water that could attract ducks.

If this is what it meant for the beck to be restored to its 'natural state', as the local EA announcement declared, then it seemed people didn't want that 'natural state'. One nearby resident walking his dog, was particularly unimpressed by the project. Voicing a concern that was shared by a few others who were gathering at one stage and had seemingly been shared in the local social club, this resident remarked, '*I get what you're trying to do, but this is a park, you've got nature up there* [pointing to the general rural suburbs of York and to the Dales beyond] *and you've got nature down there* [pointing to St. Nicks Environment Centre], *but this is a park*'. This resonated with others' feelings that emerged in an air of 'suspicion' towards St. Nicks activities in restoring nature in urban areas as though it was encroaching on 'people's' spaces. 'Nature' was suspected to be rougher and unkept, like the scenes they were confronted with now, whereas the 'park' consisted of mown lawns, flower beds and footpaths.

Such sentiments, clearly indicative of, and perhaps *resulting* from, the kind of dualist ontology that had been performed through FRM and environmental management more generally in the past visibly created tensions between the community and staff at St. Nicks. Jonathan would suggest that this was often a typical response, as though people in the community don't appreciate the work of St. Nicks enough or that they simply get in the way of them being able to do more. It was clear that this kind of response typically would lead to St Nicks staff feeling less inclined to engage with communities for fear that they would act as obstacles and simultaneously lead to further animosity from communities who would feel disempowered, or you might say less like 'stakeholders' in the spaces in which they lived in. However I would intervene in these moments to encourage St. Nicks staff to suspend these kinds of assumptions. Instead, I would suggest opening up statements and explaining issues in ways that do not simply convey messages of what is going to be done, but rather open up what the issues are at hand in this context as though shared matters of concern. In this way, I would explain, social values might begin to be expressed and emerge from the process of talking through these matters of concern. We would invite people in with questions such as 'what would you like to see?' 'How would you like to relate and connect with this beck?' This process not only helped to create shared plans for the project but it removed the 'heat' or potential for disputes by stepping outside of the current tensions which may present obstacles and barriers for how to proceed. In this way, a shared plan can be formed, which would in itself have the support the community from the off. The task then becomes not one of needing to 'obtain support' nor get buy-in but one of starting with the community and working backwards, how do we get there, collectively with the help of St. Nicks.

This task was important because often the local residents here had not experienced their local environment being anything other than as it was. A sudden change being proposed and indeed enacted, without their involvement was understandably shocking, upsetting or distressing particularly to a place they would call home, and see as part of their community. Local spaces hold memories and histories that are important to people, ignoring these could potentially set projects off on the wrong foot from the beginning. Many parents with their children came by the stalls over the two sessions and would say how they used to come here as kids to feed the ducks and now they do the same with their kids and now the ducks have all gone; some were nearly tearful at the loss. I recognised that a traditional social valuation methodology at this point, if properly engaging with the local residents would only find what matters to be the sense of place that centred on this beck as a series of stagnant ponds that simply needed dredging more often from management. Any attempts to 'include nature' through perhaps ecosystem services would have fallen on deaf ears or not really have made sense in this scenario. I wanted to withhold any attempts to elicit values towards the beck on the one hand, yet I did not want to abandon the importance of the restoration project that St. Nicks had identified. After the first morning of the community engagement stalls Jonathan slightly sheepishly turned to me and said he was slightly uncertain that his pushing for this project might have been a mistake and he questioned what he had taken on. It was clear however that what was emerging was not necessarily a clash of values between Jonathan and St. Nicks

and the wider community. Nor was there a sense of needing to calculate a ‘trade-off’ between use values of a park and non-use values of a natural space. Rather, there was a clash of ontological paradigms. The draining of the beck had starkly laid bare the past relationships of the community with the beck and as such, like flooding itself, the event was ontologically disturbing. While this had generated a lot of political interest and created a ‘hot situation’, I hoped that we could build on this interest to imagine how the beck might be otherwise. Over the course of collecting names and contact details of those were interested to get involved, we advertised the next phase of the research design, which was a series of ‘ecologist-led’ walks.

6.3.1.2. Ecologist-led dialogue and walks

The next phase took the form of ecologist-led dialogue walks alongside the beck. The walks were advertised through the contact list of participants collated over the course of the two stall sessions as well as further advertisements. Therefore many on this list were those who had displayed initial concerns and suspicion of the project yet became open to the prospect of a walk and finding out more about the existing issues with the management of the beck. Of the over 100 people we encountered during the community engagement stalls, we managed to interest 40 participants for the walks and dialogue, accumulatively spread over 4 different groups. To outline how this research phase was developed and how it proceeded, I will highlight below firstly the motivations for developing the approach, secondly the process of the walks and dialogues and finally the outcomes of the walks.

The motivation behind establishing the beck walk was to further open up the issues that were at hand to the local community, to the extent that they might be able to consider the ethical and political stakes themselves. The idea behind the walks as a form of ecologist-led walks, was in part based on the early experience I had had in joining the open event with Jonathan at St. Nicks outlining possible future plans for the area, as well as in part inspired by Edwards et al., (2016) arts-led dialogue methodological approach as outlined in the previous chapter. This twofold motivation for developing the ecologist-led walks research phase then was that the relational lens that Jonathan demonstrated in his local ecological knowledge offered a way of seeing this landscape and the beck that could be emancipatory for the local residents, alongside the core motivations for the arts-led dialogue that Edwards et al., (2016) explores. Edwards et al., (2017) draw particularly upon the work of Kester (2004) to outline the transformational potential of an arts-led dialogue approach by juxtaposing the methodology to the more conventional dialogues-based methodologies that rest upon communicative rationality such as that of Habermas, whereby the aim of dialogue is to reach mutually agreed outcomes or shared understanding. Instead, Kester (2004), acknowledging criticisms of such an account, indicates towards a ‘form of knowledge based not on counterpoised arguments, but on a conversational mode in which each interlocutor works to identify with the perspective of the others’, Kester refers to this as ‘connected knowing’. At the heart

of this account of connected knowing, lies empathy; 'It is through empathy that we can learn not simply to suppress self-interest through identification with some putatively universal perspective, or through the irresistible compulsion of logical argument, but to literally re-define self: to both know and feel our connectedness with others' (Kester, 2004 pg. 12). It was evident to me that this basis for a socially engaged arts-led dialogues could apply to the ecologist-led dialogues in this case. This indicated towards how a pluriversal lens for social values could be enacted.

While this approach would centre on Jonathan creating the context, or rather the basis through which we might begin to think through the material relations that were at stake, or rather that might matter in this project, I recognised that I had to co-lead these walks by way of facilitating the dialogue. Often Jonathan, perhaps owing to his position of expertise would often slip in to 'providing content' rather than 'context' of 'what the project *will* consist of' rather than 'how things might be'. I would try to intervene prior to such moments to build upon the context provided by Jonathan to open up the dialogue to form shared matters of concern. Once this collaborative partnership was established, the walks and dialogues worked well. We developed a loose format for the walks and dialogues that provided an open-ended structure. This both lay the context for the issues at hand, yet also opened up the discussion for others to contribute to these understandings whilst discuss possibilities for management options. Of course we were aware of trying to make the walks as accessible as possible, one participant used a mobility scooter, and so certain adjustments were made to the route, however these were largely unproblematic and the key points at which we would stop along the way were all accessible and became centre points to form the basis of the dialogues that would emerge both during these 'stops' and continue in the in-between spaces moving to the next places. Table 3) (See Appendix) outlines this basic structure that we used along the four walks.

This approach of using 'stops' to present key issues worked well alongside my facilitation to prevent the context-specific knowledge from closing down these issues to matters of fact and keeping them open as matters of concern. For example, at one stage near Osbaldwick village, we would talk about managing becks according to larger catchment basis that far exceed simply thinking about Hull Road Park. At one point during one of the walks, we were interrupted by an incredibly intense and heavy downpour of rainfall which turned into hail. We all dispersed for 5-10 minutes to find the best cover we could. While this was a dramatic experience (we found it amusing to think with this downpour as a form of 'immersive experience' in considering ways of living with water) the heavy rainfall then totally transformed the colour of the beck. It was no longer transparent but murky brown colour and we could see the



Image 21 - Jonathan pointing out the variety of possibilities for living with the beck at Hull Road Park

various drainage pipes that collected water from the road, emptying into the beck this murky grey/brown water. This actually served as a

powerful prompt that demonstrated the way in which silt and pollutants from the road find their way into the beck and then become washed downstream. Participants then began to consider this ‘dirtier’ water not being able to escape the previously stagnant water at Hull Road Park that was blocked by the weirs. This experience led on to discussions about dredging as a management approach that requires heavy machinery to dig out and excavate all of this silt build up at regular intervals but how this was an expensive approach, that would not prevent the material reality that the beck will always pick up more and more silt. These conversations led to one participant to reflect on ‘*ways that we can help the beck to become more self-sustaining*’. The participants in considering the beck itself, were not thinking about management on the beck as though simply a question of manipulating it to suit our needs, but rather they had begun thinking about working with the beck and with water; considering ways of helping the beck along the way.

During these stops, the issues would relate specifically to the material relations of the spaces we were in. For example, at Derwenthorpe, the beck has more space and would slightly meander through the greenspace beside the housing developments there. As a result, we could hear the sounds of the beck flowing and there were noticeable smells coming from the flowers and the not-so stagnant water. One participant reminisced about growing up near a free-flowing river and how they could hear those sounds of the water as a child. Now that they had a baby on the way, they dreamed that their child could have a similar experience of the beck in their local Hull Road Park. Here we could also see the different types of habitats offered by different features on the banks of the beck, such as shading and sheltering for small fish, acting as ‘nurseries’, which in turn might attract a greater variety of bird species; at one stage a participant noticed a kingfisher and at another stage, someone excitedly pointed out a heron. These moments, created a sense of community whereby values were being generated beyond self-interest and the political and ethical stakes were being identified through these networks with other beings. Whether or not these more-than-human beings could be seen to be *participating* in these processes, these encounters undoubtedly *affected* people to think with and through these beings, encouraging the kinds of empathy that Kester (2004) acknowledges.

Image 22 - Jonathan presenting the water vole raft and ways of spotting for the animal's distinctive characteristics.



