Beyond the pail: accounts of life with(in) water
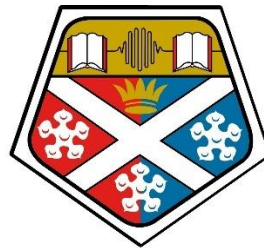
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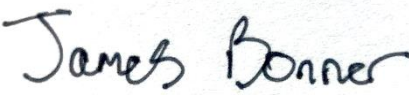
Doctor of Philosophy

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Abstract

In this thesis I enact an interdisciplinary investigation into water's multiplicity of social-ecological values. I seek to open-up, and represent, different intrinsic, symbolic, and place-based values embedded in water; values that are in addition to the material characteristics of the substance that are often limited to quantified, and often economic, expressions. I do this in the context of the research's empirical site, the southern African nation of Malawi. Herein my central research question is: *'What are different values of water in Malawi, and how can they be represented?'*.

I draw on, and develop, the concept of *dialogics* from its application in social and environmental accounting to consider water in broad social-ecological terms. I furthermore apply theoretical insights of *assemblage,* drawing on interdisciplinary influences including cultural and ecological anthropology, political ecology, and the arts to conceptualise and represent my evidence. I employ *autoethnographic* methodology and methods to elucidate my encounters with water, centred around the performative practice of *water walks* undertaken in Malawi.

My methodological orientation and practices illustrate that water has a multiplicity of social, cultural, political, cosmological, and symbolic values in addition to its material uses that are conventionally represented in quantified and economic terms. These values are locally embedded in place, emerge from historical and spatial influences, and are iteratively linked to regional and global social systems (such as land use and climate). These entanglements collectively shape and determine ways people relate to, and are affected by, water.

My research contributes to social and environmental accounting and interdisciplinary water studies literature through the exploration of its methodological orientation, and subsequent application of theoretical insights, to frame and represent evidence of water relations in *social-ecological assemblages*. It has a social/practical contribution by providing empirical insights of water relations in Malawi, developed through its holistic social-ecological and place-based research approach.

Acknowledgements

This thesis, and the journey that it has involved, has been a gradual accumulation of insights, knowledge, inspiration, and support from many people I have encountered along the way. It includes individuals that I have met directly, and indirectly, from undertaking this research — as well as relationships that I carried into it along with me.

While it is not possible for me to acknowledge each of these people separately — there are too many — I simply wish to thank all of them for what they have given to me throughout this. There are fragments, threads and traces of knowledge and support absorbed into this body of work that comes from each, and all, of them. I deeply appreciate all of those.

Thank-you to my supervisors, Doctor Andrea B. Coulson, and Professor Robert Kalin. They have stuck with me on this sometimes wandering journey, guiding me with their knowledge and care, and with a patience that has allowed me the freedom to take this meandering course.

Specifically, I want to thank my mum. This is for her.

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Chapter 1: An introduction — navigating a shapeshifting flow

> *"...from the start I shall refuse to assume that all water may be reduced to H₂O."*
>
> (Illich, 1985, p. 4)

Setting some context — explaining my thesis title and presenting some key terms

The multiple meanings of the title of my thesis, '*Beyond the pail: accounts of life with(in) water'*, incorporates terms and references that require some further explanation. Doing so will help set the scene for what I am trying to achieve in my research, and what I present in this body of work.

Beyond the pail

The first part of my title, '*Beyond the pail',* is a play on words. The phrase to go 'beyond the pale' means to go *"outside the bounds of acceptable behaviour*"[1]. It is an expression with geopolitical roots when, in the 14ᵗʰ century, England occupied and governed a territory in Ireland around the city of Dublin. This area was to become known as 'The Pale' (see **Figure 1.1**) — the word pale meaning a wooden stake, fence, or border[2]. Indigenous Irish people, their lifestyles, cultural and religious practices, language, and relationships with the landscape outwith[3] or beyond the boundaries of 'The Pale' were to become regarded as 'uncivilised' or 'unacceptable' in the worldview of their English occupiers. Over time, as the expression has become embedded in the English language, referring to someone, or something, as being 'beyond the pale' has pejorative connotations. They, or it, are 'unacceptable', 'outside', or 'beyond acceptable boundaries'.

Replacing the word pale with 'pail' (a metal bucket, often used to carry water) in the phrase, I intend to explore 'beyond the boundaries' of a 'conventional' study of water in hydrological, or material, terms. I seek to represent social, cultural, symbolic, and place-based relations to water that are in addition to its functional and utilitarian uses. More widely, I am drawing attention to some of the key themes of this thesis. My research seeks to go 'beyond boundaries' or 'outwith limits' of the disciplines, and their attendant methodologies, that I engage with. This is a thread that will run throughout this thesis — ideas

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[1] Oxford University Press, (2021), Definition of 'beyond the pale'. Available online at: [https://www.lexico.com/definition/beyond_the_pale]
[2] Britannica, *'The Pale'*. Available online at: [https://www.britannica.com/topic/pale-restricted-area#ref205922].
[3] The self-explanatory term 'outwith' is a common Scottish preposition, but generally not 'acceptable' in standard English. I will use the term throughout this thesis.

of pushing boundaries, seeking to be at the edges or fringes of what is 'acceptable' knowledge, or ways of knowing.
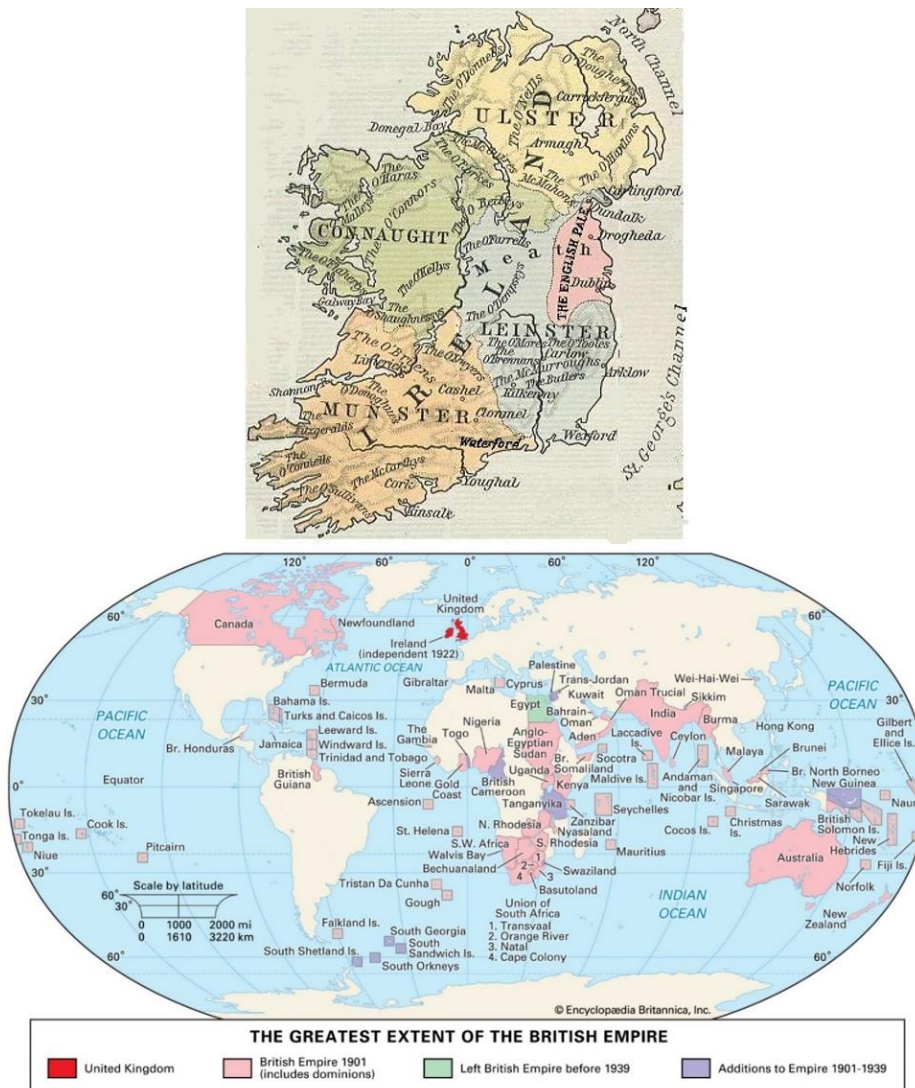
Figure 1.1: Maps representing lands as part of the British Empire[4]. Top — Historical map of Ireland's 4 provinces and 'The English Pale'[5]; Bottom — global extent of the British Empire during the 20th century[6].

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[4] Both maps use pink, a colour in cartography ubiquitous with English/British colonisation of territories.
[5] The Irish Story, (14/01/12), *'A Pale trip through history'*. Available online at: [https://www.theirishstory.com/2012/01/14/a-pale-trip-through-history].
[6] Britannica, *'The British Empire'*. Available online at: [https://www.britannica.com/place/British-Empire/images-videos].

Accounts of life with(in) water

The second part of the title of my thesis is *'accounts of life with(in) water'*. As I will elucidate forthwith, my research has roots in accounting scholarship and literature. I use the term *accounts* both as a noun — to make or form an *account* (or representation), but also as a verb — the practice of 'giving of an *account*'. It seeks to creatively approach, and challenge, these ideas that underpin accounting, and what they mean in the context of an interdisciplinary study of water. I draw on several other disciplines in addition to accounting to do this — venturing across, and outwith, disciplinary boundaries — exploring theories and concepts as they are applied in cultural and ecological anthropology, and political ecology, studies of water. In particular I come to orientate my research towards the visual arts for inspiration, methods, and practices to represent my accounts of water[7].

The term *with(in)* adapts the word 'within'. It recognises that we (as individual human beings, and as collective societies) are both in relationship *with* water, but also exist *in* a watery world. Placing the 'in' within brackets is a stylistic representation of this enclosure or containment. Furthermore, the word within alludes to the significant role that I, as the author of this body of work, play in this research. I am an active participant in it, while, during it, I also undergo a journey of significant personal development. It is a process that I have been very much involved within — intellectually, physically, and emotionally.

Finally, the word *water* might seem self-explanatory. Defined as a *"colourless, transparent, odourless liquid"*[8], or a 'natural resource' expressed in its chemical formula of 'H_2O' — a molecule of two hydrogen, and one oxygen, atom. However, this research is an exploration of the multiplicity of wider associations, meanings, and possible representations of water. An exploration with a concern for its physical form as H_2O *plus* its entanglement with a variety of social, cultural, political, economic, and symbolic understandings of the substance. Herein I align with the quote (and perhaps provocation) of philosopher and social critic Ivan Illich that I opened this chapter with. I argue that water is more than its chemical composition, and that it *also* comprises of, or is in relation to, a multiplicity of other material and non-material factors.

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[7] Similar terms in other disciplines include 'a register', 'account of' (used in anthropology), or a 'meditation' (used in the arts).
[8] Oxford University Press, (2021), Definition of 'water'. Available online at: [https://www.lexico.com/en/definition/water].

Language and key terms in this thesis

The paper '*Demystifying Interdisciplinary Working*' [9], by the 'Valuing Nature' group, specifically highlights language as a key issue, and challenge, for interdisciplinary research. It recommends developing a glossary of key terms when participating in interdisciplinary projects, recognising that various fields of knowledge might interpret terms and language in differently. This also seems appropriate for a thesis, like this one, that crosses, and is influenced by, a multiplicity of different disciplines.

The following are three key terms that I will use throughout this thesis — with an overarching definition that I have associated with each, as well as some broadly analogous terms aligned with them. I will come to open up these terms and concepts later but defining them here helps introduce the foundations of this thesis.

Interdisciplinarity

Other related terms: cross-disciplinary, transdisciplinary, undisciplinary, post-disciplinary.

> *"Integrating knowledge and methods from different disciplines, using a true synthesis of two or more disciplines, leading to the establishment of a new level of discourse and integration of knowledge."* (Beaumont, 2020, p. 13)

Social-ecological (studies)

Other related terms: natural-cultural, social-natural, bio-cultural, sustainability.

> *"...the study of communities from interdisciplinary perspectives, reflecting multiple scales and levels of analysis, and more deeply incorporating psychological, cultural, and institutional contexts of human–environment relations."* (Lejano and Stokols, 2013, p. 2)

Social-ecological accounting[10]

Other related terms: sustainability accounting, social accounting, ecological accounting, Social and Environmental Accounting (SEA).

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[9] Beaumont, (2020), 'Demystifying Interdisciplinary Working'. Available online at: [https://valuing-nature.net/sites/default/files/documents/demystifying/VNP25-DemystifyingInterdisciplinaryWorking-A4-28pp-144dpi.pdf].

[10] On the 6th of February 2020, accounting academics Jan Bebbington and Ian Thomson hosted an Ecological Accounting seminar series at the University of Birmingham, in which Bebbington notes the need to build a 'social-ecological accounting' — perhaps inferring a need to conceptually move on from ideas of 'sustainability accounting' and Social and Environmental Accounting (SEA) — see **Chapter 2**.

"...social accounting[11] is concerned with exploring how the social and environmental activities undertaken (or not, as the case may be) by different elements of a society can be – and are – expressed. In essence, how they are made speak-able - even knowable. So the process of social accounts then offers a means whereby the non-financial might be created, captured, articulated, and spoken." (Gray and Laughlin, 2012, p. 240)

Situating this research — an interdisciplinary, place-based, social-ecological study of water

"Engineering solutions to water problems are portrayed in elegant terms that may appear simple and make us feel better, precisely because they ignore the messy institutions, norms and processes that underlie our relationship, as individuals and as a society, with water in the first place."

(Nature Sustainability, 2021)[12]

An interdisciplinary exploration of possibilities of water relations

At the etymological root of the word thesis is the idea to 'place' an argument'[13]. Water, or more correctly *relationships* to (or within) water, is at the root of this writing, my thesis. Water in a place — the southern African country of Malawi — written from the perspective of a visitor — me, a researcher from Scotland.

While the term thesis can be translated as 'an argument', this writing is perhaps better understood, and read, as something more akin to a discussion, or an 'exploration of possibilities'. Aligning with critical and human geographer Yi-Fu Tuan (1977, p. 7), my approach is *"descriptive, aiming more often to suggest than conclude"*. It does not aim to be definitive or conclusive, but rather seeks to open up and represent different possibilities of knowing water — both in general, and specifically in Malawi — and it is important that this aim is recognised from the outset. The above quote from the August 2021 editorial in Nature Sustainability journal — a publication more traditionally associated with conventional ecological and natural science perspectives — makes a critical observation; engineering focused water studies have tended to veer away from research that questions, and opens up, some of the 'messy' issues and institutions that underpin our *relationships* to water at a more fundamental level. My research is much

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[11] The authors use the term 'social accounting' to refer to social and environmental accounting more widely.
[12] Nature Sustainability, (17/08/21), *'Too much and not enough'*. Available online at: [https://www.nature.com/articles/s41893-021-00766-8]
[13] OED, (2021), Definition of 'thesis'. Available online at: [https://www.oed.com/view/Entry/200655?redirectedFrom=thesis#eid]

more about 'messy issues' rather than 'elegant solutions'; it is research that seeks to *explore*, rather than *explain*.

Exploring water values in Malawi

The exploration of different values of water in this research has been conducted in the context of the country of Malawi. Scottish Government, and my institution the University of Strathclyde, have been involved in development work[14], including on water, in Malawi for several years — which stem from historical, cultural, and political links to the south-east African nation (these will be explored in greater detail in **Chapter 4**). This includes work such as the Hydro Nation International Programme which seeks to export and apply knowledge and expertise from Scotland in areas of water governance and management, while delivering projects to address water challenges[15]. The University of Strathclyde has furthermore been involved in various other engineering and hydrology focused projects to better understand, map and access groundwater in the country, and my inquiry emerges from this type of research and work being undertaken around water issues in Malawi. However, rather than having attachment to a specific programme or project at the university, and instead undertaken across departments and faculties in my institution, my research has the independence and autonomy to investigate some alternative perspectives and insight that open up some of the uses, associations, processes, and practices associated with water in Malawi to inform some of this wider research and work.

The research furthermore emerges from a personal long-standing interest and passion to contribute to a just addressing of some of the social and ecological challenges affecting people and places in the Global South, including specifically in sub-Saharan Africa. It recognises that such challenges involve a multiplicity of intersecting social, ecological, cultural, and financial factors and that these need to be sensitively and respectfully included in decision making around water, and which are considerate of local and historical relationships embedded in place. While it seeks to give attention to wider cultural representations and associations to water in the site of the research, it seeks be conscious and reflective that it does not underplay the practical and utilitarian dimensions of water use, and that it recognises the potential dangers of privileging my perspective and worldviews, as the researcher, over those of local people and communities (see **Chapter 4** on my position as a researcher).

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[14] Malawi is one of 4 countries (along with Rwanda, Zambia, and Pakistan) focused on as part of the Scottish Government's International Development Fund. See online at [https://www.gov.scot/policies/international-development].

[15] Malawi and India are the two key international territories the Hydro Nation International Programme focuses on. See online at: [https://www.gov.scot/policies/water/hydro-nation].

Avoiding a '*zweckrationalität*' approach to water

During my doctorate studies I read Max Weber's *'The Protestant Ethic and the spirit of Capitalism'* (Weber, Parsons and Giddens, 2001) along with a few university colleagues as part of a book group. Recognising (and indirectly introducing here) the academic department in which 'I sit' (or have sat), we considered it mostly in terms of accounting and economic issues, and how they have perpetuated through the historical narrative that Weber presents. However, there are themes in the text which are relevant in much wider contexts — and some which particularly engaged with my research interests.

Weber often refers to, and critiques, the idea of a means end rationality that comes from an overt focus on economic issues and explanations of the world — one that reduces complex aspects of society and life to utilitarian and financial values and rationality. Weber uses the German word '*zweckrationalität*' to describe this — a term Lejano and Stokols (2013, p. 1) define as "*a narrow, means–end rationality that neglects to consider differing dimensions in an integrative way*". These authors take Weber's concept and explore the problems that such a reductive approach can have when dealing with the interlinked, but often conflicting, demands of ecology and the economy in public policy contexts. Herein they describe that social ecology, as an area of study, seeks to consider the integration of different values, but which are *incommensurate* in standardised, utilitarian frameworks or measures (such as, for example, money.) As Lejano and Stokols (p. 3) argue, social-ecologies involve "*transactional relationships [that] are complex and cannot be captured by assumptions of simple fungibility (or commensurate translation of all forms of capital into a singular measure or numeraire good)*".

The Weberian critique of *zweckrationalität* thinking, and in the context of social ecology as described by Lejano and Stokols, seems to capture something central to my research. An exploration of the intersection of the social and natural, the cultural and material, in terms of water relations in a way that avoids reducing them to utilitarian or financial framings. Furthermore, at this point, I note Lejano and Stokols (p. 3) statement that "*the primary focus on transactions across ontologically different domains (e.g., the cultural and the material) requires openness to multiple methods of research as well as innovative modes of inquiry*".

Social-ecological studies

There are a multitude of terms, studies and research fields that link to my research. Nature-culture studies, social-ecological systems studies, environmental humanities, and political ecology are just a few areas of

study that have a similar concern to my research. They seek to integrate perspectives, knowledge, and practices across disciplines to understand the interaction and interconnection of social and ecological issues in our world. As Bai *et al.* (2016) note, while disciplinary studies have increased specialised knowledge in science over time, an interdisciplinary approach is required to understand and address challenges where boundaries between social and ecological systems are unclear, are affected by human behaviour and activities, and occur across various temporal and spatial scales.

While this research draws on, and links to, a wider corpus of knowledge across many disciplines, its literature basis is in the field of Social and Environmental Accounting (SEA) (and its relationship to Social-Ecological Systems (SES) studies — an interdisciplinary field with links to accounting (see (Gray, 2010a)). With my research rooted in accounting, linked to wider social-ecological studies, I seek to develop and represent an account — *my account* — of the multiplicity of social and ecological relationships to water in the empirical site of my research.

Challenges of social-ecological interdisciplinary research

Undertaking research in interdisciplinary studies presents some practical and philosophical challenges, recognising the various (and sometimes conflicting) ontological and epistemological positions and practices of the different disciplines involved. SES scholars Haider *et al.* (2017, p. 1) discuss some of the challenges when working in mixed disciplinary research. Arguing that interdisciplinary research requires *"an iterative and reflexive process of balancing methodological groundedness and epistemological agility to engage in rigorous sustainability science"* (p. 1), these authors present some definitions and characteristics of various terms associated with interdisciplinary research (see **Figure 1.2**).

Mixed discipline research	Definition
Multidisciplinarity	Multidisciplinarity is thematically organized rather than problem-oriented. Disciplinary boundaries are generally not crossed, but rather different disciplines are considered in parallel (Stock and Burton 2011)
Interdisciplinarity	Interdisciplinarity integrates perspectives, information, data, techniques, tools, concepts, and/or theories from two or more disciplines (Cronin 2008)
Transdisciplinarity	A process of collaboration between scholars and non-scholars on a specific real-world problem (Walter et al. 2007)
Undisciplinarity	Problem-based, integrative, interactive, emergent, reflexive science, which involves strong forms of collaboration and partnership (Robinson 2008)

Figure 1.2: Mixed disciplinary research definitions (Haider *et al.*, 2017, p. 2).

Referring to these definitions, due to the generally solitary pursuit that is my doctorate research, I cannot claim the collaborative[16] and partnership dimensions of 'transdisciplinarity'[17] or 'undisciplinarity'[18]. Nor, and as the authors describe undisciplinary research, is my research specifically *problem-based*; rather it approaches water in the spirit of what can be termed more of a 'problematique'[19]. It is the integrative and pluralistic qualities across more than one discipline of 'interdisciplinarity' that perhaps most explicitly resonates with my research, and for clarity and simplicity, I will stick with the term of *interdisciplinary* as the overarching descriptor in this thesis. (It may find itself deserving qualities of being transdisciplinary or undisciplinary as it develops, but I want to be careful not to overclaim what it, and I, can do in this thesis.)

Recognising all of this, what are other ways of knowing and representing water in such reflexive interdisciplinary terms? Ways that open up, and describe, its multiplicity of values, meanings, qualities, and complexities. What academic and social contribution could an interdisciplinary perspective, that seeks

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[16] However, noting Tsing (2017, p.29) definition that *"collaboration is work across difference"*, this research certainly can claim to consider ideas of difference.

[17] It is also worth noting that Gray (2010a, p.12) defines 'trans-disciplinarity' as a *"field of intellectual endeavour which breaks out from the confines of its original discipline and, potentially, forges a new field."*. Is this something my research can claim to be doing, or at least attempting to do?

[18] Nonetheless, I feel the undisciplinary characteristics of interactivity, reflexivity and emergence described here resonate with my research position and approach.

[19] The idea of a 'problematique' — complex and intertwined challenges without clear solutions — aligns with the notion of 'wicked problems' that underpin post-normal science (see Bebbington and Larrinaga (2014), and the 'messy solutions' that emerge from such challenges. Similarly, Cunliffe (2019) talks of 'problematics', while Ingold (2011) variously refers to ideas of 'messiness' in their writing.

to link SEA in terms of water to other disciplines, have? Where should I start from in this vast sea of literature?

Ideas of place

A common thread in my research is the significant amount of literature, theoretical influences and application of methods drawn from the wider field of geography as it has been applied in various related disciplines — including political ecology, social and environmental accounting, cultural and ecological anthropology. Herein *place* — the physical/material and social characteristics of a spatial location — is fundamental to this study. Though I have collated and reviewed evidence over the course of my research journey, a short, but intense, period of fieldwork in central and southern Malawi in October/November 2019 provides a significant amount of the empirical content of this body of work. It is a study that is rooted in a place.

The methodology and methods I come to employ in this research, influenced by the interdisciplinary perspectives and approaches from my literature investigation, have a significant bearing on how I have come to think, and relate, to water — practices which 'leak' out of my specific doctorate investigations into numerous other projects and investigations. In this sense *I am* also an empirical site of this research. While the output of the research provides a representation, or impression, of water relations in the empirical site (though one that can be read and understood in a multiplicity of ways) — it is the process of undertaking that research, *doing it,* that I seek to foreground.

Structure and flow of this thesis — A process of coming to 'ways of knowing' water

How can I 'place' in front of you, the reader, a representation of some of those relationships to water I have learned about, and encountered in, Malawi in the form of a written academic piece? My inquiry is something that I *experienced*, both in terms of the fieldwork that I undertook in Malawi, as well as my personal development throughout my doctorate. It has a concern for experiences, and communicating the multifaceted nature of what Tuan (1977) refers to as an 'experiential perspective' where experience as an interdependent compound of feeling and thought.

This research tends towards an epistemological contribution — both in terms of *what* kind of knowledge I seek to gather and represent in this investigation, and *how* I go about doing that — and it is useful to

consider my research in terms of a journey. This journey has been an intellectual and emotional one in which I have encountered new knowledge, as well as come to question knowledge that I previously held. In a more literal sense, it has also involved a physical journey, during which I travelled to the empirical site of my research to employ my place-based methods.

A 'tree of life' — a visual metaphor to centre this thesis

> *"The roots of trees and human cultures are entwined. Trees center our stories of origin, meaning, and life… Trees inhabit these stories not only as metaphors, but as reminders that human life exists always in relation to other beings."* (Haskell, no date)

It is important that I take you, the reader, along with me in this journey so that my thesis is clearly articulated and communicated. A visual metaphor can be a useful technique to help a writer maintain a structure to chart the flow of a large piece of writing, while also providing the reader a means to follow that flow. Herein I will use the visual representation of a *'tree of life'*[20], which I will gradually build and expand throughout this thesis. As the above quote from Haskell, writing for Emergence Magazine[21] argues, trees can be powerful ways to express ideas of relationality and interconnection. In **Figure 1.3** I introduce the image of the tree, with its roots in the ground, branches in the air, and blue 'veins' representing a flow of water running between the soil and its leaves. I take the central theme of my study — the interrelationship of water, people, and place in the site of my research, Central and Southern Malawi, and place it at the base of the tree's trunk. These are the core themes which link my study together — people in relation to water in a place.

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[20] The concept of the 'tree of life' (also, similarly, known as the 'world tree' or 'cosmic tree'), and its associated symbolism, is one that can be found across many cultures, religions, and their associated mythologies. It serves as a motif to link between the earthly and heavenly realms — a 'bridge' or 'axis' representing the interconnection of all creation and knowledge. Herein the concept of a 'centre', as per Haskell's quote, is a symbolic association with trees more generally (see Chevalier and Gheerbrant (1994)).

[21] Emergence Magazine (https://emergencemagazine.org) is an online and print publication that produces multimedia content intertwining the themes of ecology, culture, and spirituality. I have found my research becoming increasingly aligned to the issues it explores, a methodological orientation that we share, and application of arts-based presentational techniques.
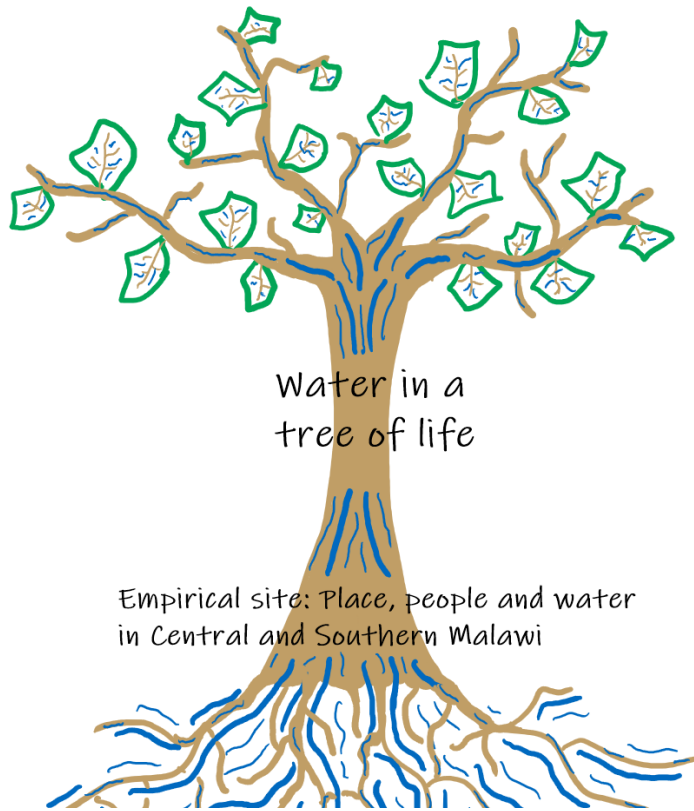
Figure 1.3: The 'tree of life' rooted in its empirical site.

The roots of this study — literature, theory, and methodology

Grounding this study in academia is a consideration of literature, theory, and methodology — core tenants of any doctoral research. These are the 'roots' of this study that feed (or draw water to) the 'tree of life' (see **Figure 1.4**). While I present and develop these separately in forthcoming chapters, it is important to recognise that these roots intertwine with one another (for instance, my literature review links to the theoretical insights I develop, while my onto-epistemological orientation[22], emerging from my methodology chapter, opens new spaces in literature for me to investigate). However, at this stage, it is sufficient to represent the tree in this aesthetic form. The academic roots of literature, theory and methodology feeding an inquiry based in an empirical site — from which my inquiry then emerges.

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[22] The idea of a methodological 'orientation' (rather than, say, a methodological 'position' or 'stance') echoes the need for "*epistemological agility*" as stated by Haider *et al.* (2017) (see **Chapter 1**), required in interdisciplinary and reflexive social-ecological research. It infers qualities of flexibility, receptivity, and curiosity to new forms of knowledge in a methodological approach. The term 'orientation', furthermore, has inherent social-spatial qualities to it, which is apposite for this research.
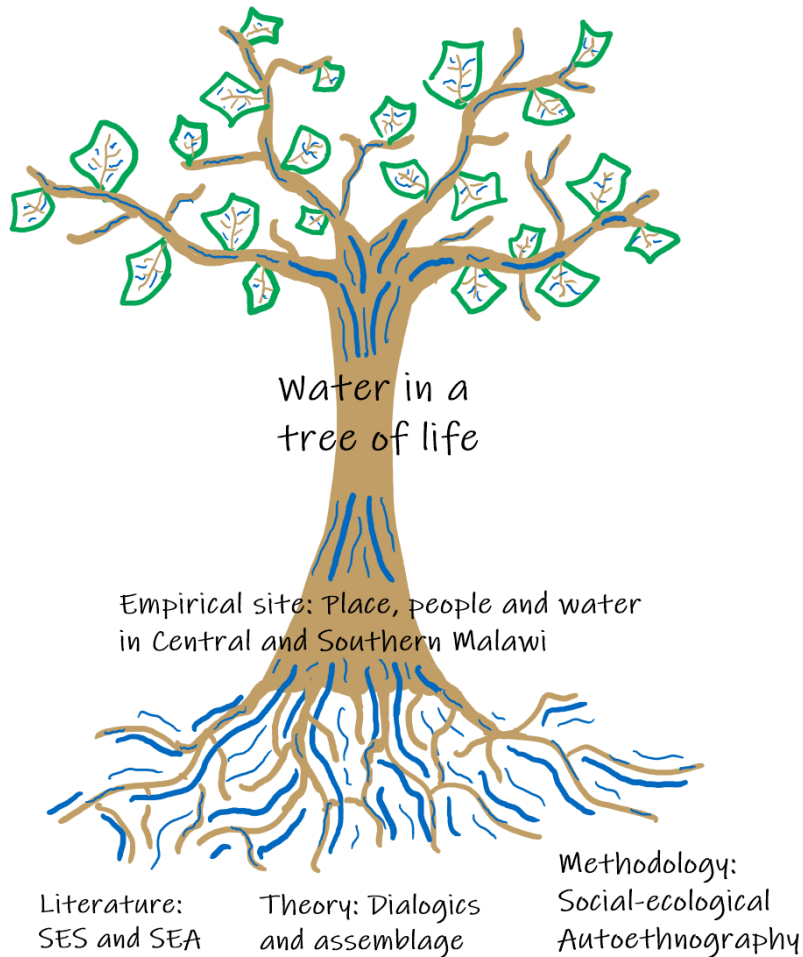
Figure 1.4: Literature, Methodology and Theory as intertwined roots in the 'tree of life'.

Literature — Social and Environmental Accounting and Social Ecological Systems studies

While this research draws on a wide range of sources of knowledge crossing disciplinary boundaries, the primary literature basis is the field of Social and Environmental Accounting (SEA) — and, more specifically, its relationship to the field of Social-Ecological Systems (SES) studies. My consideration of literature seeks to position myself within the context of these two broad disciplines that relate to the study of social-ecological interactions — noting how these fields link and overlap, and how I relate to them in the context of this research. To what extent do I align with aspects of them? Where do I find myself in conflict or tension with them? And, fundamentally, what is it I can contribute to literature in these fields through my research?

Theoretical foundations — Dialogics and Assemblage

Stemming from my wider review of literature, I open up some theoretical perspectives adopted in SEA, particularly around ideas of *dialogics*. I adopt and develop dialogic principles in my conceptual framework appropriate for a social-ecological study of water. As a further theoretical influence, I later introduce some ideas of *assemblage* and its application in various disciplines. Herein dialogics and assemblage, and their application in a social-ecological framing, set the theoretical scaffold for my research.

Methodological approach — Social-ecological autoethnography

Iteratively with the investigation of these theoretical influences, I develop my philosophical position that underpins my research methodology — an onto-epistemology of social-ecological interrelationships, and in terms of water. I also embark on a process of gathering knowledge and information about water in the context of the empirical site of my study.

This process of learning about the context of water in Malawi, as well as developing ways in which I might engage with it during a period of fieldwork, naturally come together in an *autoethnographic* approach that has emerged in my research. It is an approach I have sought to formalise through the methods that I have adopted and developed — both desk-based and through fieldwork — the latter in which I focus on a series of *water walks* in Malawi. Herein my methodology, enacted through my methods, represents the empirical contribution of my research — a process of collecting and representing information about water that has progressed simultaneously with my theoretical development. **The theoretical foundations of this research, and the methodological process of carrying it out, can be linked in terms of their focus to represent a pluralistic social-ecological understanding of water through an interdisciplinary autoethnographic inquiry.**

7 chapters with reflective sidesteps

My thesis has seven chapters. I introduce the thesis in chapter 1, and review literature in chapter 2. I then develop my methodological position and theoretical insights in chapter 3. I describe my research methods and introduce the empirical site of my fieldwork in chapter 4, and present a narrative account of my investigations in chapter 5. I undertake some additional analysis of this empirical content, and reflectively discuss my research, in chapter 6, before drawing some conclusions in chapter 7.

The following flow chart (**Figure 1.5**) describes this order of my thesis and includes a brief indication of each chapter's content. I will reintroduce this visual at the start of each chapter to orientate the reader (and myself) within this flow. Developing and managing the iterative and emergent nature of my research has resulted in a somewhat bricolage style to my research approach — whereby I have encountered literature and theoretical ideas as I have progressed and built a conceptual framework for my investigation as I go. Specifically, there are three stages threaded through the following chapters in which my conceptual framework is 'assembled' — these are noted in *italics* in these recurring flow charts. There are numerous links and threads connecting the various chapters, which I will signpost, cross-reference and footnote along the way.

C1
- **Chapter 1: An introduction — navigating a shapeshifting flow**
- **Thesis structure; situating of research; overview of literature, theory, and methodology; introducing central research question**

C2
- Chapter 2: A basis in literature — social-ecological interdisciplinarity
- Social Environmenal Accounting (SEA) literature review; dialogics in SEA; *conceptual framework stage 1;* first part of research question

C3
- Chapter 3: Methodology and theoretical insights — water as plural
- An onto-epistemology of water; *conceptual framework stage 2;* theoretical insights from assemblage thinking; second part of research question; interdisciplinary influences; *conceptual framework stage 3*

C4
- Chapter 4**:** Research methods — attending to a social-ecological autoethnography
- A social-ecological autoethnography; water walks as a research method; contextual information on Malawi and the empirical site

C5
- Chapter 5: Results as an assemblage — curating some accounts of life with(in) water in Malawi
- Undertaking a travelogue; narrative and visual accounts of water walks in Malawi; reflective summary of water walks

C6
- Chapter 6: Discussive reflections — a process and representation of water relations in a place
- Analysis of water walks using conceptual framework; reflections on research process; opening up contributions from the research

C7
- Chapter 7: Conclusions — giving attention to other ways of SEAing water
- Overview of thesis; future areas of research; final thoughts

App
- Appendices

Figure 1.5: A flow chart of the thesis structure and its chapters.

Reading between the lines — using tables, diagrams, and other visual representations

Throughout this thesis I incorporate a variety of visual and schematic representations to develop and communicate my ideas, evidence, and findings — forms such as tables, diagrams, charts, drawings, images, maps, etc. In addition to the language and terms I use, they are part of the interdisciplinary qualities of this research, whereby I seek various ways to represent and communicate knowledge to different audiences. I am drawn to visual forms of communication — both to express myself, and to understand the ideas of others[23]. However, by using such visual representations in my thesis I can, at times, assume the reader will understand and follow the ideas that I seek to communicate. While such an extensive use of visual forms is perhaps more common in disciplines such as geography and the visual arts, the requirements of this doctorate, situated in the social sciences, necessitates that I give greater discursive attention to these visual representations — and guide the reader using written explanations. This has been something of a challenge for me in my doctorate research journey — but also part of my personal and academic development during it. Visual representations remain a central aspect of this thesis, but I will seek to accompany these with words and an explanation to guide the reader systematically through them in written form.

A note on my use of quotations and external references

Linked to my use of visual representations, is my use of external quotations and references. I often like to present quite large quotations to open up, or introduce an idea, without analysing the words too much — letting them 'speak for themselves'. The interdisciplinarity of this research has meant I have encountered and included literature from multiple sources — academic journals and texts, but also various other collections of notes, essays, reference books, novels, narrative non-fiction, poetry, and maps. I feel it is important for the words and ideas from these sources to retain their original form and voice as they are written. This, especially, is in the case of words or ideas from others that I find particularly engaging or insightful — both in what they say, but also *how* they say it. I often feel that it is the style and structure in which such expressions are made that is important, and do not want to do violence to that through my interpretation or reforming of those words. However, like in my use of visual representations, the requirements of this doctoral research situated in the social sciences requires a more thorough and considered interpretation of the ideas I present. It is necessary to integrate them better into the flow of my thesis, rather than distracting from the main arguments I present.

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[23] This is a nod to my interdisciplinary academic and practitioner background, in which drawing and visual representations have been central means of communicating ideas.

I have tried to find a balance of both of these approaches. At the beginning of various sections, immediately after the introductory headings, I often present some block texts of quotes I have encountered that I find particularly engaging or relevant. These intend to stand alone, introduce, and open up the discussion that then follows — and will be left without much, or any, analysis. I will, nonetheless, come to explain my inclusion of the quote in the writing that follows[24]. In the main body of text, the quotes or references I use will be given more analysis to integrate them into the flow of the thesis. In this way I hope to do justice to both these approaches — allowing some quotes to 'speak for themselves', while others I will incorporate more thoroughly into my writing and discussion.

Anticipating a research question and contributions

The overarching aim of my research is to form a representation — or *assemble* — an expression of the different values of water in the context of my specific study in Malawi, through which I seek to foreground an interrelationship between water, people, and place. The autoethnographic approach I employ allows me to combine the evidence and knowledge from people and place that I encounter, with my own personal experiences as an active and emotional participant entangled in this relationship to water and place.

It is from this that the overarching aim, and objective, of this research emerges — expressed through my central research question (and sub-questions) (**Figure 1.6**). I provide these here in anticipation of a more in-depth discussion of their development in forthcoming chapters.

Central research question:

What are different values of water in Malawi, and how can they be represented?

- *Sub-question 1: What are different ways people know and engage with water?*
- *Sub-question 2: What are representations of water's different values?*
- *Sub-question 3: How can I represent those representations of water?*

Figure 1.6: Central research question and sub-questions.

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[24] This is a common approach used by Tsing (2017).

Through exploring knowledge, and undertaking practices, to answer my research question and sub-questions, I anticipate having several intertwined contributions. I seek to have an academic contribution to social and environmental accounting literature and water studies — primarily a methodological contribution through my creative practicing of a social-ecological autoethnography in place. This will also include a theoretical contribution through my application and development of dialogics and an interdisciplinary use of assemblage ideas in a social-ecological context. I furthermore aim to have a social contribution through my research by opening up some new insight and knowledge into water relations in Malawi — represented by both the process, and outcomes, of the assemblages, or accounts, of water that I create from my empirical content.

A personal note — I come from beyond the pale/pail

Finally, to conclude this introductory chapter, I feel it is important to give some 'account' of me — explaining some other personal underpinning reasons for this thesis (and its title), and the way I undertake this research. As the thesis will unfold, and come to its conclusions, it will become increasingly apparent that this research journey has been a very personal one, emerging from the methodological orientation of my research. Indeed, a significant contribution intertwined with the academic and social ones I have noted, is my own personal development in my approach to undertaking research — and how I intend to take this beyond this thesis.

Physically coming from beyond 'The Pale'

In addition to how I have interpreted, and explained, the meaning of the title of this thesis, the geo-political reference 'Beyond the Pale' is one with very personal meaning. All of my grandparents were born and brought up in places along the north and west of Ireland, a coastline where the land meets the waters of the North Atlantic. Referring to the historical map of Ireland in **Figure 1.1,** this is denoted as the area of the family name 'O'Donnell' (the surname of one of my grandmothers). This outlying part of Ireland is often referred to as the edge of the European continent — it is, and was, far beyond the area of land that constituted 'The Pale' around Dublin. In this spatial sense I am, in a way, *quite literally from beyond 'The Pale'* — and the historical and emotional connotations of that, embedded in my own family history, story, and my memories of people whose determination and sacrifice — particularly through their commitment to learning and education — has given me the privilege to be able to write a doctorate thesis. It is one I seek to honour.

A researcher from 'beyond the pail'?

I am quite often asked a question: why did you choose to study water in Malawi? I am not Malawian, I have not lived there, and I do not have any specific association to the country (though, prior to my doctorate studies, I had spent some time in the country, and furthermore travelled in Southern Africa more widely.) I do not come from a background in water studies specifically. Am I the right person to be doing this research? To be honest, it is a reflexive question I have asked myself more than once during this journey. Rather, in many ways, Malawi 'chose me' — it being the defined geographic site of a doctorate opportunity that I applied to, and to undertake through this somewhat open-ended inquiry. In this sense I have been 'led by the water' as I have encountered it — and sought to give it attention in this specific setting.