Along these various stages of the walk, we would attempt to further create the types of ecological encounters that Noorhani and Brigstocke (2018) describe, by introducing the actors, largely more-than-human, whose ways of being could be considered at stake in the management and living with the beck. In the first stop, this centred around the water vole population living in the Osbaldwick beck, along with pointing out the water vole ‘rafts’ that St. Nicks had set up here, as seen in image 22. After such ‘encounters’ I would open up the discussion to the participants to consider the issues of managing and living with this beck as it affects others; once again highlighting the connectedness of this beck with the more-than-human. Through such openings I would encourage people to try and think and value ‘with’ or ‘through’ the beck – not just what we would like to see but also to consider maybe what the beck might want to do and what might be important for other species along the way too. At other stages this included certain plant species, ones that dominated and were considered invasive, such as the Himalayan Balsam that disperses its seeds by using the beck to take seeds downstream where it further takes over. Rather than simply telling the participants on the walks about the need to prevent this, we focused this issue on the scale of the beck itself, how it poses transboundary issues; how its movements are used by other species, animals and plants, as a means for habitat and travel. These considerations, as well as the walk itself which followed the beck, challenged the logics of political representation that might typically have been considered the norm in such a context. Participants no longer saw the issues at Hull Road Park as abstracted from its surroundings, simply a park separate from nature ‘up there’ and ‘down there’ but as connected through these spaces. Thinking and valuing with and through the beck in this way, encouraged participants to think about the politics of living with the beck differently. For example, one participant, reflected on the walks and dialogue saying ‘*It’s been eye opening I hadn’t thought of the beck in this way*’. Another participant who initially was keen that there was a form of ‘Friends of Hull Road Park group’ that might look after the beck, decided that a better idea might be some kind of ‘Friends of Osbaldwick beck’ group that spanned across the different council and parish wards that marked the usual boundaries for local coordinated political actions. The walk itself then seemed to be challenging the perspectives of the participants in potentially emancipatory and politically generative ways. While not all those who attended the walks felt they could commit more time to the next stages of the restoration project, they all felt motivated and interested to talk about it in their respective households, community and interest groups; the sites of informal talk that constitute key boundaries of the deliberative system (Mansbridge et al., 2012). Rather than starting with a representative sample, beginning with these people with whom these issues *resonated* had built a politically motivated group who were eager to engage with others; people either came up with contacts who they said would be interested, or said that they would go

and tell certain people about the project as they were sure they would like to get involved. Many however were keen to help out in the next stage to begin volunteering to help with restoration works.

6.3.1.3. Restoration volunteering sessions

This final phase then, was largely what St. Nicks had been aiming towards in gathering a community of volunteers to help them with the restoration of the beck over a series of volunteering sessions. The community engagement stalls and the series of beck walks had now gathered the momentum of a list of people interested in getting involved with these more physical restoration activities. These activities remained considerate of different abilities, as opposed to being centred on able-bodied people; for example, both younger children and people in later life could help out with a range of tasks from litter picking as well as the ongoing tasks of checking water quality samples for invertebrates, collecting branches and debris that could be used to build the ‘deflectors’. Each of these tasks however fitted into different elements of the restoration project that were beginning to emerge. I will outline this final phase through briefly outlining these aspects; 1) the design and co-creation of the channels for the beck, 2) cleaning up and re-planting the banks and 3) the monitoring of changes both in the beck and in the community. While these tasks remained more focused on the activities of restoring the beck, I would attend nearly all sessions and observe the changes, as well as prompt conversations about the changes by way of understanding how people’s sense of what matters was developing.

Firstly then the design and co-creation of the beck was an ongoing and iterative process. Whilst these engagement stalls and beck walks took place, Jonathan and I along with the local resident who was a hydro-geomorphologist, began to set up the volunteering sessions along with designing the tasks for each session. The local hydrogeomorphologist was keen to think *with* the water and proposed that in this project we learn from the mistakes of typical restoration schemes which look to impose new meanders for the water to follow and create new banks accordingly. Instead, the key phrase that he used and that we followed was ‘*to let the water decide where it wants to go*’. I was of course excited about the agency this sentiment conveyed in terms of the aims of the project yet it also seemed to resonate and make sense with volunteers who seemed to grasp this way of working quite quickly. The design of the restoration then worked with the water yet also was informed by the local hydrogeomorphologists rough mapping out where we ought to encourage the water away from the hard concrete edges to form a meander. These ‘encouragements’ took the form of creating



Image 23 - During early stages of the restoration project - Deflectors in place

‘deflectors’ out of bits of wood, branches and logs, as well as even bits of debris that emerged in the beck, from metal rods, small poles to bricks and larger stones. These would form mini blockades which we would then look to dig out the silt from where the water was flowing to try and reinforce these deflectors so that the water would bounce off them and begin to find its own meanders. Digging out the channels, especially during some of the hotter days in the summer proved quite tiring work, to the extent that passers by as well as some of the volunteers would often question, sometimes jokingly, *‘there not machines that could do that?’* At other times though, especially once the beck started to establish itself, people would reflect saying that there was something different about doing it by hand; both passers by as well as the volunteers were beginning to understand the dynamics of the water and think and work with the water. The slower speed of working by hand, allowed the water time to respond, like a form of negotiation between the volunteers and the water. It was in this way that the new channels could be seen as being co-created by both the volunteers and the beck.

Secondly, alongside these tasks of digging the channels and reinforcing the ‘deflectors’, other volunteers would be on the seemingly never-ending task of litter picking and removing the debris that had been revealed by the partial removal of the weirs. Many were strongly motivated to do this, and the process quickly attracted the majority of volunteers to this task, with vast amounts of litter being removed from the site at the end of each session. This quickly generated more positive attitudes towards the beck restoration too, with local people witnessing the acts of care of removing the litter as well as recognising that something was being done about it. Young people too seemed keen to help out, or for you to fish out certain items for them and there seemed to be less littering going on over the course of the restoration project beginning to develop. As the litter cleared and the banks took shape behind the deflectors, we would start to sow seeds into the bank to encourage a diversity of species to take hold, aware that the plants upstream could be quick to sense opportunities to dominate and colonise. These seeds quickly took shape and by the end of the first summer, there was an amazing range of plants and flowers that was popular with the community.

Finally, the third broad aspect of the volunteering sessions involved tasks oriented around monitoring changes. This largely consisted of regularly checking water quality samples to try and spot the variety of invertebrates that were at the bed of the beck. As used during the community engagement stalls, this attracted young people particularly and proved a crucial way to both monitor the improvements to the water quality of the project but also to remind the volunteers of the more-than-human beings who were also being affected by these changes. This way of indicating the changes became tangible material differences that people could relate to. People were able to physically see the changes they were helping perform.

This relates to the way in which the changes that took hold in the beck and its banks, also seemed to spread to changes in the community too. In fact the indicators of change were not limited to these invertebrates. Passers by would often stop to tell us species they had been spotting. I developed a

humorous relationship with two local residents who were at first highly sceptical of the project during the first engagement stalls. This pair would often update me on the number of ducks they had seen, to which I'd respond with my count on that day. Over time, this number seemed to begin to increase again, much to the delight of the local residents. The re-growth of plants on the previously desert-like silt made an impression on even those who were most critical of the project. Volunteers over the course of the session would start to observe changes like the smells; a change that was also noticed by passers by. The rotting smell of the stagnant silt began to be replaced by the plants that popped up. Most notably, was the explosion of watermint plants that gave a strong mint scent, especially when walking over them. This was reflected in the language of participants, one citing how it's '*amazing what happens when you give nature a chance*'. Similarly different types of cress began to spread out from the water to the banks, again transforming the sight and smell of the beck. In time people began to observe the sounds changing too, with the increasing meanders generating the trickling sounds of the beck. These material changes related to the primary concerns that members of the community expressed in the early engagement sessions; the smells, the presence of the ducks, the presence of litter and the absence of life. However it wasn't just that these material relations that indicated what mattered were only *guiding* the restoration project. It seemed as though, through these walks and restoration processes, social values were being generated too; material relations between new plants species, invertebrates, fish, birds and people.



Image 24, 25 and 26 - Middle reach of the beck in three stages from left to right, during first three months. Plants quickly took over as the becks began to form their new channels.

Whilst changes began to take hold with the water and the various plants and species living with the water, there were noticeable changes that began taking place with the community too. The wider community were experiencing the project as a process, noticing changes, feeling able to comment and talk about it. During one of the volunteering sessions two young teenagers stopped on their bikes to watch us inquisitively for short while before shouting as to what we were doing. When I replied, one of them seemed surprisingly understanding and supportive of the work, pointing out '*it's like a process isn't it though,*

so not gonna happen over night'. This understanding seemed to have come from previous conversations perhaps with their families or friends in informal passings, though it indicated towards a form of 'social learning' that was going on with this this project. This idea behind social learning had previously been identified in the social values discourse as key aspect in bringing about changes in values, with people beginning to understand and then share understandings of these new perspectives and as a result change their perspectives on what matters (Reed et al., 2010, Eriksson et al., 2019). Many volunteers who were based in the community would pass on their learning and understanding and even in recognising familiar local faces on the project, people felt a sense of ownership over the changes that were taking place. For my part, I began to notice many of the same faces who were so distressed and upset in those earlier engagement stalls sessions, had taken on a sense of familiarity and appreciation for the work going on and the changes they were noticing.

There was a sense with which starting with those with whom this project *resonated*, St. Nicks local residents, including the hydro-geomorphologist and various key volunteers, was in turn building wider political interest and momentum. For example, the local political councillor who had always been supportive of the project and would publicise updates about the ecological benefits this project would bring in his local newsletter, initially remained quite passive and did not appear during our earlier engagement sessions perhaps partly owing to the backlash it caused in the community. To an extent such backlash was understandable as this attempt to explain to people why the project was taking place happened before any efforts to engage with people's everyday material concerns. However now that there was momentum behind the restoration project, the Councillor became much more actively interested and looked to familiarise himself with the work we were doing. This again, seemed to indicate towards the power of social values to become politically powerful, not simply through attempting to 'feed into' the traditional routes of the formal political systems of representative democracy, but instead, a more radical community centred approach was providing the basis for political action that others wanted to get behind.

However, just as outlined in the methodology section, the relational paradigm approach advocated here also moved beyond the kind of deliberative paradigm which centred on a form of communicative rationality that sought to reach shared understandings and mutual agreements. Building on this resonance, was not seen as a linear trajectory but as a cyclical process of building momentum; a process through which forms of contesting and disagreements might re-surface. This distinction was demonstrated by one of the most ardent volunteers, who had been a lifelong resident in the area. This participant attended both the walks and the volunteering sessions as one of the most regular attendees. While this participant would often express keen interest in the project, there was also a recurring sense of ambiguity about the project too. This kind of 'dithering', it was indicated from certain conversations, would correlate with his being a member of the local community social club where he would often visit and explain the development of the restoration project. This embodied the kind of everyday informal talk that Mansbridge (2012) would talk of as challenging what might typically be considered the sites of decision-making and that social

values could clearly be seen to be in negotiation and changing across these sites and not just confined to the three phases of the project that I had been concerned with. At times he would explain the motivation and process of restoring the beck to fellow volunteers or to passers-by in ways that would rival understandings of the most technically trained ecologists at the EA, ranging from touching on the changing hydro-geomorphological features of the beck to the wider connectivity of plants and species that would now be able to create habitats alongside the beck. However, at other times he might express doubt to myself or members of the St. Nicks team about whether this was going to work. Upon reflection this doubt, which was often short-lived, would seem to be more representative of the perspectives of those the participant would interact with at the local social club where residents would sometimes express dismay at the state the beck as it was now compared to what it used to be. This process, of going back and forth was never an 'in' or 'out' decision, but a constant negotiation with the water on the beck, the other volunteers and passers-by as well as those community members in the social club.

The volunteering sessions, though designed primarily to suit the aims of St. Nicks, also proved an important phase of working with social values as a practice. Though the engagement stalls followed by the walks and dialogue proved a more open opportunity to engage with the project and the decision-making, the volunteering sessions became a crucial component of the valuing process during which material changes took place. The volunteering sessions, consisting of a range of practices of care, performed through embodied experiences of place and material transformations, both seemed to generate more-than-human social values in the process but also alter the way in which people related to each other in the community and perceived the beck.

6.3.1.4. Ongoing project

Before moving on the discussion and implications of this final case study, it is worth mentioning that the project didn't end there. Based on the success of the first two engagement stall sessions in providing a space for people to express concerns about the restoration project, I decided along with St. Nicks to hold two further community engagement stall sessions in November. This was by way of checking in again with the wider community and aiming to understand how people had been feeling about the progress of the project. At these engagement stalls, many of the now familiar faces stopped by for a catch up, and there was a general feeling that the project had surpassed expectations. There remained the odd concern that followed along the lines of it still not looking 'neat' as well as the query of 'is that it now?' However the sense in which this project was a process had begun to take hold; during certain interactions with groups, there would be individuals who would chip in with comments about how things would change according to the season, or how there may be more or less water according to rainfall and times of year. In these moments, there was clearly a demonstrable change in the way the community were engaging both with ourselves and with each other. The beck was recognised as a more active part of the community and people were taking a sense of ownership in the conversations about the restoration. No

longer was it a sense of expressing anger at the local environment centre who was doing this project *to* the beck and *to* them, but there was a collective interest in the development of working with each other and with the water.

In terms of the project's continuation, St. Nicks managed to secure further funding for the scheme, part of a larger city-wide green corridors funding bid. This has resulted in an increase in the scale of their work and of the options available at this site. These options now included possible boardwalks that would allow people to access through the blue fence that previously separated them from the beck and allow families and children to walk out over the beck. This idea itself had been guided by concerns that certain people were raising saying that now that the beck was starting to meander, in the middle reach of the beck, the blue fence now prevented them from seeing it and being able to interact with it. These boardwalks were popular with those who interacted with us on these two further engagement sessions, with people imagining activities like pond dipping, children putting nets in for small fish, and of course being able to access and feed the ducks. The prospect of boardwalks also excited those whose mobility was compromised and now they felt excited at the possibility of being able to get closer to the now-flowing beck. This excitement marked a significant shift in the way in which people wanted to go beyond the blue fence that had previously marked a sharp distinction between the park and the water. Now people wanted to walk over the banks and get closer to the beck. It seemed like in the months since works began the community had invested even more care and attention to the health of the beck. Others were increasingly drawn to the idea of the fence being removed, even those who were previously the most against the idea for fear of security and access to their back gardens. The local councillor who on one of his visits to the project would remark that this was a possibility.

Both Jonathan and I were keen to ensure that the care and interest in the beck continued both after my role in the project had come to an end and the funding available for St. Nicks had run out. The aim, like one of the participants on one of the walks had pointed out, was that it might become a 'self-sustaining beck', a stark contrast to the council-dependent dredging approach that characterised the approach to the management of the beck previously. This was not to ensure that no more funding would be needed in the park, but instead that future funding could further improve the site as opposed to re-manage the same problems. Despite the early concerns voiced by some local residents in the community that heavy rainfall would simply wash away all of the banks we had created, there was a heavy period of rainfall this past February that descended on the beck. However amidst this excess of water, the banks held strong and the deflectors did their job of encouraging the water to find its meanders. The community could see the benefits of the approach in slowing down the flow and creating the meanders, as images 27 and 28 demonstrate. The volunteering sessions and the overall restoration project had materially transformed both the beck and local people's relationship to the beck as well. With the improvement in water quality too, there was an expectation that we would soon start to notice the changes for the more-than-human inhabitants along the beck too.



Image 27 and Image 28 - Upper reach of the beck in Hull road park, after heavy rainfall. Deflectors and banks hold strong after increased water flow.

6.3.2. Discussion

While this project and its three phrases seemed an atypical valuation project, the three stages were all conceived and practiced through a pluriversal lens, with the methodologies being based on the ‘possibility spaces’ that were outlined in the last chapter. For example, the approach to rationality now included emotions and embodied experiences allowed participants to ‘think-feel’ with and listen to the water and the more-than-human co-habitants with the beck. Meanwhile, the creation of ecological encounters generated potent moments for participants to emancipate their perspectives and worldviews to consider the beck in novel ways. Rather than a traditional social valuation project which may have sought to establish, or rather elicit the social values as though fixed at a point in time, this project sought to practice social values as a fuzzy tool that was always in motion, in process, dynamically negotiating and re-negotiating the ethical and political stakes between human and more-than-human. A pluriversal lens not only expanded the possibility spaces for social values to be practiced but also *generated* social values through 1) practices of care and 2) practices of listening that included working with indicators during these processes of change. Firstly, working with the practices of care in the volunteering sessions generate social values in relation to the beck as well as in the relationships between the wider community and the beck too. In this way, there was the base support for this project to continue. The case study sits well with how Jackson (2006) describes a relational perspective to considering values based on Aboriginal groups living with the Daly River.; ‘I suggest that a relational perspective on value might be a more fruitful way of addressing the issue of values in contexts similar to the Daly River. For the Daly Aboriginal groups it was their relationship with a living, healthy river system which was so highly valued, alongside the ability to reproduce these relationships in place’ (Jackson, 2006). In stark contrast to the way the EA made decisions at Clifton Ings, where the relationships between FoRM and the ecology of the Rawcliffe

Meadows site was overlooked, this approach outlined in this case study and here by Jackson (2006) looks to centre such relationships. The practices of care seemed to both shift social values towards values reflective of the 'living with' frame, but also seemed to generate 'living with' social values in the processes too. Practices of care have increasingly been turned to in both the values discourse and in ecological thinking more broadly; as recognised in the 2018 NCP framework (Comberty et al., 2015; Diaz et al., 2018). In this way, there could be important overlaps for future research into social values that centres such practices and looks to work with them rather than simply describing them.

Similarly in regards to 2), the theme of listening, whilst prompted by calls of Dryzek and Pickering (2019) to think about transforming institutions to incorporate the sense of 'listening to' earth's systems, in practice, I attempted to scale this down to resonate with people's everyday experiences (Meyer, 2015). As Whatmore (2013, pg. 38) makes reference to the work of Serres (1995), this sense of listening, is fundamentally a mode through which we might allow the more-than-human to participate, to enter into our social contracts; 'The philosopher Michel Serres, for example, has sought to address the consequences of the 'exclusively social contracts' through which 'we have abandoned the bonds that connect us to the world' and to rework the contractual polity towards an understanding of 'the things of the world' in terms of the 'forces, bonds and interactions' in which they 'speak' to us' (Serres, 1995. Pg. 39). This quote in particular resonated with the way in which a pluriversal lens became so effective in this case study, expanding these social contracts to attend to the more-than-human relations that were at stake too.

This 'listening' largely worked with indicators based on the biocultural approaches of Caillon et al., (2017). Working with St. Nicks meant there was always an interest in monitoring or measuring the success of the project that would help them make successful future funding bids. This was something I was conscious of throughout in ensuring I was able to benefit their work with my research too. However the difficulty I was reflecting upon was nothing new in the field of restoration. The philosophical tensions around restoration is often caught up in disputes regarding the end points or goals of restoration; questions of restoring 'to what' or to 'when' (Nogués-Bravo et al., 2016, Lorimer et al., 2015). Further to this, the idea of using social values by way of 'measuring success' as though before and after can return social values to the dualist constraints outlined in chapter 4; measuring success assumes a finitude to the project, as though there is a single vantage point from where the project itself can be evaluated, relating to the tensions between stasis and change. Instead this project was centred on working with the beck, promoting the sense of agency of the beck to find its meanders again as a process in itself and one that might become self-sustaining.

The criteria that measure social values would typically be quantitative data, or even methods that look to translate social values in ways that could be indicated by monetary values. For example, Logar et al., (2019) have recently attempted to do this by measuring societal benefits of river restoration through the narrow Willingness to Pay (WTP) methodology again. The claim of these authors is that societal benefits

and in some way a claim to social values might be indicated through individual aggregation of WTP so as to justify further increase in investments in restoration schemes. These authors make their assumptions based on the willingness of residents in Switzerland to pay more money for further river restorations. Yet such a scheme would not have worked in this case study, where residents would not have wanted to foot the bill for any such scheme and where the restoration itself was framed in such a way that was unpopular with the local community. This is where the ontological dualism of restoring nature *for* people did not seem to resonate with people's local everyday experiences.

Instead the case study worked with indicators in a manner that Caillon et al., (2017) make the case for. In this way, a pluriversal lens pluralised the range of signs, as indicators that I took to measure the success of the project. This included the regular monitoring of invertebrates in the beck. While this may typically be considered biological indicator, it was the process of people monitoring these changes that in turn gained more attraction to understanding why this mattered, drawing in passers-by for example, that I saw this as a biocultural indicator. There were plenty more examples too; the smells as unpleasant as they first were, were pointed out as indicators of how poor the health of the river was. Over time noticing these smells to change both indicated the changing of the social values in terms of the performance of the project but also in terms of where the project might go next, i.e. their importance too. Similarly there were biocultural indicators throughout that could indicate the material transformations that were taking place; number of ducks people identified, diversity of species that local residents would observe; even things like amount of litter that was needing to be fished out. These observations were all indicators, all 'signs of' the health of the relationships between people, water and the wider more-than-human community. A pluriversal lens looked at such indicators not simply as categories of social and ecological wellbeing distinctly but as an integrated biocultural approach (Caillon et al., 2017; Dacks et al., 2020).