Fundamentally this is an interdisciplinary piece of research in the field of social and ecological studies in the context of water, undertaken by an inherently interdisciplinary researcher. It draws on a variety of disciplines and fields from the social and natural sciences — as well as the arts and humanities — for theoretical insight, knowledge, and practices. But, furthermore, the research incorporates *me* — my knowledge, emotions, and my ways of seeing the world. I feel I have brought an inquisitive and creative spirit to my research that is open to encountering new ideas and knowledge, yet is grounded in academic, practitioner and personal experiences of many of the key issues it intersects with. Knowledge, ideas, and practices that have been fostered in a background of interdisciplinary research and practice over several years — indeed for more than half my life[25].

Summary of this chapter

This chapter has given an overview of this thesis, how it will be structured, introduced my research question, and anticipated its academic and social contributions.

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[25] My undergraduate studies are in accounting and manufacturing engineering, specifically finding an intersection in social and ecological themes related to my studies. Later I undertook further academic studies and professional qualifications in environmental studies. As a practitioner I variously applied some of this learning in the fields of urban planning and transport, as well as latterly reengaging with wider sustainability related research and practice in accounting, policy, and education. Now I find myself pursing a doctorate in interdisciplinary water studies.

Chapter 2: A basis in literature — social-ecological interdisciplinarity

What does this chapter seek to explore?

In this chapter I introduce and discuss literature from the primary disciplines that this investigation draws on — Social and Environmental Accounting (SEA) in the context of its links to Social Ecological Systems (SES) studies (see **Figure 2.1** in the flow chart) — and forms the first root of 'the tree of life' visual (**Figure 2.2**). This pre-empts and merges into an exploration of my emergent methodological approach and theoretical influences in the chapters that follow.

C1
- Chapter 1: An introduction — navigating a shapeshifting flow
- Thesis structure; situating of research; overview of literature, theory, and methodology; introducing central research question

C2
- **Chapter 2: A basis in literature — social-ecological interdisciplinarity**
- **Social Environmenal Accounting (SEA) literature review; dialogics in SEA;** *conceptual framework stage 1;* **first part of research question**

C3
- Chapter 3: Methodology and theoretical insights — water as plural
- An onto-epistemology of water; *conceptual framework stage 2;* theoretical insights from assemblage thinking; second part of research question; interdisciplinary influences; *conceptual framework stage 3*

C4
- Chapter 4: Research methods — attending to a social-ecological autoethnography
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- Undertaking a travelogue; narrative and visual accounts of water walks in Malawi; reflective summary of water walks

C6
- Chapter 6: Discussive reflections — a process and representation of water relations in a place
- Analysis of water walks using conceptual framework; reflections on research process; opening up contributions from the research

C7
- Chapter 7: Conclusions — giving attention to other ways of SEAing water
- Overview of thesis; future areas of research; final thoughts

App
- Appendices

Figure 2.1: Chapter 2 in thesis flow chart.
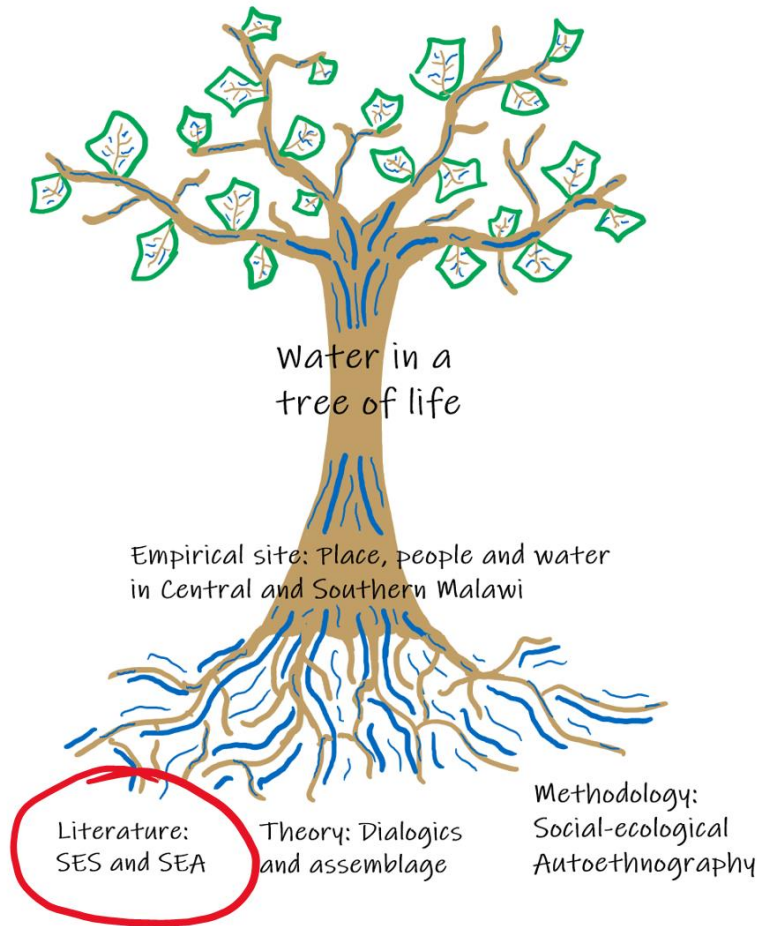
Figure 2.2: Literature review as a root of the 'tree of life'.

Foregrounding literature- water as a right, and water inequality

Despite UN Water's (2018) identification of water as a universal need, and increasingly recognised as a human right, there are significant inequalities in access to water across the world. While clean, uninterrupted, accessible, and affordable supply is available to populations in the global north[26], many millions of people throughout the world do not have such privilege. This 2018 progress review by the United Nations identifies that 2.1 billion people lack access to safe drinking water, 4.5 billion are without access to safe sanitation, and only 27 percent of people in the world's least developed countries have access to soap and water for handwashing on location.

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[26] Though consider how water is part of a dynamic and shifting planetary system, whereby impacts from climate change are affecting water availability in regions across the world (though often more severely impacting those in the global south).

Furthermore, projections and trends paint a somewhat desperate picture. Globally, two billion people live in areas of water scarcity. With worsening levels of water pollution, and the ongoing degradation of water ecosystems, over 50 percent of the global population will be at risk by 2050. Poor and marginalized populations will continue to be disproportionally affected, with insufficient institutional capacity, finance, and weak governance structures to manage and adapt to water challenges, perpetuating interrelated social and ecological impacts (UN Water, 2018; WWAP/UN-Water, 2018). The pressing practical need for water for human consumption is clearly affected by social structural issues related to power, governance, finance, politics, and economics, all of which have significant impacts on the opportunity for people to access and use water.

Some key developments in water governance

While issues around water availability, quality and physical infrastructure have generally been the focus of hydrological studies, contemporary water management approaches increasingly recognise that water relations (i.e. between people and water) are fundamental (Linton and Budds, 2014). Such relations to water are socially constructed according to individual and collective understandings, perceptions, norms and behaviours (Strang, 2004) which are relationally produced, locally embedded and legitimized (Rusca et al., 2017). These relationships are, nonetheless, constrained and affected by the material and chemical properties of water (see (Rockstrom et al., 2014)) which are linked to, and affected by, local, regional, national and global understandings of water flows and their complex interactions with issues such as climate change, pollution, land use, food, energy, human demographics, political and legal structures, and our globalised economic system (see (Steffen et al., 2015b) (Falkenmark, Wang-Erlandsson and Rockström, 2019)).

This perspective on water recognises that the use and management of the water environment, at all levels, involves an intersection of social, ecological, political, and economic dimensions related to water. Herein the role of *water governance* is central to the process of adequately dealing with issues of water access and distribution across this multiplicity of factors, and its role in water issues has gained increasing attention as policy, business, ecological and societal concern (Woodhouse and Muller, 2017). Prior to opening up the literature basis for this research in SEA and SES, it is instructive to briefly highlight and foreground some contemporary developments in water governance.

In 2015 the OECD (Organisation for Economic Co-operation and Development) published their 'Principles for Water Governance', which they define in the context of broader principles of good governance (i.e. issues of legitimacy, transparency, accountability, human rights, rule of law and inclusiveness). Defining water governance as *"a means to an end rather than an end in itself, i.e. the range of political, institutional and administrative rules, practices and processes (formal and informal) through which decisions are taken and implemented, stakeholders can articulate their interests and have their concerns considered, and decision-makers are held accountable for water management."*[27]. Herein, water governance, in essence, relates to the intersections of social, political, economic, and administrative systems affecting the use and management of water — and the fair allocation of water to achieve water security, while avoiding water disputes[28].

The OECD list twelve principles for water governance ranging from defining roles and responsibilities, policy coherence and capacity building, through to the need for relevant information, financing and stakeholder engagement as part of the governance process. The OECD principles on governance coincide with the setting, and implementation, of the United Nations' 17 Sustainable Development Goals (SDGs) in 2015, and which includes a specific goal on water (SDG6) as well as an overarching goal related to governance (SDG16) (United Nations General Assembly, 2015). Indeed, SDG16 specifically refers to the need to develop effective, accountable, and transparent institutions; and to ensure responsive, inclusive, participatory, and representative decision-making across all levels. Furthermore, it refers to the need to *'Broaden and strengthen the participation of developing countries in the institutions of global governance'.* Herein, governance issues are central to the process of implementing the SDGs, including in terms of water issues, at global, regional, and local levels[29], and are consequently fundamental to the wider sustainability agenda.

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[27] OECD, 2015, *'OECD Principles on Water Governance'.* Available online at: [https://www.oecd.org/cfe/regionaldevelopment/OECD-Principles-on-Water-Governance.pdf].

[28] Karlson, A., [15/05/22], *'Water governance'.* Available online at: [https://siwi.org/why-water/water-governance]

[29] I present some specific examples of water governance at a national level in Malawi, by discussing the Malawi Water Resources Act, 2013, which set the overarching policy framework for water in the country, including issues around water governance.

What are (water[30]) values?

> *"Traditional economic accounting, often a key means of informing policy decisions, tends to limit water **values**[31] to the way that most other products are **valued** – using the recorded price or costs of water when economic transactions occur. However, in the case of water, there is no clear relationship between its price and its **value**."* (United Nations, 2021)[32]

Further to this, in March 2021 UN-Water, who coordinate the work of the various United Nations entities concerned with water issues, released their high-level 2021 World Water Development Report (also known as UN WWDR 2021); its overarching theme was 'valuing water'. The above quote from the online summary of the report highlights the central role that recognising, measuring, and representing the 'worth' of water has in managing water resources in a sustainable and equitable manner. The concept of valuing is central to accounting at all levels, and accounting's role is often core in informing (and shaping) policy decisions related to valuation processes and outcomes. Here is a high-level and influential perspective drawing a direct link between accounting and water.

However, in doing so, it also raises a key challenge — and one that cannot, and should not, be ignored for its significance. Though this report goes onto state the relevance and usefulness of economic approaches as a means of valuation, UN-Water's assertion in this quote that there is '*no clear relationship*' between water's *price*, a monetary measure, and its *value* is one that poses a significant challenge to accounting (and water management and studies wore widely). If conventional accounting, in its central role in informing policy, cannot adequately and represent the value of water through its tendency to use economic pricing, then what should we do? What does accounting need to change, or do differently, to 'deal with' water better? Or maybe that is part of the problem — water is not something for accounting to consider in such managerialist terms, but that, rather, we need to find other ways to better recognise our relationship *with(in)* the watery world in which we live.

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[30] Say the word 'water' out loud. Water and 'what are' (at least in a Scottish tongue) notably similar sounding.
[31] Bold added for emphasis.
[32] UN-Water, [21/03/21], '*Valuing Water*'. Available online at: [https://www.unwater.org/publications/un-world-water-development-report-2021].

Opening up ideas of value/values/valuing

The quote from UN-Water uses the term 'value' in a variety of different, but interrelated, ways. The term can be used to mean 'a value' (a noun), or to 'be valued' (a verb). And while these can be defined separately, in the process of 'valuation', they seem to intertwine and cross-over. While value in accounting is generally limited to its meanings in terms of financial or economic appraisal, the concept is fundamentally about subjective and socially constructed assertions of the importance, usefulness, or desirability of the 'worth' or 'quality' of something. This is linked to individual, cultural, political, and historical preferences, worldviews, and fluctuations over time.

Primarily, when referring to the values of water, I am referring to these wider conceptions of the term. What are the various values of water (in Malawi) that I can identify — understood through the lens of my methodological and theoretical perspective? What is the process I follow to go about identifying these values (as a noun) as I find myself becoming involved in an act of valuing (a verb)?

The notion of value, and values, is something I will recurringly return to in this thesis. It can be difficult to separate and distinguish between these overlapping uses and application of the term — especially distinguishing the values that people hold, and the value that is attributed to things (often things which intermingle with the values held). **However, what is apparent from this discussion, is that an exploration of the idea of value, values and valuing is central to how we consider water, and the ways we relate to it.**

A disciplinary focus — Social and Environmental Accounting (SEA) literature

It is necessary to establish my research position in relation to the wider corpus of SEA literature. Over time there have been efforts to increasingly develop "*accounts which go beyond the economic*" (Gray, 2002), and which has been the focus of an extensive body of SEA scholarship (Gray, 2010b; Bebbington and Larrinaga, 2014; Bebbington, Unerman and O'Dwyer, 2014) to consider issues outwith conventional accounting's focus on financial issues[33].

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[33] In a review of accounting literature in this field, Gray (2002) employs 'social accounting' as a generic term to cover a range of associated labels and terms such as social responsibility accounting, corporate social reporting, stakeholder dialogue reporting, and environmental accounting and reporting.

In their editorial for the 2014 special issue on 'sustainable development'[34] in *Accounting, Organizations and Society* Journal, Unerman and Chapman (2014) identify three broad, though not mutually exclusive, thematic strands that have emerged in SEA literature. What could be described as a 'managerialist' strand, with a tendency to frame sustainability in terms of its 'business case'; a critical perspective that generally cites capitalistic economic processes and practices as underpinning social and environmental problems; and a third perspective that generally fits between these positions — critically engaging with wider stakeholders, including business, to seek ways to make organisational and social practices less 'unsustainable'.[35]

It is fair to say that my research emerged from, at its outset, a position tending towards the epistemological framing and parlance of this third strand of SEA literature — and how I might adopt and adapt some contemporary research from the wider field of social-ecological scholarship in relation to accounting in the context of water in Malawi. Specifically, I had been considering several frameworks and concepts that sought to adopt ideas and approaches from the field of Social Ecological Systems (SES) studies into SEA practice. It was a consideration of such frameworks and models that broadly shaped the focus of my initial literature review/scoping exercise, as I sought to map some interconnection between these issues and fields.

Setting some context — Social Ecological Systems (SES) studies influences

Social-ecological systems (SES) studies is a discipline that has evolved over recent decades, associated with systems thinking and several other fields in the earth sciences. Ontologically and epistemologically the discipline recognises, and studies, the links and interactions between bio-geochemical/bio-geophysical and human/social factors in a given system (with defined spatial and temporal boundaries — which could be from local, to global, scales) that interrelate in a complex, dynamic and adaptive flux.

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[34] While my focus is on the social-ecological, my research also considers the economic aspects that are imbued in sustainability conversations — and I include 'sustainability' (and sustainable development) scholarship in my consideration of SEA literature. However, it is important to consider there are notable conceptual differences between ideas of the social-ecological and sustainable development. I note Strang's (2015, p.171) quoting of Ivan Illich (someone I have already referred to at the start of **Chapter 1**) observation on the contradiction implicit in the term 'sustainable development' that *'"Sustainable" is the language of balance and limits; "development" is the language of the expectation of more.'*.
[35] Reflecting further back in accounting scholarship, Chua (1986) cites the co-existence of various epistemologies in accounting — a dominant mainstream neo-positive position, non-mainstream position (socio-constructionism), and a critical approach. The strands of SEA identified in Unerman and Chapman (2014) seem to somewhat reflect two of those more historically established positions in accounting — a neo-positivism aligning with a business case approach, and a critical position.

A key conceptual framework in SES studies is the 'Planetary Boundaries' framework (Rockström *et al.*, 2009; Steffen *et al.*, 2015). It identifies nine key biophysical processes that underpin the earth's biogeochemical system, processes that are being undermined by human activity including climate change, biodiversity loss, and, notably in the context of my research, freshwater removal. The Doughnut model (see Dearing *et al.*, 2014; Raworth, 2017a; Raworth, 2017b) adapts the Planetary Boundaries framework by adding a 'social foundation' to the biogeochemical processes and limits it presents — the basic social needs of people (such as health, education, and energy) — drawn from, and based upon, the United Nations Sustainable Development Goals (SDGs).

While these frameworks set a useful global perspective on the interconnection between key social-ecological issues, coming from a top-down perspective they might (unintentionally) impose, or ignore, values relevant to local issues, people, and places. Furthermore, applying such generalised frameworks is likely to run into the 'messiness' of everyday life, often failing to recognise local sensitivities. Arguably such SES frameworks implicitly centres humanity in social-ecologies — reinforcing human exceptionalism and anthropocentrism. In this way the Planetary Boundaries framework, Doughnut model, and the SDGs all, to some extent, externalise other nature from humans (be it biotic (i.e., biodiversity) or abiotic (such as water, land, atmosphere)) in terms, framing and, particularly, the aesthetics of their presentation[36]. They still seem to hold an ontological position of nature being 'out there', considered from the perspective of humanity as a single group. Epistemologically they can fail to include the influence of local and socially constructed social-ecological relationships, while potentially ignoring critical perspectives on historically and structurally embedded issues of power and inequalities in societies.

Recognising some of these criticisms there have been attempts to operationalise and down scale these frameworks to be more relevant at various social-ecological scales — national, regional, cities and even neighbourhoods[37]. Research on downscaling the Planetary Boundaries model includes by Häyhä *et al.* (2016) and O'Neill *et al.* (2018), the latter having sought to define and quantify planetary boundaries at a national level — including global water availability. However, it has been evident from several case studies and examples that water problems often manifest at a local, or geographically specific, location —

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[36] Consider criticisms that have been raised by, for example, Sarah Cornell — one of the authors on the influential Steffen et al. (2015) paper. See online at: [https://medium.com/nightingale/a-dashboard-for-planet-earth-9abafdbd2749].

[37] Since 2007, Kate Raworth, creator of the Doughnut model, has worked on its application at various regional levels — nationally (for the UK and South Africa) and at some city level scales. In 2020 the municipality of Amsterdam officially adopted the Doughnut as a starting point for all their policy decisions — and as a basis for their post Covid-19 economic planning. See online at: [https://www.theguardian.com/world/2020/apr/08/amsterdam-doughnut-model-mend-post-coronavirus-economy].

due to a complex range of issues such as hydrological, geological, and climatic conditions, to stresses and demands from populations and local practices[38]. These are factors that such models and frameworks can struggle to give representation to, and there is a need for ways to be more inclusive of local and regional understandings of water dynamics, flows and demands (while recognising links to wider regional and global conditions). Indeed, O'Neill *et al.* (2018) warn that downscaling freshwater from a planetary scale cannot adequately deal with regional levels of water scarcity.

(See **Appendix A** for some additional detail and background on these models and approaches in SES.)

Some SES perspectives on water

More widely there has been considerable SES research undertaken on water — recognising its fundamental role in global, and local, social-ecological interactions and systems. Johan Rockström, one of the lead authors of the planetary boundaries research (and who comes from a hydrological background) has written on water's significance in SES studies (e.g. Rockström *et al.*, 2014). The complex and dynamic relationship between water and other planetary boundaries, such as climate change and land use, is increasingly recognised in SES literature (e.g. Steffen *et al.*, 2015), while Falkenmark (2020) calls for a biosphere stewardship that is centred around water issues. It is significant that freshwater uniquely bridges the two aforementioned SES based models — both recognised as an ecological limit in the Planetary Boundaries framework, and as a social foundation in the Doughnut model. **Here is a recognition in SES research that water has significant social and ecological dimensions and demands — and points to the need to approach it in social-ecological terms.**

Further to this, Falkenmark, Wang-Erlandsson and Rockström (2019) recognise water's different roles in social-ecological systems — whereby it is the basis for social-ecological resilience, but also a driver of significant change, with potentially destructive impacts. This SES perspective points to water's duality, and multiplicity, in terms of its role and impact in social-ecological terms. These outputs from established and influential SES scholars Rockström and Falkenmark, arguably aligns with a sociological/relational turn in recent SES research, and which has notably emerged during my doctorate journey[39] . **It suggests**

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[38] In early 2018 Cape Town in South Africa made international headlines for its critical levels of water shortage. Similarly other urban locations and regions have been highlighted, and reported in the wider media, which are at similar risk to water stress. See online at: [https://www.theguardian.com/environment/2018/apr/11/day-zero-water-crises-spain-morocco-india-and-iraq-at-risk-as-dams-shrink].

[39] In 2020 Stockholm Resilience Centre refocused their research objectives to align with this shift. Some recent research outputs from researchers associated with the group consider the value of recognising social-ecological relationships through the lens of daily practices and rituals (e.g.,

that an interdisciplinary place-based focus on the multiplicity of water's intertwined social and ecological values is particularly appropriate at this time to align with such shifts in SES scholarship.

SEA scholarship's history integrating ideas from Social-ecological studies (SES)

Bebbington and Thompson (2013) described 'sustainable development'[40] as a *"nascent"* field in (management) accounting literature. They noted an emerging focus on it as an area of study in peer-reviewed accounting journals — with several journal 'special issues' a barometer of its wider consideration in accounting literature[41].