6.4. Social values as a re-directive practice

Following on from this case study, I want to draw upon this discussion to take a step back and reflect. This reflection, in these concluding stages of this thesis is by way of re-examining whether I have achieved what I set out to do; reconceptualising social values so that they might democratise FRM decision-making. A pluriversal lens, the way I have attempted to operationalise this re-conceptualisation, has demonstrated the fuzzy ability of social values to move between ontological paradigms, breaking through the glass ceilings of contested ontological and political paradigms that were outlined in the case studies in chapter 3. This has highlighted the way in which a pluriversal lens can enable social values to reach its potential at the economy-environment-democracy nexus; in this final case study, social values moved beyond the tensions around process versus outcome as well as working out how to 'include nature' outlined in chapter 2. However it is important to consider the core questions that define this

nexus; that of how to facilitate sustainable transitions. While a pluriversal lens for social values has demonstrated its ability to do this on a context-specific local scale, how might this novel approach to social values be ‘scaled up’ to sit within wider democratic and economic systems? The argument I will make here is that social values might be considered and indeed practiced as a re-directive practice.

The analysis of trying to explore the potential for social values in FRM in chapter 3 highlighted how FRM practices could be seen as de-futuring. Fry (2010) talks of the challenge of design being to counter such de-futuring practices through re-directive practices. In this way, I want to speculate here on how we might consider social values as a re-directive practice. As Fry (2010) points out when talking about the inability of liberal democracy and attempts at reforming it to meet or in any way address the scale of the climate and ecological crises. Fry (2010) indicates, ‘the kind of action needed to address the situation seriously would be deemed a recipe for electoral disaster and undermine democracy’s subordinate relation to capital’ (Fry, 2010 pg. 102). The key point here that typifies the inadequacy of liberal democracy to address the crises is that of its reformist approach that does not criticise, nor question, the path dependency on capital and economic growth. It’s as though the parameters for democratic possibilities are themselves constrained by capital. Liberal democracy then, focuses on open ended process, (*‘decide what you want!’*), yet have a pre-determined parameter for how those choices are evaluated, (*‘...but make sure it’s cost-beneficial’*). Redirecting social values in a way that radically departs from this economic and political logic means to radically re-orient the relationship between democratic and economic practices.

6.4.1. Practicing radical ecological democracy; social values and the paradigm of sustainable materialism

In this section I want to return to the core tensions outlined in section 2.2. around how social values can be seen to be practicing a more radical ecological democracy, rooted at the economy-environment-democracy nexus. The social values discourse traditionally has been aligned to the post-materialist account of values where, if we return to Schlosberg’s (2019, pg. 5) account, ‘the argument is that people get materially comfortable, develop post-materialist values, participate in representative democracies to insist that public policy be reflective of these new values, and the state responds with new and improved policies.’ How does this reconceptualization of social values that I have argued for and practiced in this final case study differ from this account? Further still, how does this reconceptualised approach to social values deal with conflicting values of those who may perhaps still think it is important to ‘control’ nature as has typically been the case with FRM practitioners before. Put simply, does this reconceptualisation of social values really practice ecological democracy in a way that both adheres to the procedural justice claims to ensure people’s values are considered in decision-making whilst also encompassing the needs of the more-than-human too?

The way social values were practiced in this final case study reconciled these tensions, or at least demonstrated a way around them. Over the course of this final case study, I was attempting to think

through and practice social values in ways that discarded the ‘moralising’ notions of attempting to evaluate people’s concerns along the way. Instead focusing on people’s everyday material relations and their concerns that emerged, often developed into identifying broader political and economic needs and desires. People began to imagine how things could be done differently, from political boundaries being redrawn, to caring in ecosystems as improving a sense of place. These imaginations circumnavigated frustrations with existing political systems and discourse and instead looked to generate their own forms of ‘legitimacy’. This sense of engaging with people resonated with the core concern of Romano (2012 pg. 568) in discussing the degrowth project’s links to democracy claiming ‘the degrowth project risks being critical but not rooted. It condemns itself to dwell in a moralistic sphere, without connecting to the flesh and soul of real social actors’. Social values in this final case study felt both critical *and* rooted. Grounded at the economy-environment-democracy nexus, there was a sense in which this attention to building upon resonance and people’s everyday material relations proved far more powerful in generating political action than the processes of representative democracy constrained by narrow environmental economics through which social values discourse to date has seemed to be speaking to.

This shift in the way social values were practiced, sits within the paradigm of sustainable materialism that Eckersely (2019) and Scholsberg (2019) outline. Understanding how social values sits within sustainable materialism can help visualise how practicing social values on a local level performs a more radical form of ecological democracy; one that doesn’t need to speak to the representative political logics of liberal democracy, nor the narrow market-based methods of environmental economics; where there is the explicit assumption that articulating social values alone, however sustainable they might be, will entail their consideration in decision-making on the one hand, or where social values are understood to include nature they are considered as trade-offs alongside market-based values. What sustainable materialism offers in recognising that social values (assumed by post-materialism to be subjective values separate from objective material problems) are fundamentally based on materialist concerns and this is in fact where action emerges; ‘action is often, and everywhere, linked to materialist concerns such as health, safety, and community functioning’ (Schlosberg, 2019, pg. 4). In this way, social values research ought not to be a question of simply convincing people who are deemed to have ‘un-environmental’ concerns how to shift their values but instead focusing on shared material concerns, recognising what matters in these contexts and building movements that centre on these social values that emerge. For example, the beck as a series of ponds was arguably not that ecologically valuable, yet members of the local community readily pointed out the wider networks of species and habitats that frequented the place; this didn’t feel like a case of needing to communicate or ‘rediscover’ the ecological values of the beck (Everard, 2012). Admittedly there were many people who threw litter into the beck, perhaps because they could not connect such actions with material concerns that mattered to them, i.e. the subsequent smell and sight of the bed of the beck that was only perceived when the beck was drained owing to its stagnation. Building upon these now understood material concerns that were inseparable from what mattered to them (attracting more species,

improving water quality as indicated by sounds, smells and diversity of invertebrates) created a space to enact change.

In this way social values becomes a conceptual tool that mobilises action *outside of* existing political and economic institutions, i.e. it is not a question of simply eliciting these values and then representing them to the EA or to the council in the hope that they might be listened to. Rather, these social values themselves generate the basis for transformative change; changes those existing institutions can either support or be overruled on. As Scholsberg (2019, pg. 7) defines it, ‘sustainable materialism focuses on creating the capacity, ability, and influence to establish new institutions and sustainable material flows where existing political and economic structures have failed. That some of these movements also literally embodying public space (farmers’ markets, community gardens, collective kitchens, shared rooftops), and that community is key to their articulation, shows a reclaiming of democratic values, practices, and space simultaneously’ (Schlosberg, 2019, pg. 7). This articulation of sustainable materialism focusing on power emerging from bottom-up community-based systems to ‘create the capacity, ability and influence to establish new institutions’ sits well with the reconceptualisation and performance of social values as a redirective practice. Social values can facilitate and guide the processes through which sustainable material flows might be identified and emerge and thereafter *encouraged*, sidestepping the constraints of environmental (liberal) democracy whilst also providing alternatives to the top-down technocratic governance centred on narrow environmental economics. In this way, practicing social values at the economy-environment-democracy nexus offers a more powerful and generative tool for facilitating the kinds of ‘living with’ transitions that both FRM and environmental governance contexts more broadly are concerned with.

In relation to the existing material and political structures that define FRM as it is practiced and constrains decision-making today, outlined in section 3.2., this account of social values sits with the kind of Bottom-Up Initiatives that Seebauer et al., (2018) talk of that can arise in opposition to existing institutional arrangements. This relates to what Abers et al., (2013) who in paying attention to relational processes on the ground in water governance in Brazil, account for how institutions are often built collaboratively outside of the state; where practical authority is designed around ‘problem-solving’ as opposed to political boundaries. This does not mean a lack of engagement with existing governance structures but instead attending to the materiality of problems and issues that can in themselves mobilise communities to collaboratively shape alternative governance systems. This ought to sit well with a transition to more nature-based FRM that looks to make decisions on a wider catchment based level.

That said, and as Abers et al., (2013) recognise, building authority outside of the state is effective yet remains constrained at certain levels, especially when coordinating more scaled up governance approaches that inevitably run into the more powerful actors such as the state. Indeed the elephant in the room in almost every environmental governance context is that of ownership of land or water (Worster, 1992, Ley and Krause, 2019, Wittfogel, 1955). If social values are going to practice radical forms of ecological

democracy, then the relationship between democratic decision-making and claims to ‘ownership’ of environment need to be examined more closely. This does not necessarily mean social values ought to only work in the context of public ownership of environments (Wainwright, 2020). Instead, social values could think and practice working through this relationship more critically. For example, as Boonen and Brando (2016, pg. 153) indicate, efforts in the direction of Global Distributive Justice (GDJ) of resources is premised on the existence of a problematic binary; either private or public ownership through which ‘normative problems all return to the premise that an owner, private or public, is the sole agenda setter with regard to his/her property’. This has obvious problematic implications for the kinds of constraints on democratising decision-making that have been characterised in this thesis; indeed often in the kind of multiple stakeholder, partnership building approach to FRM at a catchment level the role of community engagement often simply means attempting to ‘win over’ land owners who control vast areas of the catchment area through which a river might run. This may work with landowners who are amenable to the aims of NFM, but this governance structure is weak when such decision-making power is so concentrated in so few hands. Yet even in the hands of public ownership, political questions of who constitutes the public that sets the agenda in each community is still often left unanswered (Boonen and Brando, 2016). While this final case study demonstrates ‘possibility spaces’ for social values to examine more critically, and more meaningfully, the formations of such publics, i.e. ecological communities, I want to speculate towards social values as a tool that can be used to support efforts in bringing about alternative governance arrangements.