However, accounting scholarship's concern for sustainable development emerges from a longer history of social and environmental research in the discipline. Bebbington and Larrinaga (2014) identify the commissioning by Association of Chartered Certified Accountants' (ACCA) of Gray's (1990) *'The Greening of Accountancy. The Profession after Pearce.'* as a key publication in the early development of environmental accounting as a distinct discipline. It reflects on ways accounting might respond to the *'Blueprint for a Green Economy'* (Pearce, 1989), a report that had been recently commissioned by the United Kingdom's Department of the Environment, itself a response to the United Nation's so-called *'Brundtland Report'* (UNWCED, 1987). The Brundtland Report was, and continues to be, significantly influential in setting the agenda/understanding around sustainable development at a global level[42]. Gray (1990; 1992) makes specific reference to *systems theory* — the conceptual basis for much SES research and studies — proposing the need to consider the interaction of social, technical, and economic factors in the context of ecological systems in social and environmental accounting research and praxis.

While traditional or mainstream accounting approaches were/are limited in the consideration of timeframes, scope and boundaries to shorter term economic issues, such early contributions to SEA

Haider et al., 2019) and the role of indigenous and local knowledge in sustainability transformation research (e.g., Lam, et al., 2020). Haider, furthermore, expresses some of these issues in a blog post on the SRC website in March 2021 titled '*Dealing with the contradictions of sustainability'* (see online at: https://www.stockholmresilience.org/research/research-news/2021-03-02-dealing-with-the-contradictions-of-sustainability.html), while in August 2021 Haider and others from the centre discuss a 'relational turn', drawing on the social sciences and humanities, in the field of SES. See online at: [https://www.stockholmresilience.org/research/research-news/2021-05-19-can-relational-thinking-contribute-to-sustainability-transformations.html].

[40] Assuming sustainable development as linked to (but with differences) to concepts related to the social-ecological — as discussed previously.

[41] This editorial for a special issue in Management Accounting Review (MAR) journal is notable for its visual inclusion of the Planetary Boundaries and Doughnut model work from SES, especially as these frameworks were in their very early stages of development. This demonstrates SEA literature has been aware of, and inclusive of, these frameworks and their approaches to social ecological studies.

[42] These publications should be considered in the contest of their time. Ideas of 'sustainable development' underpinned emerging approaches to social and environmental policy — most notably in the 'Rio Summit' or 'Earth Summit', the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in June 1992. The framing of the conference explicitly links the terms environment and development together.

literature sought to extend accounting's concern to include longer term social and environmental themes — including their mutual interdependency. This conceptual re-ordering of the relationship, or primacy, of social, economic and ecological factors in SEA is visually described by the work of Forum for the Future (2003) (see **Figure 2.3**). They depict a shift from SEA 'triple bottom line' reporting on 'pillars' of the economy, society and the environment as separate, discrete issues; through the overlapping concentric circles associated with sustainable development; to contemporary framings in which the economy and society are embedded within nature.
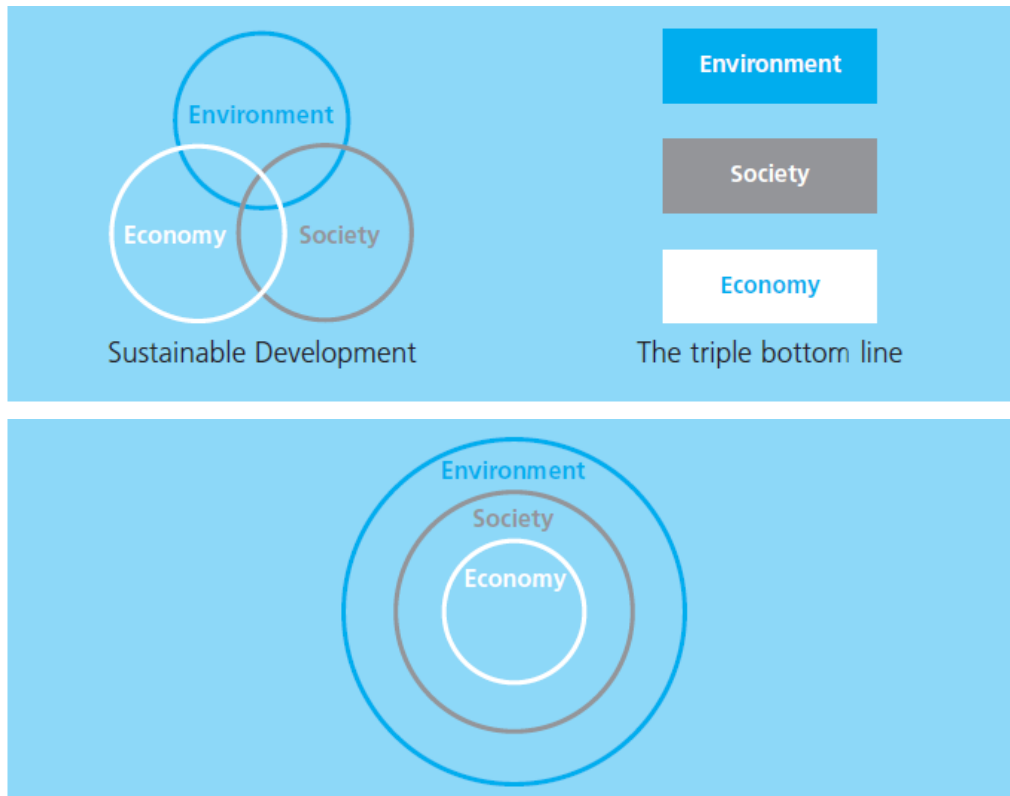
Figure 2.3: Conceptual shifts in SEA (Forum for the Future, 2003, p. 16).

These developments in SEA mirror the reframing of the relationship between social, environmental, and economic issues in SES thinking and conceptual frameworks, such as the Planetary Boundaries framework and Doughnut model. Indeed, a number of peer reviewed journal articles in SEA scholarship refer to the Planetary Boundaries model (Bebbington and Thomson, 2013; Bebbington and Larrinaga, 2014; Bebbington, Unerman and O'Dwyer, 2014; Adams, 2015; Coulson *et al.*, 2015; Vinnari and Laine, 2017). Bebbington and Thomson (2013) specifically explore both the Planetary Boundaries framework

and its link to Raworth's Doughnut model, while the Sustainable Development Goals have been discussed in a range of SEA literature (Adams, 2017; Bebbington and Unerman, 2017; Schaltegger, 2018).

A look at praxis: Social-ecological account giving — multiple capitals and ecosystem services
A specific cross-over area between SES thinking and SEA literature is the concept of *'multiple capitals'*, a conceptual framework to represent the interlinked forms and representations of social, ecological and economic values (see **Figure 2.4**). Leading SES scholars Berkes and Folke (1992) framed research on social-ecological systems thinking in terms of interlinkages between human, cultural and ecological 'capital' — terms which have continued to be used in SES literature (e.g. Mikulcak *et al.*, 2015; Lade *et al.*, 2017).

In SEA, and at a similar time to the Berkes and Folke (1992) publication, the aforementioned publications by Gray (1990; 1992) also explicitly considered ideas of *"man-made capital"* and *"natural capital"*. Like in SES, scholars in SEA have continued to refer to, and build on, the framing of multiple capitals in social and environmental discourse. The concept, including its adoption through *'Integrated Reporting'* (see IIRC., ACCA. and NBA, 2013), has been explored in accounting literature (Adams, 2015; Coulson *et al.*, 2015; McElroy and Thomas, 2015; Obst, 2015; Coulson, 2016). In addition to the academic literature, perspectives from accounting bodies (see ACCA, International and KPMG, 2013a; ACCA, International and KPMG, 2013b; ACCA, International and KPMG, 2014; ACCA, International and KPMG, 2015) have considered the capitals and their potential adoption in praxis[43], while the concept has been discussed and adopted in wider accounting, business and organisational framings and literature (e.g. Gleeson-White, 2014; Rambaud, 2015; Pret, Shaw and Dodd, 2016).

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[43] The capitals model, and its adoption in terms of 'Integrated Reporting', has been incorporated into some sustainability stock exchange listing requirements and is a key concept in the high-profile study *'The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature'* (TEEB) published in 2010.
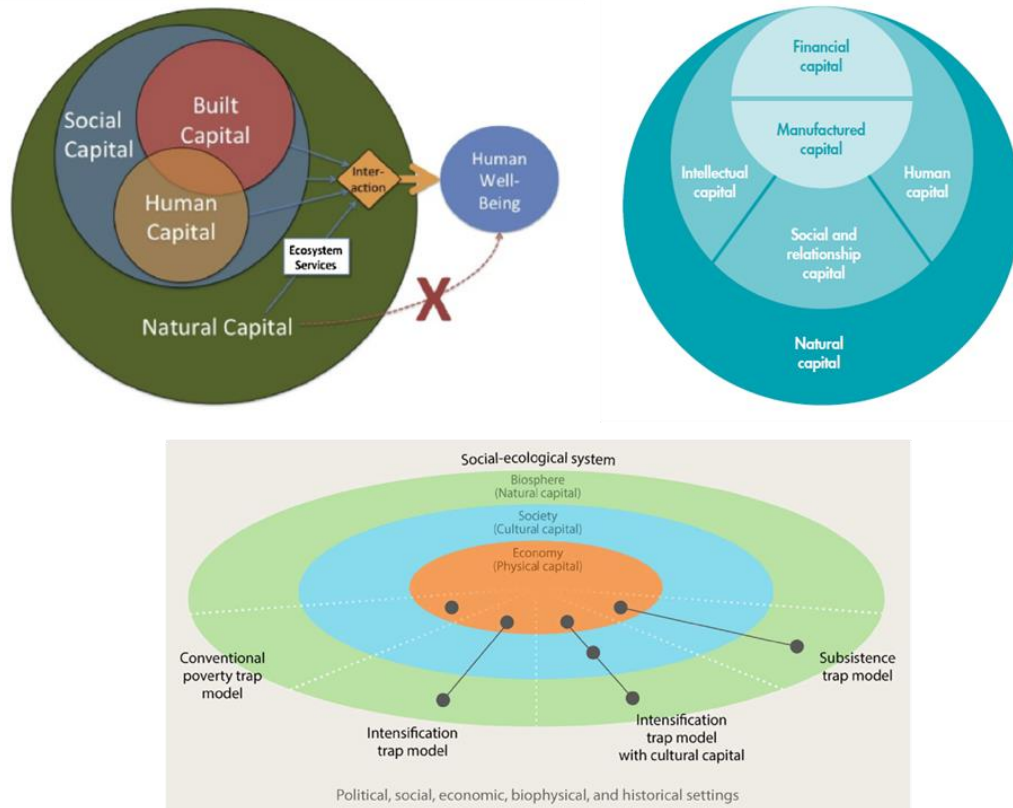
Figure 2.4: Multi-disciplinary conceptions of multiple capitals. Top left — in ecological economics framings (Costanza *et al.*, 2014, p. 153); top right — in SEA, in terms of Integrated Reporting (IIRC., ACCA. and NBA, 2013, p. 3); bottom — in SES studies (Lade *et al.*, 2017, p. 3).

Ecosystem services — an extension to the natural capital concept

The natural capital concept considers ecological resources as a 'stock' of 'environmental assets' — both renewable (such as forestry) and non-renewable (such as fossil fuels). Gray's early research (1990; 1992) focuses on natural capital in such forms — resources such as earth minerals, forestry, and the ozone layer. However, recognising that humans and society also draw and benefit from a range of additional services and flows from ecosystems — such as freshwater supply and recycling of waste — scholarship in the field of ecological economics developed the concept of *'ecosystem services'* to describe these (see Costanza and Daly, 1992). Contemporary frameworks tend to categorise ecosystem services into four general groups. Three of these broadly pertaining to physical/material functions of natural systems — providing *'provisioning'*, *'regulating'*, and *'supporting'* services necessary for the function of healthy ecosystems — and a fourth category related to *'cultural'* services (see **Figure 2.5**). The cultural category extends into a

consideration of some of the more intangible benefits of ecosystems to human and social well-being, including mental and physical health benefits, recreation and tourism, aesthetic qualities, and spiritual and religious values[44].
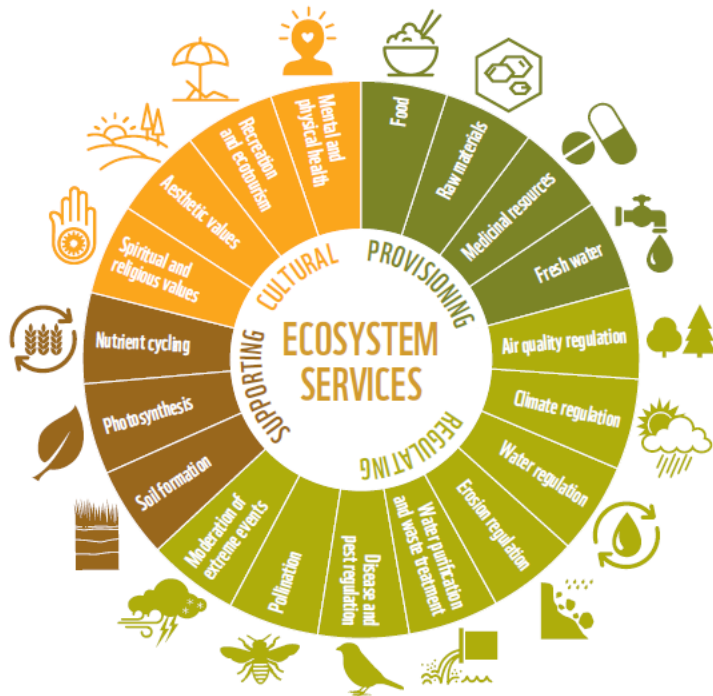
Figure 2.5: Ecosystem services. (WWF, 2016, p. 51).

The ecosystem services approach has been explored in SES and ecological economics literature since the late 1990s (Costanza *et al.*, 1997; Daily, 1997; Costanza *et al.*, 2014; Abson *et al.*, 2014; Borie and Hulme, 2015; Hølleland, Skrede and Holmgaard, 2017; Costanza *et al.*, 2017; Raymond, Giusti and Barthel, 2017; Steger *et al.*, 2018). High profile policy reports such as the '*Millennium Ecosystem Assessment'* in 2005 and *'The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature'* popularised the ecosystem services concept in business and policy framings. While, and indicative of its wider popularisation (and, arguably, its value as a form of communication to frame the

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[44] Water can be clearly seen as permeating across all of these categories. Fresh water supplies as a provisioning service for direct consumption; water purification as a regulating service; water as central to nutrient cycling to support ecosystems; and water's links to all types of cultural services — from physical health benefits, recreation, and its central role in religious and spiritual practices. Arguably the ecosystems services framework could be an opportunity for opening up values and representations of relations to nature (including water), but poses difficult ontological and epistemological challenges by placing these on the same 'plane' (noting one 'social' category compared to three 'physical') as these other bio-physical processes — this both recalling the social ecology perspectives of Lejano and Stokols (2013), and furthermore the key points made by (Coulson, 2016).

benefits of nature to humanity/society) it has been used by organisations such as WWF (2016) in their *'Living Planet Report 2016'* (see **Figure 2.5**). However, the ecosystem services framing has been critiqued for the way it potentially reductively operationalises nature (Sullivan, 2010; Norgaard, 2010; Steger *et al.*, 2018), but also recognised for ways it could better align with sustainability objectives (Steger *et al.*, 2018; Schröter *et al.*, 2017).

Critical reflections on SEA, including multiple capitals and ecosystem services

Despite SEA attempts to progress inclusion in the scale and scope of social and environmental issues in accounting frameworks, these are not without significant criticism — not least from within accounting itself (see Unerman and Chapman, 2014). These include from critical accounting discourse (Cooper, 2013; Deegan, 2013; Gray, 2013; Barter, 2015), with claims that SEA is often used as a way to provide organisational legitimacy (Cho *et al.*, 2015) and can be self-serving for organisations (Gray, 2010b; Vinnari and Laine, 2017). This is, in some part, attributed to the fact that SEA often incorporates the same thinking and approaches of financial accounting. Ferreira (2017) (reflecting Hines (1991; 1992)) considers that environmental accounting may, in fact, perpetuate ecological damage through its ontological presentation of the relationship between nature and the economy, which fails to recognise the mutual dependencies in these social-ecological relationships, and that cannot be reconciled through a market based economic approach. This, once again, recalls the incommensurability issue presented by Lejano and Stokols (2013) as discussed earlier.

In specific consideration of accounting praxis Deegan (2013) highlights the adoption of terms, framings and meanings from conventional accounting (such as 'materiality' and 'reliable measurement') in the GRI reporting framework[45], while Brown and Dillard (2014) note the recurring criticisms of the dominant framing of social-ecological issues in terms of a business case in the same framework. Similar criticisms have been made of the IIRC's Integrated Reporting framework[46], which explicitly uses the multiple capitals concept, as having a limited focus on the needs of investors/shareholders, and a narrow framing of sustainability issues (Brown and Dillard, 2014; Flower, 2015; Thomson, 2015). Furthermore, on framing, the term capital(s) and has associations with monetary valuation, ownership, and loss of intrinsic values

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[45] The Global Reporting Initiative (GRI) Framework is one of the most prominent voluntary sustainability reporting frameworks.
[46] The International Integrated Reporting Council (IIRC) is another prominent voluntary sustainability reporting framework.

that are linked to different worldviews — while problematic trade-offs exist within, and between, different forms of capital (Coulson *et al.*, 2015; Coulson, 2016)[47].

Stepping back, these approaches, framings and representations of SEA associated frameworks (with identifiable links to SES thinking), and their proliferation in organisations and society, should be considered in terms of accounting's power and influence to shape and affect the social (and ecological) world (see Hines, 1988). Accounting reporting frameworks and models, and their framings of social-ecological issues, are not simply descriptive or neutral representations, but are discursive and performative. They arguably reinforce conventional accounting's tendency to understand and represent the world in philosophically positivist neo-liberal framings (Brown, 2009; Cooper, 2015)[48], one that is characterised by a primacy of economic over social and ecological concerns, resulting in a tendency to consider social-ecological issues in quantified and monetary terms (Gray, 2002; Gray, 2010b; Bebbington and Larrinaga, 2014; Bebbington, Unerman and O'Dwyer, 2014)). Other perspectives such as Hines (1988; 1992) and Cooper (1992) have recognised the discipline's tendency to reductively categorise and delimit the world, including society and nature, into binary opposites — while Gallhofer (2018) reflects on these seminal contributions from Hines and Cooper in terms of the ways such dualistic thinking has come to underpin, and limit, corporate sustainability reporting (CSR) in accounting.

As I have begun to open up through my consideration of SES literature, a reductive and binary separation of nature and society, and water as part of that, into discreet categories is problematic. Rather, something of a more social-ecological relational approach, giving attention to the entangled relationships between people and water in places is required. So, before I go on, what are some of the ways SEA literature has, thus far, considered water?

Some SEA perspectives on water

There have been some notable special issues on water themes in key SEA related journals — for example, in 2011 *Social and Environmental Accountability Journal (SEAJ)* (see Cashman, 2011; Lewis and Russell, 2011; Von Schwedler, 2011), and a 2013 a collection of reviews on water related papers which includes

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[47] In December 2020 *The Guardian* newspaper reported that the mass of human made 'products' on Earth is now greater than all of the planet's biomass. See online at: [https://www.theguardian.com/environment/2020/dec/09/human-made-materials-now-outweigh-earths-entire-biomass-study]. It seems that 'natural capital' is outweighed by 'un-natural capital'.

[48] Cooper (2015, p. 16) defines a functionalist position as "*Ontologically realist; epistemologically positivist; extremely deterministic; methodologically nomothetic*".

perspectives on water strategy and standard setting (Hazelton, 2013; Miller, 2013; Tello, 2013) alongside a number of critiques of water management approaches (Egan, 2013; Lynch, 2013; Russell, 2013). Other SEA literature has tended towards more business-centric considerations of water as a management and supply issue (e.g. Tello, Hazelton and Cummings, 2016; Christ and Burritt, 2017a; Christ and Burritt, 2017b). From an interdisciplinary perspective Gill (2009), in extending Schumacher's (1993) 'alternative economics' ideas that are predicated on social and ecological care, notes the need for understandings of water at an 'everyday' level[49].

Water as the accounting 'entity of concern'

Kennedy (2011), a paper in the aforementioned *SEAJ* special issue, offers a useful perspective on 'conceptual-centric' stakeholder engagement in terms of a water study. Countering the traditional organisational-centric focus of stakeholder engagements, it is an approach that instead focuses on a conceptual theme, or the interests of wider stakeholders themselves. While the focus of the paper is on organisations, and uses business-centric terms (such as stakeholders), it is worth considering how such thinking could be taken a stage further in a social-ecological context. What if water was placed as the central focus of a SEA stakeholder study, stimulating an exploration of water relations between 'it' and everything, and everyone, that is linked to it in a social-ecological context?

In accounting terms, this would re-frame water as the central *entity* of concern, from which we then consider people and place in relation to, and dependent upon. This thought, and its implications, is worth holding and reflecting on — both at this stage as I review SEA literature, but then also later when I come to discuss the ontological and epistemological basis of my research methodology. Some of these SEA journal papers on water, as well as those with wider social and ecological concerns, have been considering these questions over time — and herein offers potential for aligning with contemporary SES thinking, where society and the economy are perceived as being embedded within ecological boundaries, rather than framing the environment as a 'supply', a 'resource'[50] or an 'externality'? Recognising this, what are some approaches from the wider corpus of SEA literature that we might be able to learn from, should we seek to consider water as the *entity* that is the focus of research?

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[49] See the critiques of high-level SES frameworks previously. Gill's perspective points towards a need to epistemologically open up approaches to understanding water.
[50] 'Exploit natural resources' is a term that I often encounter. It seems violent and uncaring.

Stepping back and reflecting on other spaces and approaches in SEA

This brings me to a stage whereby I have identified some of the approaches in SEA scholarship that have sought to 'give account' for social-ecological issues, including water. Some of this literature has looked to, and integrated, emergent SES ideas and thinking. I have identified some of the approaches which have sought to apply this in accounting praxis, specifically in terms of accounting reporting frameworks. Having reflexively considered these, including through my reading of critical perspectives in SEA literature, I have started to recognise some of their assumptions and limitations. The next section of this writing takes a step back and considers some ideas and approaches in SEA that potentially open-up spaces for ways of seeing, thinking, and representing water in alternative, more pluralistic, framings.

On 'opening up' spaces in SEA — towards pluralism and multiplicity

There have been contributions over several decades within SEA scholarship that has explored alternative approaches and framings to how accounting considers and represents the world (see Gray (2002) for a wider review of these). Intersecting with the interests of my research, these include broad strands of research in areas including feminist (and eco-feminist) accounting perspectives (e.g. Hines, 1991; Cooper, 1992; Hines, 1992; Shearer and Arrington, 1993; Cooper and Senkl, 2016), accounting for indigenous cultures and people (e.g. Gallhofer and Chew, 2000; Buhr, 2012; Scobie, Lee and Smyth, 2020) and the consideration of spiritual perspectives in accounting (e.g. Dillard, 2009; Gallhofer and Haslam, 2011; Lamberton, 2015; Abeydeera, Tregidga and Kearins, 2016). Much of this research has a concern for voices, perspectives, and worldviews beyond the somewhat narrow focus of conventional accounting. This brings me to the concept of *dialogics* as an area in SEA scholarship which has sought to develop ideas of inclusion and pluralism in accounting research and practice — and is the focus of the next section.

Towards some theory — Dialogics and SEA

> *"So, what should be done? We need to take pluralism seriously. We need to move beyond the untenable conceptualization of market accountability and develop alternative ways of conceptualizing accountability mechanisms and their application to social and environmental issues..."* (Dillard and Vinnari, 2019, p. 28)

Dillard and Brown (2015, p. 243) describe dialogic research in the context of SEA as seeking to *"broaden out and open up new imaginings of accounting"*. Theoretically dialogics seeks to promote and foster dialogue, debate and conversation between various actors and interests to develop shared understandings of issues. It counters a monologic approach in which a single, dominant, authoritative perspective prevails. An agnostic approach to dialogics suggests something of a polemic or provocation in terms of the arguments or views that are presented as part of a dialogue — alternative perspectives that counter or oppose more conventional views or practices. This, of course, aligns with the themes of my research approach, which seeks to challenge disciplinary boundaries in terms of my study of water — to go '*beyond the pail'*.

Brown (2009) provides a useful inflection point in the corpus of SEA literature to consider dialogics, which has since been further developed in the discipline (Brown and Dillard, 2014; Contrafatto, Thomson and Monk, 2015; Dillard and Brown, 2015; Vinnari and Laine, 2017; Dillard and Vinnari, 2019). Dillard and Brown (2015) discuss the theoretical roots of dialogical accounting, emerging from the work of sociologist Jurgen Habermas, and where discursive approaches are adopted to enhance democratic inclusion in decision making processes. They also specifically highlight the ideas of Paulo Freire's pedagogic practices in terms of dialogics, and Freire's seminal text '*Pedagogy of the Oppressed'* (Freire, 2000), first written in 1968. However, criticisms of dialogic accounting approaches have cited its lack of theoretical grounding, something raised, and sought to be addressed by, Brown (2009).While dialogics can be potentially applied in settings where underlying democratic structures already exist, the lack of such in the context of organisational accounting settings (i.e., with the primacy given to, and power held by, shareholders) potentially undermines the effectiveness and possibilities for a dialogical approach.

Aligning with, and applying, the concepts of dialogic accounting and enhancing pluralism in the inclusion of voices, are the practices of *alternative, counter and 'shadow' accounts*. These are broadly described by Boiral (2013) as a process of identifying, gathering and reporting on external sources to provide an alternative representation of an organisation's performance in relation to its social, economic and environmental activities and impacts, as to that which is produced internally. SEA scholarship has considered the potential, and challenges, of such forms of accounting (Dey, 2003; Gallhofer *et al.*, 2006; Dey, 2007; Boiral, 2013; Denedo, Thomson and Yonekura, 2017; Vinnari and Laine, 2017). Furthermore, Brown and Tregidga (2017) have discussed the similar concept of politicised accounts.

Recognising this scholarship in SEA, are there some new insights, practices, and approaches to representing knowledge that I, coming from a social-ecological interdisciplinary perspective, can bring through the adoption of a dialogical approach to my research? In doing so, can this open-up a conceptual framework for my study of water in pluralistic social-ecological terms, while also developing a theoretical contribution to SEA studies through my research? I begin to develop these possibilities in the next section.

Conceptual framework stage 1 — introducing and selecting some features of dialogics

In this section I begin to develop a conceptual framework for my research, drawing on ideas of dialogics, which I seek to apply in the context of my research on water relations. Herein I begin to bridge from my literature review to some of the theory I seek to adopt in my research (see **Figure 2.6**).
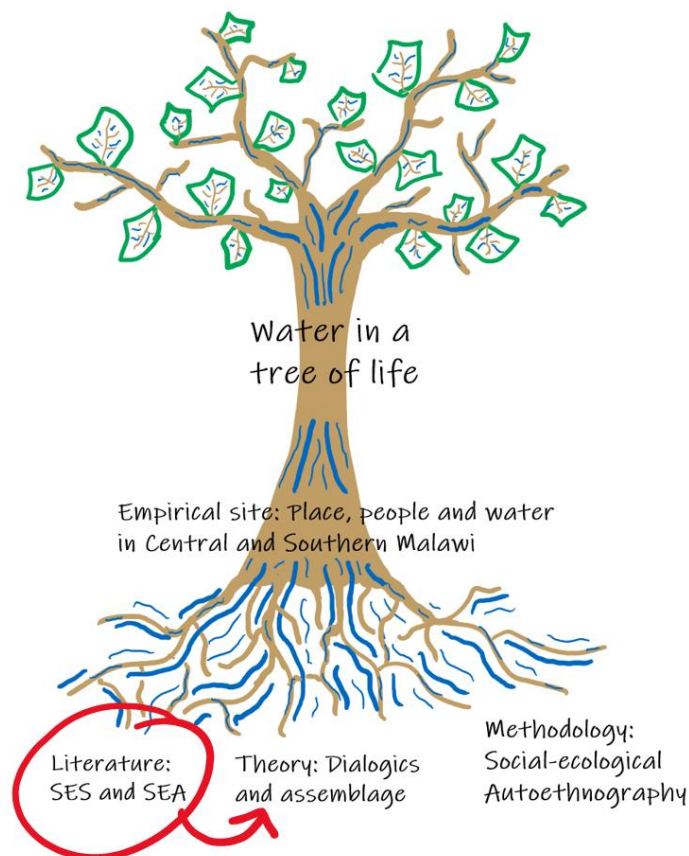
Figure 2.6: Influences of theory on SEA literature represented in the 'tree of life'.

As a starting point I consider what Brown (2009, p. 329) describes as the major features that distinguish monologic and dialogic accounting practices. Of their list of fourteen different features, several are more relevant to organisational settings (features such as institutional frameworks, and quality assurance processes), and which are not relevant in the context of my research. Rather I select eight of the listed features pertaining to: defining the wider purpose of undertaking a dialogic approach; identifying what information (and from whom) should be included in this process; and how to go about understanding and representing this information — qualities that are relevant to a study seeking to open up and give attention to different values of water in the context of interdisciplinary[51] social-ecological research. I group these eight features into three (though significantly overlapping) themes: *'Research style'*, *'Epistemology and ways of seeing',* and *'Analysis'*. At this initial stage, I simply want to introduce and explain the reasoning for my selection of these specific features from Brown's paper.

Research style

The interdisciplinarity of my research aligns with the **research approach** feature of dialogic accounting, and its consideration of polyvocal expertise and knowledge. The **purpose** is to open up pluralistic social-ecological values of water through reflection and inclusion of multiple perspectives on water relations.

Epistemology and ways of seeing

My research recognises the **epistemological basis** of dialogics whereby knowledge, relations and practices related to water, are linked to social, cultural, and place-based influences. The **information sets** pertaining to water relations I encounter, and include, are diverse and flexible to consider the wider social, political, cultural, and economic context. The **technical experts** that I seek to include are from a range of disciplines and roles, whereby people have a multiplicity of experiences and relationships to water.

Analysis

The **analytical approach** of my research seeks to open-up insight and possibilities of the multiple ways people relate to and use water. The **level of analysis** will be open-ended and discursive, and represented in a multiplicity of formats.

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[51] In defining the features of a dialogical research approach Brown notes 'post-disciplinary' as a term that goes 'beyond' interdisciplinarity. This seems to align with Gray's (2010) use of 'trans-disciplinary' and Haider et al. (2017) application of 'undisciplinary'. See **Chapter 1**.

In **Table 2.1** I summarise this process — defining the three thematic groupings (column 1); the eight features I have selected, and the description provided by Brown (columns 2 and 3); and a reason why these features are appropriate for my research (column 4).

Table 2.1: Identifying specific aspects of Brown's (2009, p. 329) features of dialogical accounting.

Themes	Features of a dialogic approach (Brown, 2009, p. 329)		Reason for selection
(Column 1)	**(Column 2)**	**(Column 3)**	**(Column 4)**
Research style	*Research approach*	*Inter-, multi-, trans- and post-disciplinary; polyvocal experts, lay input*	An interdisciplinary approach underpins this research, and it seeks to include expertise from various fields and disciplines.
	Purpose	*Environment of reflection, discussion, debate and dialogue, participatory democracy*	The research's purpose is to open up insight into values of water in a manner which encourages reflection and dialogue.
Epistemology and ways of seeing	*Epistemological basis*	*Social constructionist – knowledge is viewed as situated and value-laden – open to critical readings*	Epistemologically this research seeks insight into the different values of water, and that knowledge about water is situated in place.
	Information sets	*Flexible—depend on social, political, economic and cultural contexts*	This research draws on a wide range of information sources related to water, with a significant consideration of social, political, economic, and cultural contexts.
	Technical experts	*Recognizes plurality of expert knowledges – open about uncertainty and ambiguity – idea of "one right answer" treated with skepticism and as incompatible with democracy*	This research recognises, and actively seeks, plurality in knowledge and 'ways of knowing' water.
	Human beings	*Political economic person—focus on individuals and collectivities as actors with many roles and relations and guided by ideological orientation*	This research recognises that people act within the structures of the communities and societies they are part of.
Analysis	*Analytical approach*	*Ideologically open (e.g. positional analysis) – no single "best solution" – responsive to perspectives/evaluative criteria of stakeholders*	The analysis seeks to, through the opening up of knowledge, provide insight and possibilities of ways of knowing water rather than 'solutions'.
	Level of analysis	*Disaggregated, multi-dimensional and open-ended*	The analysis of this research will be significantly multi-dimensional and open-ended.

Critically reflecting on dialogics application in SEA

While Brown's descriptions of a dialogical approach clearly depart from monological framings, do they nonetheless retain an anthropocentric focus? They, for example (italics added for emphasis), include a '*social* constructionist' epistemological basis, where humans/organisations are '*political economic* person/organizations', and where information sets consider '*social, political, economic and cultural contexts*'. Although plurality is extended in terms of *social* issues — i.e., those relating to/between humans — little extra attention seems to be given to non-human actors and relations; to the *ecological* — including, of course, water. (This is not surprising given the Freirean roots of dialogics, emerging from pedagogy theory and its inherently social concerns rather than social-ecological ones.)

Can this lead to a form of dialogic accounting that is defined in 'opposition' to more conventional forms of accounting, but, from an ecological point of view, still separates/distances us from non-human concerns? If I am to use the ideas of dialogics in my social-ecological study of water in a place, how might these features be adjusted, or extended, so that further attention is given to ecological concerns as well as social? This highlights some methodological inconsistencies, or frictions, with my interpretation and use of dialogics compared to how they have initially emerged. Addressing this will necessitate an opening up of my methodological position — which I will do in the next chapter, before returning to my use of dialogics as part of my conceptual framework. **Figure 2.7** summarises this first stage in the development of my conceptual framework, which I will build on in forthcoming chapters.

Stage 1
- Introduce Brown (2009), and the selection of 8 features describing a dialogical approach
- Reflect on appropriateness of features for a social-ecological study
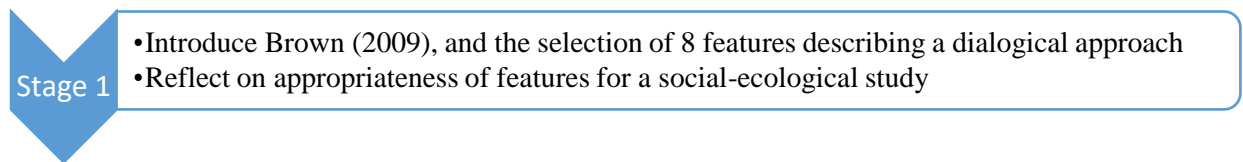
Figure 2.7: Summary of stage 1 in conceptual framework.

Drawing strands together — 'Accounts of Nature and the Nature of Accounts'

"Monetised economic transactions remain the disciplinary core of conventional accounting, accounts, auditing and accountability scholarship. 'Environmental accounting' scholarship overall, however, has not strayed far: in fact, it remains the non financial variant."

(Russell, Milne and Dey, 2017, p. 1435)

As I draw my literature review to a close, I refer to the lead article in *Accounting, Auditing & Accountability Journal's* (AAAJ) special issue on 'Ecological Accounts' (Vol. 30 Iss: 7). Published during my doctorate journey, the paper by Russell, Milne and Dey (2017) gathers a number of the strands and sources that I have identified in my literature review. It is a useful reference for me to conclude this chapter by considering some of the article's key points and recommendations, and as a 'point of departure'[52] as I move to the next stage of my writing.

Like my review of literature, the authors chart a body of academic research undertaken in accounting over time with a concern for environmental issues. They cite publications in the broad field of SEA with a focus on including the costs and benefits of environmental issues in financial accounting systems — highlighting several critical challenges from within accounting literature that I have similarly referred to, as well as some perspectives and framings that have proposed alternative approaches to environmental accounting that I have also cited and been influenced by[53]. The authors claim, as the above quote describes, that accounting practice and scholarship remains tied to economic concerns and financial transactions, and that environmental accounting research and academic outputs have *"not strayed very far"* from its general practices.

Comparing to my earlier review of nascent reporting frameworks in accounting, Russell, Milne and Dey claim that attempts to represent and report on social ecologies (under the guise of the broader notion of

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[52] I use the term a 'point of departure' in the sense that a boat 'departs from' a jetty or harbour to the sea. This journal article is a key perspective from which I feel my research, and empirical investigation, naturally flows from.

[53] Notably, from the outset, the Russell, Milne and Dey (2017) paper contextualises SEA in terms of key SES studies I have referred to earlier (e.g., Rockström et al. (2009); Steffen et al. (2015)). It also refers to many of the key publications in SEA that I have considered (e.g. Hines, 1998; 1991; Cooper, 1992; Gray, 1992 through to Dey, 2003; Gallhofer et al. 2006; Brown, 2009; Bebbington and Larrinaga, 2014, as well as wider influential 'nature writing' that has been influential on me (e.g., Shepherd, 1977 and Macfarlane, 2015)).

sustainability) in accounting reporting frameworks[54] tend to reduce the natural world to a collection of physical stocks and flows serving economic purposes. Pointedly, they metaphorically compare these approaches as framing the environment *"as a series of inert, lifeless, fragmented inputs and outputs to and from a transformation engine to be run most efficiently and profitably"* (p. 1436). Herein, a criticism of how these frameworks ontologically conceive the ecological world, and furthermore a comment on their epistemological representation of the environment that is a consequence of this — one that 'strips it of life'.

Giving some life to SEA: Is this my contribution to literature?

This 'mechanistic' metaphor is one that engages with me, and compares to Sullivan's (2010) powerful critique of ecosystem services[55]. Both papers recognise something fundamentally problematic about the framing of the environment in these terms: a reductive rationalising of its complex, intrinsic, life-giving qualities to serve the needs and interests of a global economic and financial system. In a word, it could be argued that such representations have drifted towards a form of Weber's '*zweckrationalität'* as discussed in **Chapter 1**. This framing of social-ecological relationships is problematic given the complexity and dynamism of the social-ecological challenges we are faced with. On a more personal level, it does not fit with the way I think about relationships between humans, society, and the rest of our planet's ecology — and it is not the way I want to undertake my research on water. Rather, I seek to find another way of pursuing my research in this field, and other ways to represent it.

Concluding their paper Russell, Milne and Dey (2017) suggest several areas for future research in environmental focused accounting. This includes a recommendation that environmental accounting research should explore ways the arts and environmental humanities deal with, communicate, represent, and encourage transformations in the ways we understand the environment, and our relationship to a dynamic, messy, social-ecological world. To enact this, the authors propose SEA scholars seek out and develop *'art-science'* collaborations as means to express these interrelationships, as well as '*getting*

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[54] The authors specifically refer to the GRI (Global Reporting Initiative) Framework, the aforementioned IIRC Integrated Reporting Framework (and its use of the natural/multiple capitals framing), as well as the UNEP (United National Environmental Programme) sustainability reporting benchmark.
[55] Sullivan (2010, p. 119) critiques the framing of ecosystem services as *"processes, and the institutions and structures with which they are linked, seem to be further conceiving and producing the Earth as a smooth, abstract, space for 'nomadic' capture and exchange by the realm of the disembedded and disembodied: namely a transcendental corporate capital and finance".* Though this specific critique by Sullivan comes from outwith SEA literature, they have written on similar issues in accounting journal publications — for example, Sullivan and Hannis (2017) which features in the AAAJ special issue on 'ecological accounts' which contains the lead article by Russell, Milne and Dey (2017).

outside' to physically and emotionally engage with ecologies that they then discuss in academic terms and forms.

These specific recommendations — looking to the arts and the environmental humanities, and spending time outside — are key themes that I carry forward into the next stages of my thesis as I move from my literature review into an examination of theory and methodology. Indeed, as my articulation of my methodological orientation and methods emerge, the role and influence of the arts, and the practice of 'being outside', becomes increasingly central to my research approach and empirical investigations.

Moving on, and opening up my central research question

To conclude this chapter I return to the quote from UN-Water (United Nations, 2021) that I opened my literature review with. If, as that quote claims, there is "*no clear relationship between its [i.e., water's] price and its value*" then what are the implications of this — for water studies, and for accounting? Are there other ways to consider the question 'what is the value of water'? What are other possibilities of 'ways of seeing/knowing' water that are excluded? How can we understand and express these? What can we learn from the years of scholarship in (social and environmental) accounting that has tried to deal with these questions in terms of social-ecological relations, and what might we draw from other disciplines to help? Can I enact the theoretical ideas of dialogics, as I have started to develop, in creative and imaginative ways that opens-up, and adds depth, to ways of knowing water[56]?

This multiplicity of questions come together in my central research question *'What are the different values of water in Malawi, and how can they be represented?'*, and a number of sub-questions that comes from that central question (see **Figure 2.8**).

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[56] Thus, reflecting the language of Dillard and Brown (2015, p. 252) that seeks *"cross disciplinary applications designed to broaden out (breadth) and open up (depth) SEA"*.

Central research question:

What are different values of water in Malawi, and how can they be represented?

- *Sub-question 1: What are different ways people know and engage with water?*
- *Sub-question 2: What are representations of water's different values?*
- *Sub-question 3: How can I represent those representations of water?*

Figure 2.8: Central research question and sub-questions.

These sub-questions begin to anticipate the areas in which I now aim to take my writing — ontological, and specifically epistemological, questions of how we understand, consider, and relate to water. In the next chapter, I undertake a discussion of interdisciplinary conceptions of water through a rigorous examination of methodology, and an opening up of theory, to help me enact my inquiry into water's different values in the empirical site of my research.

Summary of this chapter

In this chapter I have presented some the literature that has influenced this thesis, emerging out of Social and Environmental Accounting (SEA) and its links to Social Ecological Systems (SES) studies. I have developed the first stage of my conceptual framework, drawing on the ideas of dialogics, and have opened up my central research question, and a number of sub-questions.

Chapter 3: Methodology and theoretical insights — water as plural

What does this chapter seek to explore?

This chapter discusses the methodological approach I take in my research (see **Figure 3.1** flow chart). I explore, and problematise, the ontological and epistemological aspects (and challenges) of my inquiry. I then consider some further theoretical influences, particularly the concept of *assemblage*, and I look to several other disciplines for their application of its ideas in the context of water studies. I incorporate some of these methodological and theoretical explorations into my emerging conceptual framework.