One possible avenue for future research in this direction is for social values to support efforts at ‘commoning’ as forms of resisting and undoing the privatisation of nature (Boonen and Brando, 2016). Boonen and Brando (2016, pg. 149) describe commoning as diverging from Ostrom’s definition of the commons, ‘commons are no longer resources and spaces inherently unappropriable due to their natural characteristics (such as the atmosphere, the deep seabed, etc.) but are rather socially established as unappropriable’. This shift builds upon Ostrom’s account of the commons to try to tackle head on the embedded social and cultural assumptions, or ‘obsession’ as Hann (2007) calls it, around property ownership that pervades neoliberal society today (Hann, 2007). Hann (2007) draws on anthropological research to illustrate a framework for understanding, as well as to *unsettle*, the notion of property starting with the idea that property is a ‘cover term’ for ‘how human beings regulate their relations to the things which they value’. In a detailed and wide-ranging review of anthropology studies, Hann (2007) demonstrates how the concept of property often masks over complex arrangements that rarely sit neatly into private versus public, individual vs. collective dichotomies and more often indicate towards social relations and agreements that are consolidated or contested according to things like trust, mutuality or sense of fairness. Hann (2007, pg. 310) makes a call for more explicit attention at the micro level, through ethnographies for example, such as those anthropologists whose work has highlighted ‘resistance to the promulgation of new legal codes, which are modified and re-socialized ‘from below’ as people struggle to adapt new property rules to the norms of their moral economy and their ongoing social relationships’.

This is where the notion of social values that I have articulated and practiced in this final case study may sit in relation to material and political structures that constrain decision-making. Not ignoring the neoliberal ‘obsession’ with property and seeming expansion of property into all domains, but instead focusing on how the generation and emergence of social values, understood through the dynamic interplay of human-more-than-human relations may come to modify and shape alternative governance approaches (Hann, 2007). Such an approach would move beyond the ‘mastery’ of claims around ownership of water and would look to explicitly address the power dynamics associated with land/water owners being the ‘sole agenda’ setters with regards to decision-making (Boonen and Brando, 2016; Plumwood, 2005).

While this is a tentative discussion through which social values might interact with the material and political structures differently it ought to be an area for greater attention in future research. Social values practiced through the paradigm of sustainable materialism creates opportunities for communities to build more generative socio-ecological flourishing system where existing material and political structures are failing to do so (Schlosberg, 2019). This supports efforts in the direction of pluriversal projects where social values might provide an alternative for those who ‘want out’ of more dominant neoliberal modes of governance whilst acting as a support tool for those struggling and resisting neoliberal expansion into their communities and ways of being. One such example that Nettle (2016) explores is by focusing on community gardening as a focal point, the material concern, around which a wide range of actors problematise and then seek to challenge modes of governance through the very practice of gardening as a form of social action. This is exactly the kind of anti-capitalist work that social values research can support; working to increase the ‘relevant failure rate of certain actors’ perhaps, whilst ‘enlarge[ning] ways of living well together’ (Haraway, 1992, pg. 311; Gibson-Graham, 1999, pg. 106; Nettle, 2016). Situating social values within the paradigm of sustainable materialism is the first step in establishing what social values as a redirective practice means, the second step that I’ll explore in the next section concerns the relationship with economic systems more explicitly.

6.4.2. From ‘value for money’ to ‘money for values’

What I want to speculate towards in this section is a direct reversal of the power relations that we see between monetary values and plural social values; that we might envision a form of environmental governance that centres social values not for the capital returns but on their own terms. That system would be based not on social values being explored as evidence for ‘value for money’ but instead centring social values as a way to understand how projects might require resources to be best allocated. This essentially shifts the maxim of ‘value for money’ to ‘money for values’.

To re-iterate why such a reversal of this maxim is needed, I will give a brief example where I assisted in the facilitation of a workshop as part of a broader ecosystem services assessment project looking at water quality management in rivers in Ireland. As identified in chapter 5 of the short comings of both an instrumental and communicative rationality within the deliberative paradigm is their inability to build upon moments to generate political action as they are confined to options that are already in place or to the idealised focus on process as consensus building alone (Edwards et al., 2016). This shortcoming was evident in this example. This particular workshop looked to understand the social and cultural values of the river Suir and explore how these values might help individuals decide what management options would be most beneficial. For example, one option ‘buffer strips’ (strips of land planted for biodiversity as well as capturing nutrients leaving farms as run-off, often leading to processes such as ‘eutrophication’) may reduce agricultural run-off however it may impact on the traditionally conceived ‘social and cultural’ values of walking, commuting along the riverbank. This technique used a combination of deliberative and instrumental rationalities which, though useful, in understanding how the range of options may be impacted, was limited in generating the kind of political action that may have been necessary in such a context. This was demonstrated when at one stage participants were asked to ‘rank the management options’ according to their values and one individual replied along the lines of ‘*why do we have to have just one, we need them all*’ much to the approval of other participants. I couldn’t help but empathise with this participant and agree; choosing between alternative options for improving water quality didn’t seem to make much sense. Referring back to Sayer’s (2011) example, it felt like a category error, when someone is hungry and there’s a range of foods on the table, you don’t ask the child to rank them, instead you offer them as much food as they need. The presupposition of course that certain options had to be prioritised was down to the assumption that allocation of resources were limited; a neoclassical economics assumption. Once again democratic possibilities were constrained by *perceived* economic realities. Once again, this assumption turns on social values needing to provide evidence for value for money but of course even this provides no guarantee such evidence would be ‘listened to’. In returning to the conclusion of Logar et al.’s (2019) study that supposedly provides evidence for investments in restoring Swiss rivers up until 2090, what’s to stop the investment a few years down the line from being re-directed to a future capital investment scheme that now offers a much more lucrative return on investment; that is, greater value for money? This is what McCauley (2006) described in the crop plantations in Finca Santa Fe. What I am getting at here is that an approach that reverses this dynamic is crucial for social values to be practiced on a wider systems basis.

In this regard, we might draw another crucial distinction between *environmental* democracy and economics as opposed to *ecological* democracy and economics. This distinction is in their attitudes towards the *primacy* of either economics or democracy. The current paradigm of environmental governance, through which FRM operates, is based, or rather centred on, the primacy of environmental economics which in turn sets the parameters for a weak notion of environmental democracy to be considered in action. This creates the parameters for the form of technocratic governance that inhibits meaningful community engagement. In

this approach, the logic of claiming to be a democratic process runs as follows; 1) technical and scientific expertise are best suited to calculate the risks in terms of costs versus benefits and so these experts are best placed to make decisions, 2) the public can voice their concerns or objections through formal political routes of representative democracy and 3) representative democracy is subservient to logic of capital and value for money which is assumed to be for the benefit of societal wellbeing such that any concerns are constrained by this basic relationship. This coheres with the conversation I had with the EA project manager for Terry Avenue who answered along these lines when I asked about how FRM could become more democratic; the reply was along the lines of ‘fine tuning’ this system. This model, I hope to have demonstrated, does not work.

In turn, this thesis aims to explore how the inverse of this relation might be possible, how a more radical ecological democracy might be practiced which in turn would set the parameters and guide ecological economics – figure 7. In this figure, the arrows aim to represent the way in which the primacy of environmental economics leads to de-futuring of democratic possibilities while the re-directive design of social values practiced through ecological democracy to guide ecological economic can lead to plural possible futures. Now we might think about social values design in ways that *guides* (as opposed to *being guided by*) economics to recognise, reflect on and re-value human-nature relationships. This is the first indication of what might be meant by ‘money for values’ as opposed to ‘value for money’.

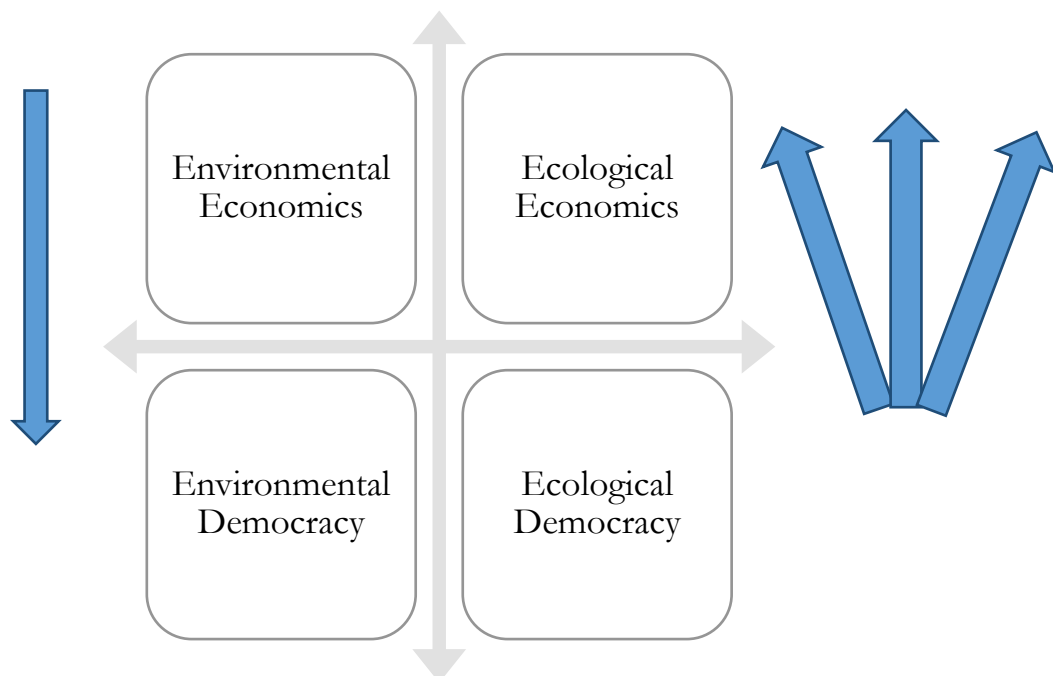


Figure 7 - Grounding social values as a redirective practice

6.4.2.1. *Building on precedents*

To speculate how such a ‘money for values’ approach might look, I will briefly draw on the work of Dannreuther (2019) who inspects the potential of a particular governance mechanism in the UK called the Public Works Loan Board (PWLB). PWLB essentially created money through the government for projects based on meeting public goals as opposed to generating returns on investments (Dannreuther, 2019). These government created loans were based on much lower rates of interest than other forms of lending and as a result became much more affordable and crucially dependable for projects that benefited society (Dannreuther, 2019). Such an example of creating a supply of debt, Dannreuther, (2019, pg. 601) illustrates ‘informed the political geography of state local authority relations and was driven by the political choices to define and invest in social value over long periods of time’. As Dannreuther (2019, pg. 602) points out, such instances of public funding, made ‘a mockery of the traditional idea that it was laissez-faire entrepreneurial risk taking that built the British state. This was public money, linked to the value of sterling and lent on preferential terms to realise public goals.’

Of specific interest here is the relation between such a funding mechanism for projects and practicing democracy. Comparing the implementation of debt through cheap loans enabled by PWLB against the centring of ‘prudential risk management’ that characterised the managerial approach of neoliberalism, Dannreuther (2019, pg. 608) notes, ‘from Thatcher’s attacks on local government, through the contracting out of services to the market to the devolution of regional powers accompanied by private finance initiative (PFI) deals, the ability of local democracy to assert control over social policy has been under attack for decades’. This is because the practices that defined prudential risk management ‘bore little relevance to the social requirements of the local community or to the local elected Councillors. Rather they described the valorisation of social policy objectives through the lens of prudential codes...The prudential risk framework makes no mention of local need or how to prioritise competing value-based demands (Dannreuther, 2019, pg. 608).’ What this means is that the funding mechanism directly restricts the possibilities for local authorities to practice democratic process, replacing the needs, concerns, social values more broadly (though in the traditional humanist sense) of the community with the rules and frameworks that govern prudential risk management in investment decisions; ‘The de-socialisation and de-politicisation of risk is clear in prudential risk management. It is governed by rules and principles laid down by professional associations, not by the needs of a lived community’ (Dannreuther, 2019, pg. 609). This historical account of how welfare in the UK has always been dependent on debt illustrates that it is through the rules and constraints on how that debt is managed that has led to fundamentally different outcomes, and capabilities for local decision-making. This could be seen to play out almost directly in the two case studies in chapter 3. The seeming arbitrariness, and poor valuation that fed CBA as a decision-making tool, established as means to demonstrate evidence of value for money despite lack of accountability and transparency to local communities.

These changes, to the way in which local funding structures affect how social values are both formed, articulated and indeed the possibility of being listened to on a local democratic level present huge obstacles for the way in which social values may ever be deemed powerful or capable of guiding decision-making. It is worth noting though that this story of how debt played a key role in developing much of the welfare state, demonstrates that things can be done differently. The funding created through PWLB was guided by a set of legislatures that in turn were pushed for outside of the market arrangements. These legislative changes affected the funding mechanisms and scope for investments. Such an example seems to challenge the notion that there simply isn't enough money to go around, i.e. 'there's no such thing as the magic money tree'; evidently illustrating that not to be the case. Challenging such appeals to economics is a vital way in which social values can break through such a glass ceiling of perceived social reality.

Further to this Kelton's (2020) book on Modern Monetary Theory (MMT) has seemingly revitalised public policy interest in the MMT alternative approach to fiscal governance, emphasising that debt is not by default a bad thing, i.e. challenging the 'deficit myth' as amplified by phrases such as stating the need to 'balance the books' that was used to justify economic austerity. This shifting of fiscal policy away from focusing on how to 'balance the books' and instead on things like how to manage inflation, means that money creation, a function that can be carried out by certain governments who have a sovereign currency, such as the UK, can be re directed towards projects that are deemed to *matter*, such as those concerned with socio-ecological flourishing. This is a tentative, and somewhat speculative, suggestion as to how social values might be supported by 'money for values' and opens itself up as a potentially exciting avenue for future research.

In 'Radical Help', Cottam (2018) illustrates how many of the structures of the welfare state in the UK have become designed through a service dependent industry. This transition, Cottam (2018) points out, like Dannreuther (2019), was largely owing to the Thatcher-led transition to the managerial or 'business-like' approach of public management that essentially exposed government services to be led by the market and frameworks such as 'prudential risk management'. This management of the welfare state, in a similar way that Dannreuther (2019) points out, meant a hollowing out of what might be seen as the social fabric that constitutes and indeed generates care. As part of this technocratic management, a core part of this structure that had set up the welfare state, Cottam (2018) notes was the omission of people and their *relationships* with each other. Cottam (2018, pg. 46), drawing on Beveridge's reports which formed the blueprint for the creation of the NHS, notes that 'solutions start with people and the relationships between them marks the starting point of a potential future path, a place from which we can begin to reinvent and design systems for this century. To solve today's problems we need collaboration, we need to be part of the change and we need systems that include all of us. Participation cannot be seen as something special or unusual that must be celebrated. We need to create systems that make participation easy, intuitive and natural. And to do this we need to start in people's lives. We need to stand in communities and understand both the problems and the possibilities from this everyday perspective.' This

quote indicates once more as to how social values reconceptualised as this re-directive practice that guides economic decision-making as opposed to the other way around, starts with understanding what matters to people, what resonates, in terms of their everyday experiences, in the same way that movements towards sustainable materialism attempts to demonstrate. To visualise this point further, I will briefly draw upon an example of a campaign that had been developing nearby to both these case studies in York and up the road from me writing this thesis in Leeds; the river Wharfe in Ilkley.

6.4.2.2. *Example - Ilkley Bathing water campaign*

The reversed maxim of ‘money for values’ is only intended as a provocative claim to indicate towards considering social values as a redirective practice. It is not in any way to suggest that social values are reducible to monetary values as though up for sale to the highest bidder. In fact it is to properly recognise how monetary values are purely indicators intended to support and serve the deeper social values guided by ethical concern and understanding of what matters to people. To re-iterate this point, I will now briefly draw on one final example that caught my attention during this research project. This example of the Ilkley Clean River campaign caught my attention because the campaign was ongoing and local to where I lived throughout the research project. I would often swim in the river Wharfe, though a little further downstream from Ilkley, where the main focus of this example was. The campaign started then as a recognition that the water in the river Wharfe was of a poor water quality. The campaign that followed was to try to raise awareness about this issue and therefore to force the responsible parties to take action. The campaign set about almost in an investigative manner to trace the actors involved to take appropriate action. Where obstacles were presented the group effectively raised attention to such obstacles through media articles raising awareness in the local areas and putting pressure on regulatory bodies such as the EA. Of particular interest here however was how social values in the sense I have articulated in this thesis could have been applied here to frame, facilitate and crucially *encourage* the work of the campaign group. Drawing from the data available on the campaign group’s website (IlkleyCleanRiverCampaign, 2022), I began to apply a pluriversal social values lens to this example.

The primary reason that the campaigners were aware of the poor water quality was that they were a group of wild swimmers who would dip in the river Wharfe on a regular basis. The swimmers, in their regular encounters with the water were quick to spot the signs, as indicators, that the water was not in a good condition. The reasons for recognising this poor quality ranged from embodied experiences, feeling sick or unwell after being in the water, to emotional, being disgusted at the idea that the water was polluted. This disgust response might make more sense when the main cause for the poor quality was that of sewage being openly discharged from the sewage network into the river. From there the group formed a campaign that wanted to investigate how this was happening and why wasn’t it being addressed. In this way, the group were not necessarily a representative sample from Ilkley but a group for whom this issue resonated; they could see and feel the connections, and they were mobilised by the issue. For example

one resident claimed, “*the river should be made fit for paddling etc. simply because of the amount of people who already do*” (Respondent 25). Just as the local residents in Hull Road park noticed the smells of the exposed silt along with the sight of the litter revealed, the local residents in this context were also affected by these material relations that became their cause for concern. What was understood to be at stake, that is risk worthy, were the importance of health of the local community and the wildlife that lived with the river too. In this way, the ethical and political stakes that emerged to matter, the social values, were at times described in ways akin to the notion of biocultural indicators. For example one respondent (Respondent 34) noted ‘*If its fit to swim in then oxygen and nutrient levels will be good for wildlife.*’ This response in particular gestured towards the kinds of biocultural indicators that were used through the final case study at Hull Road Park. Thinking through the practice of swimming in this context then wasn’t simply about the individual experience of being able to go swimming but it was indicative of a wider set of relations; between other people and wildlife. Swimming itself then came to be seen as a biocultural indicator for the health of the local ecosystem; ‘*It’s extremely important to have clean rivers. It’s not only important for humans who interact with it, it’s imperative for the life within that the river supports.*’ (Respondent 27).

That this campaign was building upon resonance consisting of more and more people feeling and seeing the connections in the systems they were in, signalled a relational ontology well. For example, one participant challenged the question of whether or not action should be taken to prevent sewage from entering into the river, to becoming a ‘no-brainer’; “*Do you need to ask? People paddle, swim, play and it must be got for it. Pets swim and play and the contamination from the river is on them to transfer to other animals and humans. A "no brainer" me thinks.*” (Respondent 23). In this way, monitoring this project through the use of biocultural indicators could have both communicated the wider sets of relations that the health of this river generated and were dependent upon whilst also acted as a form of measuring the success of the project; not through demonstrating value for money but instead through improving these biocultural indicators. If the water was now good enough for people to swim in then it would also be a sign that it was healthy enough for small fish and other wildlife to live with too.

To re-iterate this point, we might compare the role of these swimmers in Ilkley to the role that certain selected clams now play in Warsaw, Poland. Here, a water pump called Gruba Kaska translated as ‘Fat Kathy’, is constituted by a rotating selection of clams from nearby rivers and reservoirs which are then connected to a coil and a magnet which in turn is connected to a computer which tracks whether their shells are open or closed (Economist, 2021). This process means that the water authorities, working with the clams, can detect whether or not the water is of a safe enough water quality for people in Warsaw to drink. The clams, which close when they detect a particular level of toxins or heavy metals, act as indicators for the water quality for humans. When they shut, they signal responses to those responsible to shut off the water supply to the city (Economist, 2021). In this way the clams become indicators of water quality in the same way that in the Hull Road park case study, we worked with invertebrates in the beck to monitor the improvements to water quality and here in Ilkley in the same way as the swimmers raised the alarm about the poor water quality. Thinking of indicators in this way that can work with social values to

support, measure and monitor changes that are understood to matter through such assemblages can help communicate and facilitate the potential of social values in guiding decision-making.

Lastly then, how did this example relate to the re-directive potential of social values? From initial surveys collected on the group's website there was almost unanimous support for the campaign. However the one or two statements that did reflect uncertainty about the group's aims was not because they didn't want the rivers to be clean but instead because they perceived that this was not a 'priority'. For example, *'Whilst I do not wish the river to be polluted - it is a given and I do not think it will impact the town anymore than now. If it is designated for bathing - does that mean that there is a need for lifeguards etc ??? Who will fund this? I would prefer to protect Ilkley library!'* (Respondent 1) What this participant reflects can be seen as 'glass ceilings' of perceived social realities that might prevent democratic transformations; on the one hand, the perceived reality that sewage in the river is a given and on the other the perceived reality that resource allocation for public goods are based on scarcity. A pluriversal lens for social values would aim to enable these glass ceilings to be broken, for such participants to move beyond these constraints to imagining other possibilities.