C1
- Chapter 1: An introduction — navigating a shapeshifting flow
- Thesis structure; situating of research; overview of literature, theory, and methodology; introducing central research question

C2
- Chapter 2: A basis in literature — social-ecological interdisciplinarity
- Social Environmenal Accounting (SEA) literature review; dialogics in SEA; *conceptual framework stage 1;* first part of research question

C3
- **Chapter 3: Methodology and theoretical insights — water as plural**
- **An onto-epistemology of water;** *conceptual framework stage 2;* **theoretical insights from assemblage thinking; second part of research question; interdisciplinary influences;** *conceptual framework stage 3*

C4
- Chapter 4: Research methods — attending to a social-ecological autoethnography
- A social-ecological autoethnography; water walks as a research method; contextual information on Malawi and the empirical site

C5
- Chapter 5: Results as an assemblage — curating some accounts of life with(in) water in Malawi
- Undertaking a travelogue; narrative and visual accounts of water walks in Malawi; reflective summary of water walks

C6
- Chapter 6: Discussive reflections — a process and representation of water relations in a place
- Analysis of water walks using conceptual framework; reflections on research process; opening up contributions from the research

C7
- Chapter 7: Conclusions — giving attention to other ways of SEAing water
- Overview of thesis; future areas of research; final thoughts

App
- Appendices

Figure 3.1: Chapter 3 as part of thesis flow chart.

An overview of methodology — bridging research philosophy, theory, and methods

I refer to the term methodology, in the first instance, to describe my research philosophy — my ontological and epistemological orientation. It was from encounters with literature and texts during my exploration of methodology that I became aware of the theoretical ideas of *assemblage*. This led to my identification of different interdisciplinary applications of assemblage in water studies, and associated methods and presentational practices. This investigation of theory and possible methods, informed by my research philosophy, brought me to identifying *autoethnography* as an approach to enact my methodological orientation.

There is a lot going on in this chapter, with movement back and forth between my methodological position and theoretical influences. However, this reflects the emergent approach to my research journey, something I want to try and convey in the writing of this thesis. Returning to the 'tree of life' visual helps me convey and frame this process. In this chapter I start by considering the first part of my methodology — the 'social-ecological' aspect of it — by opening up the ontological and epistemological aspects of my methodological orientation (see **Figure 3.2**).
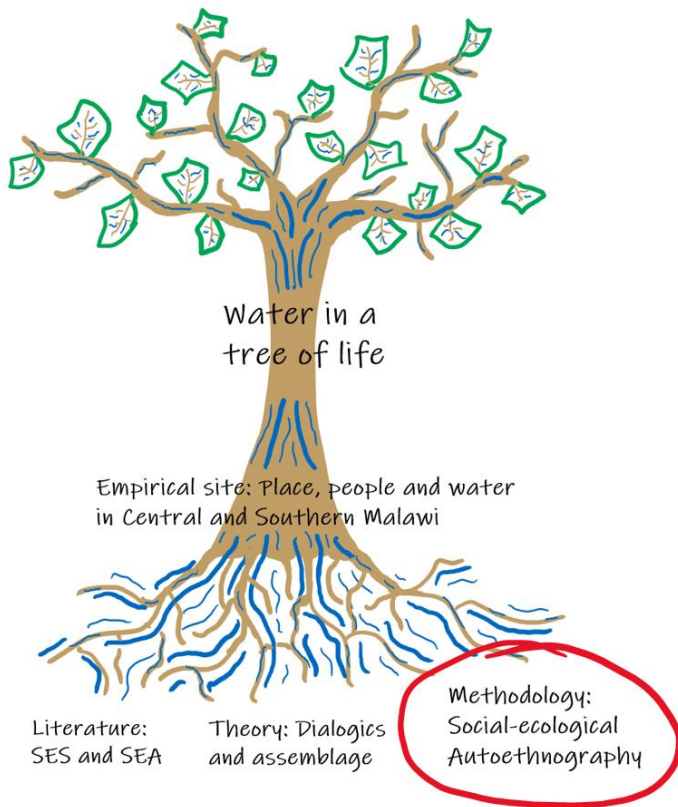
Figure 3.2: Opening up the 'social-ecological' aspect of methodology in the 'tree of life'.

Ontology — water in (a) social-ecological framing(s)

A significant aspect of my research pertains to exploring the relationship between people (including me) and water (or nature more widely). As introduced thus far, this has included ideas and areas of study such as social-ecology, nature cultures, political ecology, human geography, environmental humanities (and the wider ideas of sustainability too) that all 'rub up against' this question in their various (inter)disciplinary contexts. But what are the philosophical implications of ways we frame and understand this interrelationship between 'us' (as humans/society) and what is 'out there' in the rest of nature? How do we (or I) 'see' water? What *is* it?

Opening up the first part of my research question

This brings me to the first part of my central research question *'What are different values of water in Malawi'*, and the first sub-question that links to that, *'What are different ways people know and engage with water?'*. (See **Figure 3.3**).

Central research question:

What are different values of water in Malawi, and how can they be represented?

- *Sub-question 1: What are different ways people know and engage with water?*
- *Sub-question 2: What are representations of water's different values?*
- *Sub-question 3: How can I represent those representations of water?*

Figure 3.3: Central research question and sub-questions — a focus on sub-question 1.

Water as both, or between, object and subject

> *'"Object of study" was the scientist's answer that I thought I should give, but it felt empty, removed, and incomplete... The subject is the observer, I read; the object, the observed.'*
>
> (Oakes, 2020)[57]

Positivist sciences and their attendant philosophies remain dominant in water studies, and furthermore how water is managed in policy and praxis. Water is objectified as a physical resource — privileging rationalistic and positivistic methodologies and disciplinary investigations, with a focus on quantitative studies and analysis, technical and scientific expertise, and infrastructural solutions (Linton, 2010; Linton and Budds, 2014; Strang, 2015). While such expertise and knowledge is vital to understanding and dealing with the physical and functional aspects of water, such approaches can often neglect or underappreciate the complexity of water's political, social, and behavioural dimensions (Linton and Budds, 2014), as well as its symbolic and cultural meanings and significance (Strang, 2004; USDA, 2008; Strang, 2015). This recalls the point made in the editorial to Nature Sustainability journal, quoted in **Chapter 1**, which critically reflects on engineering dominated water studies that have tended to ignore wider social, cultural, and relational dimensions in terms of how we study, and deal with, water.

Underpinning some of these different research approaches is a philosophical question related to the way we perceive and 'treat' the things we study. As ecologist Lauren Oakes reflects on — quoted above in relation to their study of trees — research in the sciences conventionally distinguishes between the

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[57] Oakes, L. (09/01/20) *'On Survival: The Dead, The Sapling, And The Ancients'* Available online at: [https://emergencemagazine.org/story/on-survival-the-dead-the-sapling-and-the-ancients].

'object' and 'subject' in terms of a study; the former the thing this is being 'observed', the latter the 'observer'. In the case of water studies, the 'researcher' is the subject who observes — and water is the object being observed, the thing being 'researched'.

Reflecting on my literature review, and some of the framings in SES and SEA, normal science[58] (see Bebbington and Larrinaga, 2014), generally considers a world of 'us' — humans — 'here'. Then with 'nature' — 'it', that is 'over there'. In my research that thing of nature being water, something to look at — but lifeless, abiotic, a resource, a commodity, an 'object' to study from the detached position as an 'objective' researcher[59]. It is an ontology, and a way of seeing, in which we separate ourselves from the rest of nature, and water. As my literature review has explored, and particularly as highlighted in the paper by Russell, Milne and Dey (2017), this is an issue which has also beset accounting. We can learn from accounting scholarship that despite years of trying to develop and devise ways to include environmental issues in theory and praxis, we still tend to treat the ecological in a detached manner. This ontological position is one where the environment (and everything that is included in that broad term) sits apart from society, as something to be measured and managed.

But does this binary distinction work in terms of how we relate to water, and what are the implications of thinking like this? Do we miss things out, or misrepresent those relations, through this ontological separation in the ways we consider and study water?[60] However, is not the only way to think of our relationship, as humans, to the rest of nature (and water), and it is some of those other possibilities that I want to explore and open up now.

Between intersubjectivity and interobjectivity

During my doctorate journey (autumn 2019) I helped co-ordinate a two-day workshop at my university led by organizational studies scholar Professor Ann Cunliffe. They have sought to critically explore the subject-object division in social science research, often presented in a continuum as popularised by Morgan and Smircich (1980), arguing that such a linear representation does not allow for the complexity of research in contemporary organisational studies (see Cunliffe, 2011). Cunliffe's inclusion of a 'problematic' of intersubjectivism, differentiating from objectivity and subjectivity, in their research had

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[58] Or, as Tsing (2015) calls, 'big science'.

[59] In the context of place Tuan (1977, p. 12) defines that: *"Place is a special kind of object. It is a concentration of value, though not a valued thing that can be handled or carried about easily; it is an object in which one can dwell."*.

[60] This could be described as something of an '*ontological illiteracy*' that prevents seeing water in other ways.

significantly advanced my thinking earlier in my doctorate as I sought to find a philosophical orientation that recognises my research approach's 'withinness' (see **Chapter 1**). Research that is concerned about relations to water, and a philosophy that recognises the world, and our experience as humans, are *within* a complex web of social-ecological relations.

During the workshop, and to my somewhat surprise (and disappointment, considering my ideas to apply such thinking), Professor Cunliffe introduced intersubjectivity specifically in terms of actors in a 'social world'[61]. This struck me as an issue for my research, in which I was considering extending such intersubjective interrelations to non-human actors — i.e., water. Cunliffe, however, noted the potential for a problematic that was missing from their typology — one which consider ideas of 'interobjectivity'[62]. A philosophical approach which would align with that of intersubjectivity, but rather than limiting to relations between (social) subjects it would extend this to (natural) objects. Here I saw a space in which my research might fit.

This brings me to a body of literature, and some theorists, whose philosophical perspectives I was increasingly engaging with in the months leading up to the workshop, and whereby I had been moving significantly beyond the boundaries of my initial literature review. Describing these here is indicative of how I was coming to frame water in a social-ecological lens.

Deep ecology and other philosophical perspectives on social-ecological relations

A deep ecology 'ecosophy' (or ecological philosophy) is a philosophical position that seeks a relationship of ecological harmony through engagement with the natural environment around oneself, and an ontological perspective that recognises the inherent and intrinsic value in all forms of life (and also non-life, such as water) beyond its utilitarian worth to human needs (Næss, 2008)[63]. It proposes a mutual interrelationship between humans/society and other nature, and counters anthropocentric philosophies that place humans above or separate from the rest of nature.

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[61] Cunliffe's research builds on Morgan and Smirch's original typology, which was designed for the social sciences, so this focus on the social is understandable.

[62] Interobjectivity is a term also associated with Bruno Latour.

[63] Here I refer to the use of 'ecosophy' as a term developed by Norwegian philosopher and mountaineer Arne Naess, who is significantly associated with the emergence of deep ecology ideas. However, the notion of an 'ecosophy' was also used separately by Felix Guattari, another key influence in my writing whom I refer to later. This coming together of seemingly separate strands was a bit of a revelation when I came across it — though, for the purposes of this research, I have not investigated it more thoroughly. Rather I took heart that I was drawing together threads to connect my research.

Contemporary perspectives on *object-orientated ontology* (OOO) (see, for example, Latour, 2005; Bennett, 2010; Morton, 2021) is an ontological perspective that aligns with interobjectivity ideas. Object-orientated ontology rejects the privileging of human existence over other non-human entities (or other objects), and, as such, the anthropocentrism that is root of human separation from the rest of nature that I have discussed. Notably, OOO raises ideas of *posthumanism*, where humans and nature (and technology) become deeply intertwined, even indistinguishable, in their mutual interaction. Concerns are that humans might start to become blurred in this process of deconstruction between the human and other-than-human. (What are the implications for human rights and human agency when this happens?) This intersects with issues that have been considered in the corpus of interpretive and critical accounting literature discussed in **Chapter 2** (see Cooper (1992) and Gray (2013)). Referring to humans, and non-humans, as 'things' or 'objects' does not seem to honour human life in a way I wish to — so I should be careful and cautious here as I proceed[64].

Applying these ideas in the social sciences

Discussing ideas of deep ecology and their associated ecosophy further, Næss (2008, p. 284) asserts that the 'reality' of the physical world is one that we encounter through our *"spontaneous experiences"*, and consequently it is *"a reality of infinite richness"*. **It posits an ontological (and corresponding epistemological) position that experiences and knowledge of the world are individually experienced, but that sit *within* a physical reality; a reality that is 'infinite' in its possibilities.** It is a perspective that recognises we, as humans and society — as objects or subjects (or subject/objects as per the previous discussion) — are in relationship to places full of relative object/subjects. We have individual and collective agency in how we interpret and experience the world, but it is our surrounding physical environment in its complex richness that sets the *context* for those experiences. This, of course, echoes my reference in **Chapter 1** to critical geographer Tuan (1977), and who argues that we experience the world through a combination of thinking and feeling, rejecting the binary subjective/objective division between these ways of knowing. Indeed, Tuan (1977, p. 88) seems to go beyond Naess' ecologically grounded ontological position by stating that the *"small worlds of direct experience are fringed with much broader fields known indirectly through symbolic means"*.

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[64] More widely, these ontological perspectives can be compared to indigenous and non-Western philosophies that consider human life in a more complex and intertwined relationship with the rest of nature than conventional Western philosophies Abram, D. (1996) *The spell of the sensuous : perception and language in a more-than-human world.* New York: Pantheon Books.. **Rather than perceiving nature as being 'out there', and as something that we are distinct from — these perspectives recognise humans are in a deeply entangled relationship to, or *within,* the rest of nature.**

This brings me to the notion of *weak social constructivism* in a social sciences framing (see Burr (2003)). It similarly recognises a material/physical reality of our world, but whereby meanings of this reality are shaped, in a large part, by individual and collective subjective experiences informed by concepts, language and interactions in the world. From a research methodology point of view this aligns with the qualities of intersubjective (or interobjective) research that recognises complex, interwoven and responsive relations between a researcher and the research they do, and where *"meanings are multiple, shifting, and always embedded in a time, place and in relation to others"* (Cunliffe, 2011, p. 658).

In summary, I orientate towards an ontological position that conceives all human life as being entangled *within* nature and our physical ecology, from which it cannot be separated. Nonetheless, I also recognise that the experience of humans, and their engagement as part of wider nature, is significantly determined by, and created through, a multitude of dynamic social/cultural and ecological influences, including those formed at a personal and individual level. It is this intersection of a physical reality with socially constructed meanings and associations that form our experience of the world, and furthermore our experiences of place. This is articulated succinctly by Hahn's (2012, p. 29) statement that *"water is perceived and experienced individually, but this perception is strongly influenced by social, cultural and global norms"*.

Epistemologies — opening up ways of seeing and understanding water

Building from my ontological position, epistemologically I hold something of a *social-ecological (weak) constructivist* position — whereby reality is experienced and interpreted through a multitude of intersecting social and ecological factors. To explore this requires a consideration of the multiplicity of ways we know and engage with social ecologies in a place. In the context of a study of water this includes, for example, a consideration of the different ways water is used to fulfil human utility needs; its centrality to social and economic wellbeing and flourishing; its fundamental role in spiritual and cultural practices; its symbolic and aesthetic values; its function in sustaining the health and function of ecosystems and global biogeochemical cycles. From an epistemic point of view, a comprehensive and truly sustainable consideration of water requires these pluralistic understandings and representations of value to be taken 'into account'[65].

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[65] Whether water is unique in this sense is debateable. Many (all) other natural resources could also be deemed having these economic, ecological, and cultural/spiritual dimensions and associations.

The following exploration presents some of these different social-ecological framings of water — where it can be represented and articulated as a 'natural resource', in policy terms, as a cultural and symbolic entity, or in terms of its everyday uses and engagements. There are other ways in which water could be discussed and represented other that these groupings, but in the spirit of my research, these are only an opening-up of some different framings of water relations.

Water as a 'natural resource' vital for human life

> *"Fresh water, in sufficient quantity and quality, is essential for all aspects of life and sustainable development. The human rights to water and sanitation are widely recognized by member states. Water resources are embedded in all forms of development (e.g. food security, health promotion and poverty reduction), in sustaining economic growth in agriculture, industry and energy generation, and in maintaining healthy ecosystems."* (UN Water, 2018, p. 8)

Having access to clean drinking water is a basic necessity for all life — human and non-human. Organic lifeforms are significantly made up of water, which cycles through them to maintain vital functions. Humans, as individuals and as societies more widely, are entirely dependent on water availability — and the continual recycling of the finite quantity of freshwater is one of the underpinning bio-geochemical cycles to which ecosystems and all life depends. Water is furthermore necessary for the daily human and societal practices of cooking, cleaning, washing, sanitation, and agriculture — as well as being fundamental to many, if not all, forms of economic production and activity. Recognising this at a conceptual level — the placing of humans and society within a nexus of all life which is linked to, and dependent on, the rest of nature (and water as a key aspect of) reflects the underpinning theories of SES as discussed in **Chapter 2**.

It is the explicit aim of the United Nations' Sustainable Development Goal 6 (SDG6) to ensure the availability of freshwater[66] for all by 2030, and for that water to be sustainably managed (United Nations General Assembly, 2015). However, achieving this ambition will require consideration of a range of interrelated issues, as water availability is intertwined in a complex interrelationship with social-ecological

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[66] And also sanitation.

drivers, impacts and processes including climate change, land use change, population, urbanisation, pollution, poverty, hunger, health, conflict, and displacement. As highlighted in **Chapter 2**, water is central to nascent concepts and frameworks related to sustainability, including in the fields of SES and SEA.

Here is a representation of water's value as a material/physical substance.

A policy perspective on opening up water's values

In 2003 the United Nations Committee on Economic, Social and Cultural Rights reiterated the fundamental necessity of water to the livelihoods of people, highlighting that priority in the allocation of water resources should be for personal and domestic uses[67]. Additionally, it highlights the right of people to participate in cultural life, and water's centrality to many cultural practices. Significantly it states that the 'adequacy' of water should not be limited to its characteristics that can be quantified (such as physical volumes), and that it should be *"treated as a social and cultural good, and not primarily as an economic good."*. Herein we have a high-level assertion that water's social and cultural values should take priority over economic ways of valuing, recalling my earlier reference in **Chapter 2** to the 'Valuing Water' report from UN-Water in 2021.

In 2018 United Nations Division for Sustainable Development High-Level Panel on Water, UN DESA (2018), recognised that while technical solutions were central to dealing with global water challenges, longer term sustainability depends on integrating the multiplicity of technical, financial, social and environmental issues — and to do this simultaneously. It defines a number of principles that should be adhered to when valuing water to "*take into account the multiple and diverse values of water to different groups and interests"* (p. 17) including protecting all water sources, building trust amongst users, educating on the wider values of water, and investment in water's infrastructure and institutions.

Even perspectives from the World Bank, an organisation that tends towards framing ecological issues in economic terms, have given recognition to these wider values of water. In a blog for the group, reflecting on 2017's World Water Week, Jennifer J. Sara recognises the multi-faceted economic, ecological,

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[67] United Nations Economic and Social Council, (2003), *UN Committee on Economic, Social and Cultural Rights (CESCR), General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11. Available online at: [https://www.refworld.org/docid/4538838d11.html].

cultural, social and spiritual dimensions of water that are complexly interlinked and interdependent[68]. They, significantly call for more inclusive approaches in how we value water that respects culture, religion, and the environment.

These are all representations of water's value in terms of policy, and social/cultural, framings.

Water in cultural and symbolic terms

> *"Water is an integral part of spiritual life, but these questions are not separable from quotidian experiences of boil-water advisories."* (Neimanis, 2017, p. 172)

While the considering the availability of water as a natural resource is of course important — indeed *vital* — it does not take into account its wider complexities, qualities, and values. In short, it only seems to give us a partial picture or understanding of water. A fuller, or more plural, perspective on water necessitates an inclusion of its social, cultural, symbolic meanings and qualities that sit both alongside, and outwith, its utilitarian and functional frames of reference.

There are several deeper cultural and symbolic meanings and links to water, and the values attached to it, that recognise water's social, cosmological, aesthetic, sensory values. Water is used to symbolize and represent a multitude of places and events across cultures — and is deeply embedded in cultural, spiritual, and aesthetic expressions such as festivals, rituals, art and otherwise. In the consideration of symbolic meanings and representations I should keep in mind the words of Chevalier and Gheerbrant (1994) who warn that symbols often have ambivalent meanings — and that studying them is not about explicitly 'defining' these associations, but rather an opportunity to reflect on the different possibilities of knowing and representing the world (and water in my case).

On water's social and symbolic values
Water is central to, and embedded in, a multiplicity of cosmological creation myths across cultures (Illich, 1985), and its primordial qualities means it has a wider association with the 'beginning of things' in a cosmological sense (Chevalier and Gheerbrant, 1994). Associated with this, water is embedded and

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[68] Sara, J. (08/09/17) '*Standing for the value of water*'. Available online at: [https://blogs.worldbank.org/water/standing-value-water?cid=EXT_WBBlogSocialShare_D_EXT].

present in many religious rituals, practices, and places of worship — including in Christianity, Islam, Judaism, and Buddhism, as well as in many other traditional belief systems and cosmologies. Water is often used to physically, and symbolically, cleanse the body and spirit — and performs a role in defining communities through these practices (Strang, 2015; MacGregor, 2019).

Water is universally associated with three symbolic ideas. It a source of life; an instrument or vehicle of cleansing and purification; and is a centre, or locus, of regeneration (Chevalier and Gheerbrant, 1994; USDA, 2008). These are meanings that are carried by water, and which are evident in ancient traditions, through to contemporary society — while Ogungbile (1997) and Tounouga (2003) note that these three common symbolic characteristics of water are evident throughout African cultures[69]. While water has these common associations with 'life' — this is not only in a positive or 'generative' sense. Water is symbolically and materially non-binary in its meanings and impacts (Illich, 1985; Strang, 2015) and is associated with life and death; creation and destruction. Gibran (1997, p. xi), for example, links life and water together by poetically describing that *"life and death are one, even as the river and the sea are one"*. Strang (2015) explains that the symbolic duality of water allows it to carry meanings linked to the most fundamental aspects of human experiences, connected to ideas such as vitality, growth and life itself, with symbolic association of water related natural disasters like floods and droughts (one related to too much water, the other where there is too little). Here the dynamism and non-binary nature of water is not limited to water's symbolic or abstract associations, but also has very practical manifestations too — water as a destructive flood, or as life giving rains.