However the campaign group, driven by political resonance as opposed to representation, or rather aiming to achieve consensus through communicative rationality, continued to push their campaign. The group (IlkleyCleanRiverCampaign, 2022) states the origins and aims of their campaign; 'We found that the river at Ilkley was not being tested at all by the EA to measure water quality. We have found a cultural narrative across the industry that discharging raw sewage is known about, acceptable, and too expensive to fix. We have challenged every one of these beliefs, behaviours, and management practices' ⁹. This group have pushed and succeeded in calling for change outside of the state, as the EA the local Council, and outside of the private sector, the Yorkshire Water company, contesting in this instance the supposedly factual statement that this problem is 'too expensive to fix'. Highlighting the social values that have been at stake in this context such as health of local community and the wildlife the group have directed their challenge at the very practice of allowing raw sewage to overflow into rivers when rainfall levels are high. The charge that the problem is too expensive to fix, or that it is not feasible for the EA to monitor have been directly challenged by the group who have aimed to de-naturalise the appeals to economics, in the way that I have argued social values must do.

In terms of the broader context, the UK is one of the only countries in the world with an entirely privatised water industry, with Yorkshire Water being the responsible company in Ilkley. The problem of sewage being dumped into water is directly linked to this economic system. It is not in the interest of private water companies to invest in the infrastructure or the range of measures to reduce pollution, sewage discharge or simply improve water quality, when their motivation and core aims are to provide a return on investment to shareholders of the company. CBAs demonstrate how a return of investment can be provided, yet the externalities of sewage being pumped into the rivers for example, though it may

⁹ <https://www.ilkleycleanriver.uk/thecampaign>

affect communities' health, does not necessarily impact on their profits. Of course indirect arguments could be made so as to appeal to this valuation process, i.e. fewer residents wanting to live by a dirty river, which may mean fewer customers paying water bills which may in turn lead to a loss of income and loss of returns to shareholders. However when you consider the scale of investment needed to upgrade and develop the sewage and waste infrastructure, which remain designed on population levels of 18th century Britain, compared to the short-term interest in returning profits, the economic decision-making might also be considered a 'no brainer' from the water companies' perspective. This once again is a form of path dependency, performed through de-futuring practices of these water companies and the way in which the state chooses (or doesn't) to fund the environmental regulatory governance of such companies. This latter point is particularly relevant in this case alongside the lack of motivation of private water companies to fix the problem. For example, a recent article based on a whistle-blower, confirmed this process in the EA's practices, saying there has been a 'drive to make the agency almost entirely self-sufficient, so if you can't charge for something it gets a lower priority, which is why a lot of the officer roles have been cut – those that go out to pollution events and inspect works ... it's been cut and cut and cut and left us where we are at the moment, which is with a very limited resource on that side' (Salvidge, 2022). This quote followed from this observation in the article that 'the Environment Agency has a large budget but the officers say it is not being directed towards protecting or improving the environment. Government grants to the agency rose from £880m to £1.05bn over the past two years, and money for flood operations has steadily increased. But government funding for the agency's environmental protection work has slumped from about £170m in 2009-10 to a low of £76m in 2019-20, and £94m last year. As a result, work that does not generate any income for the agency...has been deprioritised' (Salvidge 2022). This context makes the connection between such cases as Ilkley Clean River campaign group looking at water quality and cases looking at FRM as outlined in this thesis. This is a channelling of funds away from work that seeks to protect or improve the environment, largely owing to the fact that there is little to no return on investment for such projects, and towards hard engineered FRM schemes that will likely generate a return on investment owing to the capital value of built assets supposedly protected.

In this case in Ilkley, the campaign group looked to challenge such economics and looked instead to alternative means to impose regulation on these de-futuring practices. The route they targeted was to campaign for the river Wharfe to be designated as a bathing area, giving it the Bathing Water status, as an EU Directive. This means that the area must now legally be subjected to stricter monitoring and regulation. This was celebrated as a huge landmark success both for the campaign group and for potentially other groups to follow suit. While evidence of change is ongoing, the group's success here was that it begin to enact sustainable change, that is to push for a sustainable transition, by directly challenging the economic assumption that the problem was too expensive to fix; a statement that we are hearing more and more in relation to addressing the urgent climate and ecological crises.

The reason I have drawn upon this example near the end of this thesis is because it states the direction I would like social values research to travel in. To facilitate democratic sustainability transitions in times

when there can be no more delay; times when excuses such as ‘too expensive to fix’ can no longer be accepted. In this scenario it is clear to see that a traditional approach to social values research would have not been up to the job. This traditional approach would likely have tried to understand why swimming in the river Wharfe mattered to this group, how these values might be affected by there being sewage in the water and then finally attempting to integrate these social values into the economic decision-making process which is currently dominated by the power of capital. Instead I have tried to argue an alternative, more radical approach to social values. Here a pluriversal lens for social values would have built upon the resonance of this issue for the group and wider community looking to encourage the possibilities that might emerge. Grounded at the economy-environment-democracy nexus, this pluriversal lens social values would enable the group to break through the glass ceilings they may have encountered on the way, whether it was perceived ontological, political or economic realities. Finally rather than attempt to communicate the ‘value for money’ of preventing such pollution to this group of swimmers, I have tried to argue that social values ought to be able to equip people with the power to demand money to support their values, their sense of what matters. This is what I mean by understanding social values as a redirective practice. In this way, social values in the reconceptualised sense that I have looked to explore in this thesis might be better placed at the economy-environment-democracy nexus to enable sustainability transitions within wider democratic and economic systems.

7. Conclusion

A pluriversal lens, capturing the ‘fuzziness’ of social values, can enable sustainability transitions that move through the tensions that surface when working at the economy-environment-democracy nexus. On the one hand social values offer the potential to democratise economic decision-making processes so as to understand the evaluative ethical questions of ‘what matters’ or what is considered risk *worthy* in environmental decision-making contexts. While on the other hand social values can focus attention on including the more-than-human in the very *processes* through which these social values are formed and generated. In this way, the tensions and challenges of working at the nexus can be sidestepped. A pluriversal lens 1) expands upon an anthropocentric and humanist account of social values, 2) moves beyond the static, mechanistic view of the world towards working with processes of change and 3) expands upon our understandings and methods of how we come to know what matters. In this way, a pluriversal lens offers practical interventions in social values methodologies, identifying ‘possibility spaces’ where an expanded approach might be performed. Through such interventions, as I looked to speculatively explore in case study 3, social values can not just democratise decision-making in FRM but also enable the kinds of sustainable transitions that are needed; changes that are reflective of the living with frame.

By way of concluding this thesis, I want to draw upon the implications of this thesis for social values to be considered in FRM. Yet I also want to speculate on the potential for social values to be put to work in broader contexts too. I will end on some closing reflections that take us back to the foreword of this thesis; how might social values support the alternative political trajectories across the pluriverse.

7.1. Implications for Flood Risk Management

While this thesis has been speculative in its attempt to explore the possibility of implementing social values in FRM, certain implications did emerge that could have clear and direct relevance to FRM as it is practiced today. Enacting these changes, outlined below, as possible policy suggestions could begin to make steps towards the changes that FRM policy identifies as being so necessary as demanded by the head of the EA in recognising the need for fundamental re-thinking of FRM (Taylor, 2021). While it may not have been the intention to develop policy suggestions, there are clear and direct policy implications that emerge from this thesis in the context of FRM. For example, in the UK these suggestions could be summarised as follows;

- A call for an urgent re-visioning of the theoretical and practical implications of centring Cost-Benefit Analysis in an era where uncertainty, complexity and hybridity characterise decision-making.

- A change in the basis of designing funding mechanisms that allocate resources to the Environment Agency; from one that moves away from ensuring a need for return on investment.
- This change could read as switching away from ‘ensuring evidence for value for money’ to ‘co-producing evidence to allocate money for values’.
- Centring social values in both the Green Book and in bottom-up community-based environmental governance can help coordinate decision-making between local authorities, such as councils and EA, communities themselves and crucially the ecological systems with which we live.

Such changes could lead to potential governance mechanisms that orientate towards fundamental shifts in the way society is organised. In the context of FRM social values could both democratise the decision-making in ways that challenges the technocratic framings of FRM whilst also offering FRM practitioners and policymakers who are recognising the need to do things differently a tool that could facilitate that transition; facilitating economic decision-making that can ‘value with nature’. In the three case studies I explore, I revealed that there are currently obstacles, ‘glass ceilings’ that prevent social values from ‘doing their work’ at the nexus; that is in facilitating sustainable transitions. These obstacles are the contested ontological and political paradigms within which FRM decision-making takes place. These surfaced in many different ways; the relationality of water that posed transboundary governance issues for FRM’s politics of representation; decision-making that unknowingly depended on the cooperation of tansy beetles; or even local residents pointing out the park is no ‘place for nature’. Breaking through these glass ceilings is not a task of putting on the researcher’s hat or being the moral arbiter showing the right way as Bellacasa (2017) pointed out. These glass ceilings, as perceived realities, may be questioned so as to consider how this reality may have come into being. Exploring such questions, as Da Cunha (2019) does, might open up our imaginations as to how this reality *could* be different. It is in these precise moments of glimpsing how things could be different, when glass ceilings are broken, that social values become so powerful; recognising our condition as needy, vulnerable beings that are so sensitive to how things could become otherwise. Da Cunha (2019)’s illustrates his own glass ceiling moment perfectly. He describes what he notices as how rivers have come into being, through the practices of being drawn as between two lines on a map. Yet during times of flooding, he notices how these lines are erased and temporarily blurred. Da Cunha (2019) seizes on these moments to consider how we might redraw these lines so that we might live with water differently. In these moments, when we are suspended between things as they are and things as they ought to be, we can see glimmers of alternative futures; futures where we might live well with water.