Water's often contradictory symbolism is expressed in a multiplicity of forms. While these can be explored analytically in sociological or psychological terms, they can be represented in other ways — including in the arts and humanities. The ambivalence and richness of water is considered in mythologies and cultural narratives (see, for example, Strang, 2015; Neimanis, 2017; Runcie, 2019; Powles, 2021); embedded in ideas and understandings of place (Gange, 2019; Campbell, 2021; Magnason and Smith, 2021) and in art (Chen, MacLeod and Neimanis, 2013).

Reflecting back to my literature review in **Chapter 2,** it is notable that leading established voices in SES water studies convey the duality of water, to both sustain life, but also harm it (Falkenmark, Wang-

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[69] Recognising the geographic context of the empirical site of this research.

Erlandsson and Rockström, 2019)[70]. In an expression, perhaps unusual given the source in SES studies, the authors employ another commonly associated metaphor for water that is linked to life — referring to water as the "***bloodstream of the biosphere***" (p. 2). Herein they entangle references to material qualities, as well as their symbolic meanings, to convey a social-ecological representation of water and its complexity.

Finally, and returning to the notion of 'value', it is important to recognise that from a cultural perspective the quantification or indeed financialisaton of water is problematic as a means of expressing value. Spiritual, cultural and community values of water are significantly intangible, and quantification and monetisation of these can lead to limiting, rather than enhancing, understanding of its place based and organic values (Russo and Smith, 2013).

This is a discussion of some examples of water's values in cultural and cosmological terms.

Water in a time and place — thinking about 'the everyday'

> *"Water is both exquisitely specific, yet also entirely mundane, and ubiquitous, and common."*
>
> (Neimanis, 2017, p. 67)

While it is understandable that social-ecological narratives and models are often presented in wide and lengthy spatial and temporal scales, it should be recognised that time and, by extension, life is also the result of a process of recurring daily (inter)actions and behaviours.

Leading proponent of *'the everyday'*, philosopher and sociologist Henri Lefebvre (2008) proposes that our human world is not one that is only defined by history, culture, politics and other ideological 'super-structures' affecting society, but through the 'mediating level' of what happens in everyday life. A lens on the everyday recognises that our experiences of the world emerge in a day-to-day timeframe, and in a ceaseless and emergent flow. Isolating and representing aspects of the everyday, and its experiences, can be problematic in terms of research methodologies that pause this flow and consider specific issues, such

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[70] Notably, the online summary overview accompanying the paper conveys the non-binary and dynamism of water as inferred in the article's title 'Friend *and* foe' (not 'or'), and introductory text stating that *"Water is not only a generator of ecosystem services like food and energy, it is also a **critical agent of change** and a **victim of change** through droughts and floods caused by global warming, a new study explains."* (Emphasis added). Available online at: [https://www.stockholmresilience.org/research/research-news/2019-01-14-a-friend-and-a-foe.html].

as water, removed from their everyday context. Highmore (2008) nonetheless suggests that this does not mean the everyday cannot be represented, but that certain forms of discourse and representation are more appropriate for attending to the everyday than others.

Indeed, returning to issues raised in my literature review, SES research (and SEA influenced by SES thinking) and praxis has perhaps neglected an everyday lens, considering its tendency to focus on issues from a large/global scale (consider, for example, the Planetary Boundaries framework). However, and aligning with indications of a 'sociological turn' in the discipline, Haider *et al*. (2019) recognises that a greater focus on daily practices and rituals in social-ecological studies could help in the creation of more holistic and locally relevant approaches to development. An everyday lens in a social-ecological study would recognise the role and importance of shifting social-ecological relationships and practices that occur on a day-to-day basis, and consider appropriate ways of understanding, interpreting, and representing these. In an everyday study of water this would include ways in which water is used for its material/physical purposes from day-to-day needs, but also how this intertwines with embedded social, cultural, and cosmological norms and practices[71].

The interdisciplinarity and place-centred perspectives in the work of Hahn, Cless and Soentgen (2012) discuss this in terms of water studies — arguing that by centring water relations and practices in a study can open up understanding of ways in which the everyday activities of people are bound up with utilitarian needs for clean water, but also in cultural and religious practices. Considering water in everyday framings also recognises that 'water is of a place' and allows for a lens to study its physical and material qualities, as well as its symbolic, abstract, semiotic, and cultural dimensions.

Here is another lens to understand water's value, considering ways water affects and intersects in everyday life and practices.

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[71] Furthermore, it should be considered that different cultural conceptions of time may be at the root of several sustainability problems and challenges, including those related to water. Linear conceptions of time, which are incrementally split into successive and progressive chunks, and that are typical of western views on temporality, may conflict with other more non-linear and cyclical notions of time in which actions and consequences are understood in much more intertwined and relational ways. From an SEA perspective (Lamberton, 2015) discusses ideas of cyclical time in Buddhism, and contrasts this with liner time in conventional accounting practices.

An onto-epistemological orientation that recognises water is about difference

The process of investigating and developing my ontological and epistemological orientation has been difficult for me to articulate at times. However, social ecological matters are often fundamentally wicked problems (recalling Bebbington and Larrinaga (2014)), with ontological differences between material/ecological and social/semiotic issues (recalling Lejano and Stokols's (2013)). I have come to realise that I should not see this uneasiness and challenge as unexpected, or as overly problematic — rather that it is necessary to come to an onto-epistemological orientation and approach to my research that is comfortable with this 'messiness'.

Nonetheless, when considering water in such a multiplicity of intersecting framings, how do we go about engaging with, and representing, those relations? Issues that are both associated with material and utility needs related to water, but that also recognise its cultural and symbolic values? Relations that take place in everyday contexts, are affected by historical influences, and will fundamentally determine individual and collective futures?

Conceptual framework stage 2 — dialogics in social-ecological terms

To help define my onto-epistemological orientation I return to my emerging conceptual framework that I initially started to develop at the end of **Chapter 2**. I can now reflect on my selection of dialogical features from Brown (2009) — see **Table 2.1** — and consider how I might adapt these features in a way that is more relevant to a social-ecological study of water. In **Table 3.1**, I take my selection of the eight features and propose a definition that aligns with my research approach, defined in the context of water (the highlighted column in the table). Herein I seek to extend an inclusion of, and foreground, ecological issues within the dialogic process in addition to social concerns. The following explains this for each previously defined grouping.

Research style

I propose that in terms of 'research style' that research is underpinned by a social-ecological interdisciplinarity that draws on approaches and knowledge from the natural and social sciences, and expertise/knowledge from interdisciplinary perspectives. The purpose of the research is to open up insight of water relations in a place.

Epistemology/ways of seeing

I propose an epistemological orientation whereby place is considered as an interrelationship of material/ecological influences and socially constructed knowledge — something of a weak constructivist position. Information sets should incorporate social, cultural, political, and economic contexts — but, crucially, also knowledge of ecological and spatial determinants of place. Technical experts include those with wider understanding of local social-ecological interactions, while humans are not only 'political economic', but 'political ecological', persons — foregrounding the relationships of individuals and communities to place and their local environment that intersects with social, cultural, economic, and political structures.

Analysis

The research maintains an analytical approach that seeks to generate insight and understandings of water relations in a place, rather than defining 'solutions', or specific outcomes. The level of analysis is open-ended and discursive, seeking to open up, rather than close down, possibilities of knowing ways water is related to.

Table 3.1: Adapting dialogics for application in a social-ecological context of water.

Theme		Aspects of Dialogic Accounting (Brown, 2009, p.329)	Dialogics applied in a social-ecological context of water relations
Research style	*Research approach*	*Inter-, multi-, trans — and post-disciplinary; polyvocal experts, lay input*	A social-ecological interdisciplinarity, consider alternative voices from nature-cultural perspectives and expertise.
	Purpose	*Environment of reflection, discussion, debate and dialogue, participatory democracy*	The need for a reflexive approach to research that allows for the generation of insight into water relations in a place.
Epistemology and ways of seeing	*Epistemological basis*	*Social constructionist – knowledge is viewed as situated and value-laden – open to critical readings*	Water relations as place-based, with knowledge determined by intersecting social and ecological influences. A weak constructivist position. A recognition of critical perspectives and influences of power in water relations.
	Information sets	*Flexible—depend on social, political, economic and cultural contexts*	Information is encountered in an emergent process, and which significantly considers context. Includes understanding of place and ecology of water in addition to social and cultural contexts.

		Facilitate wide-ranging dialogue among stakeholders – recognizes plurality of expert knowledges – open about uncertainty and ambiguity – idea of "one right answer" treated with skepticism and as incompatible with democracy	Inclusion of perspectives from different individuals, including on cultural insights on water. Critically reflective of the primacy that has been given to more positivist scientific consideration of water.
	Technical experts		
	Human beings	*Political economic person—focus on individuals and collectivities as actors with many roles and relations and guided by ideological orientation*	Recognition of 'political ecological persons' recognising that people are in relationship to, and within, place and ecology in terms of water. Furthermore, noting political, social, and cultural influences as part of this.
Analysis	*Analytical approach*	*Ideologically open (e.g. positional analysis) – no single "best solution" – responsive to perspectives/evaluative criteria of stakeholders*	Less focused on solutions as to how to deal with water relations but seeking to generate understandings and perspectives around water relations in societies and place.
	Level of analysis	*Disaggregated, multi-dimensional and open-ended*	Analysis integrated within discussion of observed water relations, and very open ended and multidimensional.

This represents stage 2 of my emerging conceptual framework, which progresses from my initial consideration of dialogics in stage 1 (see **Figure 3.4**).

Stage 1
- Introduce Brown (2009), and the selection of 8 features describing a dialogical approach
- Reflect on appropriateness of features for a social-ecological study

Stage 2
- **Extend and define selected dialogical features from Brown (2009) in the context of a social-ecological study of water**
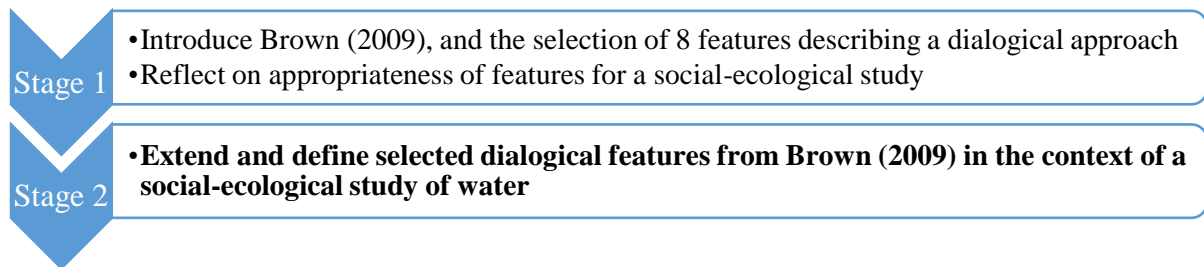
Figure 3.4: Summary of stage 2 in conceptual framework.

Going further and deeper with theoretical insights — linking dialogics to assemblage

"Theory is, at its simplest, a conception of the relationship between things."

(Gray, Owen and Adams, 2010, p. 6)

How do I go about aligning these philosophical ideas with the undertaking of my empirical study of water in a place? How can I build on some of the literature and theoretical perspectives from SEA/SES, such as dialogics, that I have considered thus far to give attention to the multiplicity of water's values in a place?

While dialogics gives me some theoretical underpinning to my investigations with a basis in SEA, I feel I require a theoretical frame that can help me construct, organise, and carry my argument, and this thesis, further — especially as I seek to draw knowledge of, and approaches to, water studies from other disciplines. As Gray, Owen and Adams (2010) explain above, theory sets the framework in which we conceive the relationship between things — and as discussed, my research is very much concerned with relationships. Water relationships as part of social-ecological entanglements.

In the next section I return to a consideration of theory, whereby I explore and develop the concept of *assemblage,* which becomes an overarching theoretical influence for my research (see **Figure 3.5** for this stage in the context of the 'tree of life').
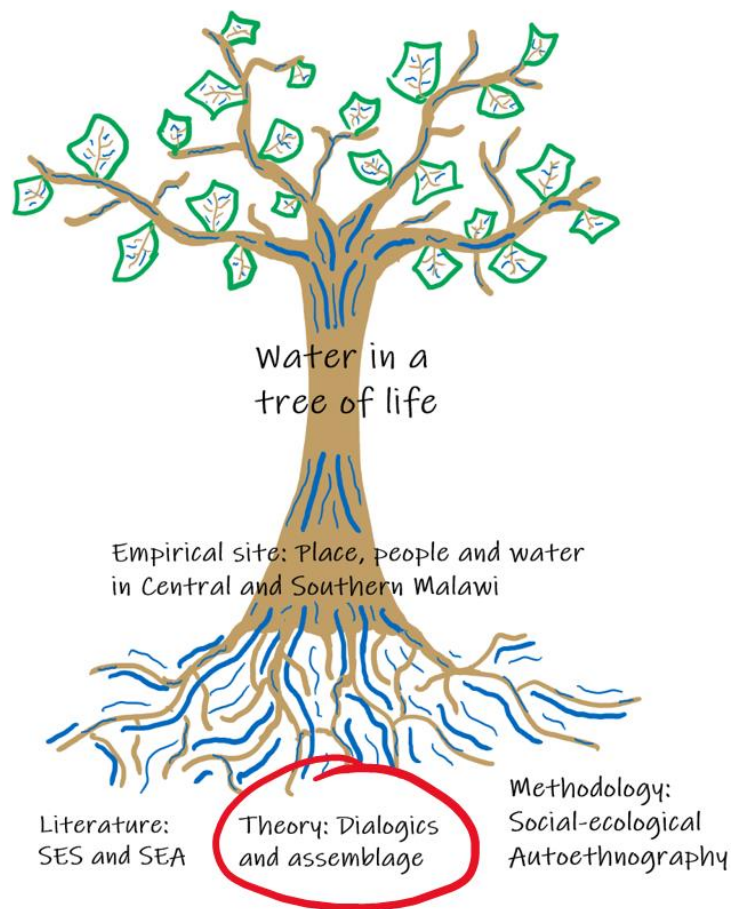
Figure 3.5: Developing theoretical insights of assemblage in the 'tree of life'.

Developing ideas of assemblage — considering water relations in a time and place

Revisiting the idea that my research has been a journey, as I became more immersed in my research I was increasingly finding myself being drawn to anthropological perspectives and literature with a concern for human-ecological relations (such as (Ingold, 2007; 2011)) and then also, significantly, in the context of water (specifically the work of Strang (2004)[72]). Reading these texts, I also began to increasingly encounter snippets and references to the work of philosophers Giles Deleuze and Felix Guattari (Deleuze and Guattari, 1988; Guattari, 2014; 2015), and particularly the use of the term *'assemblage'* — both as a thematic idea, as well as a specific theory[73]. Additionally I had noted that Sullivan (2010), whom I have

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[72] I explore the significant influence of Strang's work on my research later in this chapter.

[73] Assemblage, as a general term, describes 'a collection of associated things' but it is also a specific theory initially developed by Deleuze and Guattari in their text 'A Thousand Plateaus: Capitalism and Schizophrenia' (Deleuze and Guattari, 1988).

previously referred to, draws on concepts of assemblage in their critique of the ecosystem services model — and, in doing so, draws a useful link between the SEA/SES literature considered in this thesis, and the theoretical concept of assemblage[74].

What is more, I was already somewhat familiar with, and being drawn to the interdisciplinary potential of, the use of the term assemblage in wider contexts, particularly its use in the arts in the form of *'assemblage art'*. All of this appealed, and it seemed assemblage could be something that would fit with my research approach — allowing me to bring together the pieces and layers of my interdisciplinary inquiry in the pluralistic manner I was seeking.

Digging at the roots of assemblage thinking — a social-spatial theoretical lens

In the ecological anthropology text, '*The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins,* (Tsing, 2017, p. 23) refers to assemblage as a term to conceptualise *"open-ended gatherings"* that allows for exploring the intersection of human and non-human lives and their relationship to place over time. They describe that *"assemblages drag political economy inside of them, and not just for humans"*, and that thinking in terms of assemblage allows for *"sites for watching how political economy works"*. This describes the overarching thematic motifs of the term assemblage — synonymous with terms such as 'gathering', 'collection' or 'meeting'.

Discussing its theoretical application, De Landa (2016), a notable proponent and writer on assemblage theory, opens up the possibilities for assemblages as a way to frame and study the complexity of the relationships between humans/non-humans, organic/inorganic, technical and natural elements in a given system. They identify assemblage's attention to qualities of emergence, multiplicity and indeterminacy — echoed by Müller and Schurr (2016) in their comparing and contrasting of assemblage theory to the motifs of Actor Network Theory (ANT)[75]. De Landa explains the roots of assemblage — and, in particular, the translation of the term from its origins in the French language. They identify that the original concept of *'agencement'*, from which assemblage translates, has a wider meaning than the general understanding of

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[74] Herein Sullivan (2010, p. 125) refers to assemblage by stating that "*the animist logics, flows, **assemblages** and subjective and trans-personal intensities affirmed in Deleuze and Guattari's writings, as well as in my brief ethnographic gesture here coalesce with a strong series of authors and concepts in environmental anthropology and philosophy to mobilise a cogent 'counter-logic': a radically other conceptual series of expressions regarding nature/culture relationships to those assumed in the capitalist ecologies of 'carbon earth' and 'ecosystem service commodities' described above.*" [Emphasis added].

[75] ANT has been applied as a theoretical framework in SEA and management accounting scholarship (e.g., in the context of dialogics by Vinnari and Dillard (2016)). While Anderson and Macfarlane (2011, p.125) note that *"The most obvious reference points for assemblage as a concept include an 'after' actor-network theory literature"*.

the term in English. De Landa (2016, p. 1) informs that assemblage is **both an action** of *"matching or fitting together a set of components"* (known in French as 'agencer'), **in addition** to the *"parts that mesh together well"* ('ensemble' in French) that are **the outcome** of doing so. De Landa's recognition of the underpinning processual aspects of assemblage is of particular significance for my application of the concept. It aligns with the two-fold purpose of my research — that is *both* concerned with the presentation of my findings (the ensemble, or product), but also in the communication of how I undertake my methodological approach (the agencer, or process). It is an act (or an enacting) of the process of bringing together of parts, as well as the result of that construction — as per the French roots of assemblage as 'agencement'. It is about the process of 'giving of an account' (of water relations in Malawi), as well as the 'account' itself.

A definition of assemblage — looking to geography

In their overview of assemblage Anderson and McFarlane (2011)[76], refer to the concept's application as a social-spatial theory used in research of the built environment, and in regional planning. Their perspective, with its roots in geography[77], argues that the *"proliferation of the term assemblage is, then, only understandable in the context of what can be broadly termed a constructionist account of social-spatial relations"* (p. 125), and notably aligns with my onto-epistemological orientation that considers social-ecological relations in the context of (weak) social constructivism. Their paper offers a useful insight to understand the concept's use across several subject areas (including its application in diverse disciplines such as archaeology, ecology, and art history). Assemblage's social-spatial and interdisciplinary application makes it a particularly apposite perspective for my research.

The authors identify three different ways in which assemblage is applied in research. They describe that, at its simplest, assemblage is used as a 'descriptor' term to convey *"some form of provisional unity across differences"* (p. 125), fulfilling the aforementioned quality of a 'gathering of things'. The authors point out the potential nebulousness of this usage, recognising that almost anything could be called 'an assemblage'. Secondly, they note assemblage's use as a 'concept', and in reference to an application of, or 'encounter with', Deleuze and Guattari's assemblage theory. Finally, and most notably for my research, they describe a third form of assemblage — as a 'means of engagement' — which cuts across these two

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[76] Notable terms from Anderson and MacFarlane (2011) include: network, milieu, apparatus; Emergence, multiplicity, indeterminacy; Diffuse, tangled, contingent (practices); Spatiality and temporality; Groups, collectives, distributed agencies; Homogenous elements, non-homogeneous grouping. These all align with my methodological orientation.
[77] The paper's title being, quite simply, *'Assemblage and geography'*.

other applications of the term. They describe that this form of assemblage ***"suggests a certain ethos of engagement with the world, one that experiments with methodological and presentational practices in order to attend to a lively world of differences"*** (p. 126).

The idea of an *"ethos of engagement"* closely aligns with the intersubjective and interobjective qualities of relationality that I have described in my methodological orientation. The quality of attending to a *"lively world of differences"* recalls my drawing on Næss' (2008) ecosophy of an *"reality of infinite richness"*. An approach that engages with alternative methodological and presentational approaches echoes Haider *et al.* (2017), as well as the onto-epistemological opening-up of water relations this research seeks to undertake. Discussing this application of assemblage, Anderson and McFarlane describe that *"rather than the testing of a pre-existing hypothesis, work that deploys assemblage experiments in the sense that it opens the researcher up to risk, embraces uncertainty, expresses something of the fragility of composition…"* (p. 126). These qualities align well with the features of a dialogic approach as described by Brown (2009), and which I have applied in my emerging conceptual framework. Specifically, I note their use of the word 'composition', a term with underlying association with the arts, and the artistic process.