7.2. Implications for future social values research

I began the narrative of this thesis by situating social values at the intersections of what I refer to as the economy-environment-democracy nexus. The social values discourse, primarily owing to its interdisciplinarity nature, recognises the potential of social values to ask question of what matters, to uncover what might be considered risk-worthy in any given context. Working at the intersections of economy, ecology and democracy in this sense might not necessarily have been considered a new approach to many social values researchers. In this thesis I wanted to properly examine this potential of social values not just as a theoretical tool but as a practical tool; one that might be able to intervene in FRM decision-making. This task is an urgent one, social values, for all the potential they might be seen to offer, can no longer afford to sit on the sidelines of decision-making. The context of learning to live with water can be seen as a tale for the broader challenges that people face today; challenges such as stopping current destructive trajectories of fossil fuel extractions, acknowledging the harm that's been done by countries in the global North whilst delivering meaningful reparations to countries in the global South, facilitating the just energy transitions that are needed, or addressing the biodiversity crisis whilst meeting societies' escalating housing and infrastructure crisis (zu Ermgassen et al., 2019, Sultana, 2022, Schlosberg and Collins, 2014). As we saw in the first two case studies, FRM is currently suffering from path-dependency; decisions that are made now each successively restricting our abilities to choose or do otherwise in the future. This same path dependency can be seen in each of these broader contexts too. These aren't simply 'unsustainable' paths but they are, as Fry (2010) prefers, 'de-futuring' paths; taking our futures away. As these trajectories continue we must find ways to encourage reflexive behaviour. To borrow once again from Dryzek and Pickering (2018) that reflexivity is the capacity to question core commitments and values and, if necessary, change direction. This is what social values can offer in both FRM and in contexts beyond; facilitating democratic transitions where what matters to communities is centred in decision-making; exploring alternative economies in ways that might no longer be shackled to the dogma of economic growth and 'value for money' (Lowe and Genovese, 2022); re-framing urban design towards more convivial multispecies thinking that might not necessarily have to consider trade-offs between infrastructure and biodiversity (Maller, 2021; zu Ermgassen et al., 2019). As was the case in this thesis, the aim in future social values research should no longer be one of simply 'applying' social values to different contexts as though putting a plaster on different wounds. A pluriversal lens for social values is more concerned with enabling people to think about what matters to them in ways that may open up possibilities for new directions; ways off the path dependencies towards more plural futures. This is the hope for future social values research; that practicing social values in new ways may allow people to imagine approaches, or rather worlds, where socio-ecological flourishing is possible.

7.3. A pluriversal lens towards a world where many worlds fit

A pluriversal lens for social values offers a practical intervention into decision-making that could open doors to sustainable transitions in both FRM, broader environmental governance contexts and, as I

would like to now finally return, a global tapestry of alternative political trajectories. If the claims I have put forward in this thesis are to be accepted, this is a radical departure from where we are now; FRM would not be dictated by narrow economic interests centred on capital; social values inquiries would no longer be confined to the realm of human concern alone; social values would democratise decision-making processes in ways that guided economics in turn. While such possibilities may seem narrow, unrealistic or too radical to be taken seriously, it is worth reminding ourselves of the kind of change that is needed. The code red alert signalled for humanity by the 6th IPCC report means we are fundamentally in need of radical shifts. Such shifts are called for by Dryzek and Pickering (2018) as an upheaval of Holocene institutions to Anthropocene institutions for the reasons that Holocene institutions were not designed in a climate and environment that we are currently living through. If we re-call the ancient olive tree that was destroyed in the wildfires in Greece in 2019, maybe now understood as a biocultural indicator revered by local people, this tree could not live with these conditions that it had before witnessed in its 2,500 year lifespan. As the full range of political responses that I acknowledged in the foreword of this thesis begin to grow louder I want social values to be considered a tool that can work quietly under the surface linking efforts of solidarity across the planet's already-blossoming tapestry of alternatives. Like a fungal network, a pluriversal lens for social values could offer support to communities on the margins of the OWW that are struggling in resistance, whilst enabling democratic transitions for those who want out of it. In this way social values might be able to truly perform the work that the Zapatistas call for in their struggle for 'a world where many worlds exist'.

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Appendix

- *Table 1 - Identifying possibility spaces for a Pluriversal lens - Adapted from Raymond et al., (2014) and Tadaki et al., (2017)*

<i>Framing of human nature-relationships</i>	<i>Paradigm</i>	<i>Perspective on rationality</i>	<i>Appeal to legitimacy</i>	<i>Decision-maker involvement</i>	<i>Sites of valuation</i>	<i>Perspective on values</i>	<i>Value indicators</i>	<i>Example methods</i>
<i>Living from</i>	Instrumental	Instrumental – reasons considered in regard to achieving end goals.	<i>Representation (Statistical)</i> – Concerned with sample statistics – no. of people, ages, occupations, gender, income etc.	Decision-makers as external, discrete users of data outputs.	Desk-based research, does not require site visit.	Values as magnitude of preference or values as goal oriented Values as fixed, stable Can be elicited through aggregation of individual values (through direct/indirect means i.e. stated/revealed preferences.) Values as commensurable, trade-offs expected.	Predominantly monetary value indicators, with broader societal values measured through indicators such as Gross Domestic Product (GDP).	Market-based methods, socio-ecological mapping of values (Bryan et al., 2010), Rating, ranking (of contextual values Aggregation of individual values.
<i>Living from, Living in</i>	Deliberative	Communicative – aim of reasoning to appeal to others towards reaching shared consensus.	<i>Representation (Political)</i> – ‘Communities who are affected’; Concerned with whether the right interests are represented.	Decision makers involved in the process though as ‘neutral arbiters’, possibly interested.	Workshop setting. Either in more formal spaces, e.g. city or council assemblies, or alternatively in more informal community settings.	Social values as individual priorities regarding common good, or socially (as collective process) agreed notions of importance Certain social values open and easier to change (e.g. contextual), others more fixed (e.g. transcendental).	Largely monetary value indicators, though wellbeing based indicators may also guide deliberation.	Participatory, interviews, social learning (Reed et al., 2010), Community voice method (Ainsworth et al., 2019).

						Social values incommensurable but weakly comparable. Social values can be integrated into decision-making to navigate trade-offs.		
<i>Living as, Living with, Living in</i>	Interpretive	Critical-emancipatory – Reasons are open to being challenged through new perspectives that might open up possibilities.	<i>Resonance (Political)</i> - Begins with people who resonate with project but attempts to widen the audience bringing in marginalised perspectives, including more-than-human etc.	Decision-makers facilitate process from within with a view to generating potentially novel outcomes.	May be on-site visits, recognition of significance of place in forming and shaping values.	Social values as incommensurable and weakly comparable. Assumption of trade-offs as 'inevitable' questioned and contested.	Socio-cultural value indicators (Breyne et al., 2021)	Ethnographies, Participatory, Arts-led dialogue (Edwards et al., 2016) based methods, forum-theatre based approaches, interviews.
<i>Living with, Living as, Living in</i>	Relational	Rationality inclusive of emotions and embodied relations; between self, environment, based on materiality and affect. E.g. 'sentipensar' (Escobar, 2020)	Builds on resonance and ecological 'encounters'; in place. Political boundaries constantly challenged and evolving.	Agency of decision-makers challenged and distributed amongst actors involved.	Creating/building upon 'ecological encounters' to generate political interest and action.	Social values as relational, articulated intrinsic values. Social values emerge through and are generated by networks of associations and practices in motion. Social values provide basis for decision-making.	Biocultural indicators (Caillon et al., 2017)	More-than-human participatory research, Immersive experiences (Denton et al., 2021), walks, performances, storytelling.

• *Table 2 - Outline of the structure for the Ecologist-led walks along Osbaldwick Beck plus the stopping points*

Stage	Context building; what are the stakes	Possibilities	Social values prompts
Start point: Osbaldwick Village	Discuss where the beck comes from and upstream issues. Point out water vole population here.	River wide joined up management. Land owner engagement – ‘catchment-based’ management. Check water vole rafts. Discuss water vole field signs and their conservation Identifying riparian plants and talk about management and cutting regimes.	Life value framework; What kinds of relationships with the water at each of the various stages along this walk. What do people notice that’s different about the beck here and for each of the following stages? What potential activities might each of the different stages of the beck afford us as citizens/as part of the community.
Derwenthorpe	Look at connected river habitat including wet grassland, swales, balancing ponds. Walk along beck to discuss natural meanders, implications for dredging, mowing regimes.	Improved management of connected habitats. Improved mowing regimes of riparian buffer? Why dredge? Implications of this management option. Thinking about the invertebrates that live in the water, hard to see but important indicators.	Different sounds of water flowing? Different smells, alongside beck? Who else is living with the beck, or relies on being connected to the beck? E.g. values of shading for fish, but sunny spots for others. Potential to create similar habitats in Hull road park?
Tuke Avenue greenspace	Look upstream from moor avenue bridge to see grassy banks with water vole potential, and pockets of good aquatic habitat, but also Himalayan balsam. Discuss plants naturally colonising downstream – some dominating, implications of this, some not so dominating, i.e. need for Himalayan balsam control. Shaded and more natural channel but still contained.	Potential for water voles establishing. Creating less shaded areas along beck. Creating connected grassland habitat.	These spaces aren’t necessarily nature versus urban, they have all developed over time based on choices made by people in the past; choices to channelise, to allow the beck space, to block it up (as in Hull road). As well as the beck itself trying to create its own paths.

Hull Road Park	<p>Issues caused by modifications. Stagnant water, silt build up. Concrete channels.</p> <p>What is natural river wildlife vs pond wildlife?</p> <p>History of park creation and formation. What was it like in the past.</p> <p>Litter, access and care for the beck.</p>	<p>Allowing nature space to restore itself, helped along by human hands (See restoration in action)</p> <p>Identify colonising and sown seeds and plants.</p> <p>Potential for community resource – education, ponds, etc.</p> <p>Digging meanders and seed sowing.</p> <p>Litter clean ups?</p>	<p>As we've followed the beck along the way now, we've begun to see ways in which it has been restricted and places where it has been allowed more freedom to move.</p> <p>Now in Hull road park there's a lot more space and room for the beck to find its way and to make its own course/channels.</p> <p>What possibilities might this now open up in terms of what we've looked at over the course of the beck walk. Think back to the sounds and smells we experience earlier.</p> <p>What would you like to see based on some of the previous stops but also according to your own stories/histories of living with the beck?</p>
End point: St Nicks	<p>Management habitat for wildlife.</p> <p>Silt from upstream</p> <p>Himalayan balsam from upstream.</p> <p>Water vole populations hanging on – American mink threatening.</p> <p>Culvert under Melrosegate and St Nicks Why does it flood? Size of culvert etc</p> <p>Idea that this project, gives more room for the water to spill its edges., a bit like a mini 'wetlands'.</p>	<p>Fewer upstream issues.</p> <p>Buffering around key wildlife site by improving connected habitats.</p> <p>Recap some of the key features of the walk: Identifying certain species, looking closely for indicator species in the water. Encourage participants to keep an eye on these over time to see how the water quality might be changing, whilst also checking to see how the beck is carving its way through the new space at Hull road park, follow where it is wanting to go.</p>	<p>Thinking of this project as a process that will evolve and change.</p> <p>How might we negotiate the design and use of this space alongside the beck and the other species that live with it?</p>