It is this third conception of assemblage, as a 'means of engagement', that sits most closely to my intended use of the term, and that which I will take forward from this point.

Assembling different roots — linking assemblage to SEA literature

Before I proceed in applying assemblage as a theoretical lens that aligns with my methodological orientation, I first, in a reflexive step in my research, briefly consider the use of assemblage in SEA scholarship (see the 'tree of life' in **Figure 3.6**).
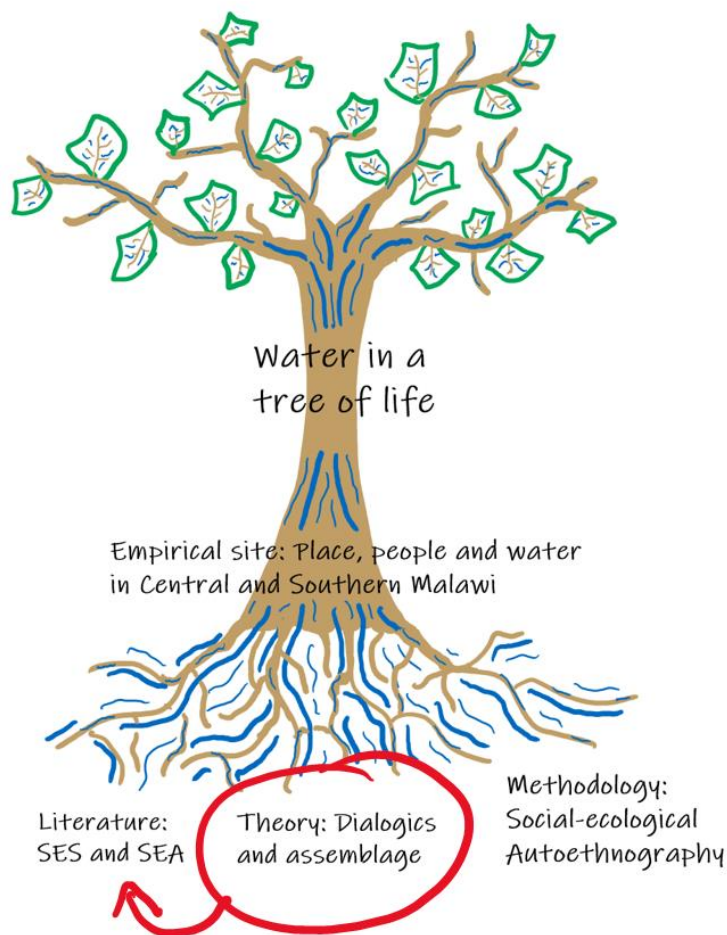
Figure 3.6: Linking assemblage ideas back to core literature in the 'tree of life'.

To identify the use of assemblage in social-ecological accounting scholarship, I returned to the key peer-reviewed journals that I considered in my initial literature review (see **Chapter 2**). I undertook a key word search using the term assemblage (detailed in **Appendix B**). This highlighted limited use of the term since the early 1990s, but with some increasing application since. As a means of further analysis, I considered these results in terms of the three broad categories of assemblage as a 'descriptor', 'concept', or 'means of engagement', as defined by Anderson and MacFarlane (2011). Herein, the term has mostly been used in its descriptor form, inferring a 'collection of things' (see Miller, Hopper and Laughlin, 1991; Miller, 1998a), who refer to evolving accounting research in terms of assemblages (i.e., methods, issues, approaches in accounting). Martinez and Cooper (2019, p. 3) note assemblage as having been used in accounting research to "*highlight a loose arrangement of diverse elements",* identifying various associated

terms that have been used in accounting scholarship (including 'constellation', 'network' and 'arena'). The authors refer to Neu, Everett and Rahaman (2009, p. 3) who *"simply accept than an assemblage "is both a process and an outcome" whereby material and discursive components are arranged, act on each other, and give rise to an emergent whole (i.e. not just the sum of parts)…"*. This reflects earlier discussions on the importance of giving attention to process, as well as outcomes, in assemblage thinking — while the interaction of "*material and discursive components"* reflects the need to study the intersection of the material/physical and the social/semiotic aspects of social-ecological systems described by Lejano and Stokols (2013).

My review indicated few uses of assemblage in its concept form, (i.e. that refers to the work of Deleuze and Guattari (1988) — a search specifically on the terms 'assemblage theory' did not yield any results), though some references do include links to Deleuze and Guattari's work (see Neu, Everett and Rahaman, 2009; Martinez and Cooper, 2017; Martinez and Cooper, 2019). In addition to these results, this reflexive return to SEA literature brought to my attention ideas of assemblage contained within some of the literature that I had encountered in my initial review in **Chapter 2**. For example, Contrafatto, Thomson and Monk (2015) refer to their inclusion of children's drawing as 'accounts' as part of an *"assemblage of practices"* (2015, p. 117)*,* while Ezzamel (2005; 2009) refers to accounting as part of an assemblage of ancient Egyptian cultural practices. Though I do not identify any papers in my brief review of accounting literature that I would describe use assemblage as a 'means of engagement', these papers do open up assemblage in terms of a 'practice'.

Finally, in this brief consideration of assemblage's use in accounting literature, I reflect on the words of Roberts (1996, p. 55) who describes (conventional) accounting as often presenting a *"fragmented, atomized image of activity"*. It, notably, is a description echoed in the words of Russell, Milne and Dey (2017, p. 1436) — the point of departure that concluded my primary literature review — that refers to SEA reporting frameworks as "*inert, lifeless, fragmented"*. I am struck by the common reference to the term 'fragmented' in both of their critiques of accounting representations — and contrast this to concepts of assemblage that have a concern for gathering such fragments in a way that honours their complex, multiplicitous, dynamic and emerging interrelationship.

Other epistemic possibilities of social-ecological assemblages

In this section I move on from accounting's consideration of assemblage, to examine ways various other disciplines develop and apply assemblage thinking. What inspiration does their use of assemblage ideas offer for alternative epistemological framings of social-ecological relations, including in terms of water? In particular I consider perspectives from interdisciplinary fields concerned with social-ecological interactions and relations — cultural and ecological anthropology, political ecology[78], science and technology studies, and the arts and humanities.

Opening up the second part of my research question

This stage begins to open-up the second part of my central research question (*'What are different values of water in Malawi, and how can they be represented?'*) — i.e., the issue of *'how can they [values of water] be represented?'*. This necessitates I investigate sub-questions 2 and 3 — *'What are representations of water's different values?'* and *'How can I represent those representations of water?'* (See **Figure 3.7**). **Both sub-questions relate to ideas of 'representation' — a key aspect of the concept of assemblage. This stage marks a shift in my thesis, moving from its theoretical foundations towards its empirical enquiry.**

Central research question:

What are different values of water in Malawi, and how can they be represented?

- *Sub-question 1: What are different ways people know and engage with water?*
- *Sub-question 2: What are representations of water's different values?*
- *Sub-question 3: How can I represent those representations of water?*

Figure 3.7: Central research question and sub-questions — a focus on sub-questions 2 and 3.

In the following sections I discuss ways in which perspectives from political ecology and cultural and ecological anthropology have approached and applied ideas of assemblage in terms of water relations — a means of opening up sub-question 2. I then explore some influences from the arts, as I make an 'interdisciplinary jump' to discuss the use of the concept of assemblage as applied in *assemblage art* — which helps to open up sub-question 3. I draw on these influences to finalise my emerging conceptual

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[78] The cross-over of SEA and political ecology is explored in the publication by Quinche-Martín and Cabrera-Narváez (2020).

framework that I have been building to this point. Throughout this process I keep in mind ways in which I can enact some of the key recommendations I identified from Russell, Milne and Dey (2017) — approaches to SEA research that involve developing art-science collaborations, as well as 'getting outside' — as ways to encounter and represent social-ecological relations.

Political ecology: Social-ecological perspectives on water and the 'hydrosocial cycle'

Political ecology perspectives that recognise water in socio-ecological framings consider water as deeply imbued in the socio-political context of the places that people encounter it. As Budds, Linton and McDonnell (2014) argue, it is these factors that give water meaning; dictate its discursive framings; as well as fundamentally affecting its material and physical flows. They cite shifts in water studies that recognise the significant social and political dimensions of water management, in addition to technical and hydraulic engineering factors. They elaborate on water management practices that have become more inclusive of policy effects, the perspectives of multiple users, and the complexities of social-ecological interactions that occur at different scales.

The hydrosocial cycle

The concept of the *'hydrosocial cycle'* (see **Figure 3.8**) — theoretically and historically explored in detail in a special issue of Geoforum journal (Vol.: 47, 2014), — is described by Linton and Budds (2014) as a theoretical and analytical tool for investigating hydrosocial relations in political ecology framings. It is a conceptual tool that modifies the traditional natural science framing of water as a *hydrological* cycle — one that restricts conceptions of water to a material substance flowing through the physical environment, with little human interaction. This is despite, as Roberts and Phillips (2019) observe, the increasingly disruptive role humans play in water flows and systems. Instead, as articulated by Linton and Budds (2014, p. 176), the hydrosocial cycle *"embodies the processes by which water becomes and reveals itself as a socio-nature"* in an iterative social-natural process that emerges in spaces over time.
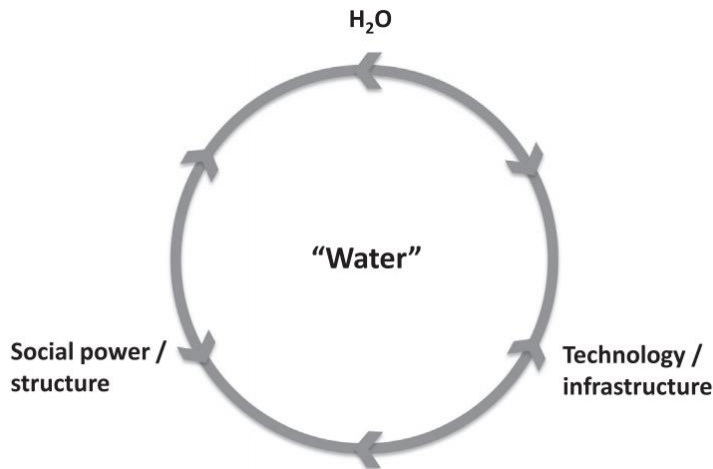
Figure 3.8: The hydrosocial cycle (Linton and Budds, 2014, p. 176).

Linton and Budds go onto describe the model as representing a relational interaction between the physical/chemical substance — i.e., H_2O — and other factors of social power/structure and technology/infrastructure. It is from this interaction that 'water' (at the centre of the diagram[79]) emerges, and as such, does a "*particular type, discourse, construction, idea, or representation of H_2O*" (p. 176). As an analytical tool it offers a powerful means to include ideas and theories around water's social dimensions in natural science conceptions of water. The visual aesthetic, a diagrammatic form representing various 'components' of a social-ecological system, allows for a way of incorporating social, cultural, and symbolic associations with water in the context and style of a model that is familiar and readily understood in physical geography and hydrological studies.

The hydrosocial cycle as an assemblage

It is notable that a number of articles in the aforementioned 2014 special issue of Geoforum journal refer to the term 'assemblage' when discussing the hydrosocial cycle concept. Linton and Budds (2014) make numerous references to the concept, noting that dynamic social-ecological *assemblages* bring about particular water that is in relation to fluctuating socio-political contexts. It is from these *assemblages* that the multi-dimensional qualities of water emerge, including that can be understood in wider cultural and symbolic terms. Indeed, the authors describe the hydrosocial cycle in terms of an *assemblage* that occurs in a time and place. The discourse, construction, or representation of 'water' (in the middle of the circle) is

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[79] The placement of water at the centre of a hydrosocial cycle interesting compares to discussions in **Chapter 2** about making water the 'entity of concern'.

what exists at any given moment of the hydrosocial cycle. Of particular note in the special issue is the paper by Boelens (2014) — extending consideration of social issues as part of the hydrosocial cycle to incorporate cultural, and specifically cosmological, relations to water held by indigenous communities in the South American Andes mountains.

I find myself aligning with such political ecology perspectives, whereby water is considered in terms of its bio-chemical/physical properties — represented in the material dimensions of its everyday management and use — but also ways in which it is entangled within social relations. Furthermore, conceptions of water in these plural framings clearly align with a social-ecological dialogic approach as per my emerging conceptual framework, particularly in terms of its epistemological basis in a social-ecological/weak constructivism approach[80].

An anthropological lens — Water in a cultural landscape

As I have referred to at points thus far, the various research outputs of cultural anthropologist Veronica Strang, and in particular their text of an ecological anthropology study of water relations, *'The Meaning of Water'* (2004)[81], has been particularly influential on me, and this research. Strang adopts anthropological research methods that include detailed observation and 'mapping' of the interrelationship of social, spatial, and environmental relations within a historical context, while furthermore draws on theology and psychology to consider wider symbolic meanings associated with water imagery.

Throughout their text, Strang recognises and elucidates the role of social, political, and economic factors as fundamental determinant on water relations, including describing the potential for conflict (or 'hydro-squabbles') that occur when humans compete to control the flow of water, citing historical and contemporary examples. Paying significant attention to technology and artefacts related to water in places, they assert that much can be interpreted about how societies and communities think and feel about water by considering how they control and move it, while also considering ways in which water is symbolically present in religious practices, ceremony, and sacred objects[82].

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[80] Roberts and Phillips (2019) refer to a study of the use of the hydrological cycle amongst school children in Botswana for its privileging of Western epistemologies of water, part of wider system of colonialisation and globalisation, and a way in which indigenous and local environmental knowledge is marginalised.

[81] It is worth considering that Strang (as well as other anthropological texts and publications I have encountered) often refer to *'accounts'* to describe the perspectives given by subjects in their studies.

[82] A specific example is holy water, as central to Christian and Islamic religious rituals, especially at moments of 'transition' (such as birth and death). This is also reflected in the material culture of places of worship — Christian churches have holy water fonts for self-blessing and baptismal ceremonies, while Islamic mosques having facilities and spaces for ritual washing prior to prayer.

Strang describes that shared understandings of the world emerge from individual sensory experiences that are shaped by social and physical contexts, and are developed and maintained by cultural forms, including art, mythology and rituals. Attending to symbolic, cultural and cosmological representations is furthermore explained by MacGregor (2019) as giving valuable insight and explanation as to how communities and people understand their role in association with nature, and the wider cosmos.[83]

Water in a cultural landscape as an assemblage

Strang's methodological approach to studying water is one that notably aligns with the interdisciplinary focus of my research in the context of a social-ecological study of water[84]. **My onto-epistemological orientation strongly aligns with their assertion that** *"interactions with water take place within[85] a cultural landscape which is the product of specific social, spatial, economic and political arrangements, cosmological and religious beliefs, knowledges and material culture, as well as ecological constraints and opportunities."* **(p. 5).**

This framing of water powerfully aligns with the concept of assemblage as I have described, whereby water in a place is the outcome of a multiplicity of different intersecting influences, and which necessitates an ethos of engagement that attends to how these are variously represented. Notably Strang refers to 'arrangements' of these different representations of water, which conceptually aligns with the processual elements of 'gathering together' implicit in assemblage. Furthermore, and opening powerful assimilations with the hydrosocial cycle concept, they specifically refer to epistemic practices that support a place-based investigation that considers water relations through objects and material culture. Strang, specifically, argues that *"much can be gleaned about how people think and feel about water by considering the artefacts and technology through which it is contained, controlled, moved around, treated, made decorative or made sacred."* (p. 6).

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[83] Strang and MacGregor are linked though their input to the 2017 *'Living with gods: peoples, places and worlds beyond' exhibition* at London's British Museum (which I visited early in my doctorate research).

[84] Neimanis (2017, p. 23) cites some of Strang's contributions as an example of *"one way to be attentive to the complexity and specificity of water(s) is through close 'naturalcultural' and multispecies ethnographies, or other kinds of interdisciplinary 'case studies'".*

[85] Strang, notably, uses the idea of engagement 'within' a cultural landscape. This, of course, returns to earlier discussions around this term, and the use in my thesis title.

The arts and humanities: Framing and practices of assemblage

> *"Assemblage is a method with disconcertingly centrifugal potentialities. It is metaphysical and poetic as well as physical and realistic... materials and meanings merge. Identities drawn from diverse contexts and levels of value are confronted not only physically, within the limits of the work they form, but metaphysically and associationally, within (and modified by) the unique sensibility of the spectator."* (Seitz, 1961, pp. 84-85)

The framing — the way we present and discuss issues — fundamentally affects how we understand, interact with, manage, and treat them (Lakoff, 2010; Raworth, 2017b). So, how do we 'frame' water? What are the different constructions we assemble to represent it? What meanings and values do they convey?

A conceptual leap to assemblage art

The political ecology and anthropological perspectives I have referred to recognise some of the cultural and symbolic ways societies represent their relationships to water. This includes a multitude of aesthetic, narrative, and performance-based forms — pointing to the central role of the arts. Indeed, the metaphorical idea of a 'frame' (or a 'lens' or 'worldview') has clear links to the visual arts — drawings, paintings and photographs are all specific framings (which are often also physically 'framed'), chosen and defined by an artist. Artistic practices are known for their capacity to cross and mix representations between the symbolic and material, the human and more-than-human, the literal and metaphoric. Amplifying and drawing attention to issues, provoking and challenging ways of thinking and seeing, and finding ways of presenting ideas that go beyond, or outwith, the boundaries of language.

Reflecting again on Anderson and McFarlane (2011, p. 126) those authors note assemblage's alignment with arts-based methods such as *"montage, performative methods, thick description, stories"*. Such methods are commonplace in what is known as *assemblage art* — an established artistic form that includes practices such as found-object, collage[86], and montage. Seitz (1961, p. 38) describes that the style is characterised by the gathering of seemingly disparate objects and forms in a *"fitting together of parts*

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[86] During my doctorate, and as one of numerous exhibitions I attend to daw on ideas associated to my research, I visited *'Cut and Paste: 400 years of Collage'* at the Scottish National Gallery of Modern Art in 2019. See online at: [https://www.nationalgalleries.org/exhibition/cut-and-paste-400-years-collage].

and pieces", whereby *"like a beachcomber, a collector, or a scavenger wandering among ruins, the assembler discovers order as well as materials by accident".* It is notable that this description uses the terms 'fitting together', which infers an action, and a verb — and recalls the processual elements of assemblage as described by De Landa (2016) in theoretical terms.

Assemblage, place, and counter perspectives in the arts

The ideas and practices of philosopher and filmmaker Guy Debord, whose revolutionist social theory were initially developed in their seminal text *'Society of the Spectacle'* (Debord, 1970), have had an influential role in 20th century art. While Debord's ideas were based on a rejection and opposition to Western capitalism, and the growing influence of media culture in the 1960s, they can be usefully applied to communicate issues around social-ecological connections, including in terms of water. Debordian concepts and practices of the 'derive' and 'psychogeography' — unplanned walking or wandering as a means to open up insight into place (see Coverley, 2010)[87] aligns with an approach to research that seeks to engage in the outdoors and social-ecologies in place. Furthermore, Debordian have similarities to assemblage art movements such as Surrealism, Dadaism, Futurism, and associated practices such as collage, found-object, detournement and others.

A reflection on accounting and the arts

In SEA scholarship Gallhofer and Haslam (1996) consider links between accounting and the arts, and specifically consider Dada art, juxtaposition in collage art, all of which are linked to assemblage art practices[88]. Gallhofer (2018), furthermore, specifically incorporates the assemblage art practice of *collage* to describe and convey the ecological complexity of a landscape, and McGuigan and Ghio (2019) examine the role of art, accounting and technology. There has been consideration of arts based practices from academics in the wider SEA field — Barter and Tregidga (2014) describe the adoption of storytelling in academic articles, a technique that Hines (1988) applies. Brown (2010) considers art based approaches as

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[87] In another strand typifying the emergent approach of this research, in which I encounter links between theory and practice, I took part in 'a derive with an erratic' — carrying a rock from one part of Glasgow to another location during 'Glasgow International' Arts Festival in 2019 (erratic is a term for a rock moved by a glacier to another location, making it 'out of place' from its surrounding geology. The word 'erratic' is from the Latin *errare* — to wander. In this sense, in may be fair to say my research journey (and articulation of it) has some 'erratic' qualities- it is wandering and exploratory.) The derive was led by Dr. Minty Donald, Professor in Contemporary Performance Practice at Glasgow University, who has undertaken extensive research, and published, on place and arts-based interactions with water.

[88] This includes a focus on the work of photomontage artist John Heartfield, some of whose work I got to see when I attended the aforementioned exhibition *'Cut and Paste: 400 years of Collage'* in 2019. On view was their famous photomontage of an image of Adolf Hitler, with an x-ray image depicting a pile of gold coins in their stomach leading to their throat, entitled '*Adolf Der Übermensch: Schluckt Gold und redet Blech'* ('Adolf the superman: swallows gold and spouts junk'). Produced as piece of political art and displayed in street corners and magazines in Belin in 1932, its intersection of politics, money, media and art struck me as a prime example of a counter account in an aesthetic form.

a part of the dialogic process, and children's drawings are used in the context of dialogical engagements by Contrafatto, Thomson and Monk (2015). Much of this scholarship aligns with the spirit of assemblage art in their approach, methods, and outputs.

Conceptual framework stage 3 — interdisciplinary social-ecological assemblages of water relations

In a final step in the development of my emerging conceptual framework, I collate the dimensions of the political ecology concept of a hydrosocial cycle, with the anthropological concerns of 'water in a cultural landscape' as discussed in this chapter. These form an assemblage of loosely related categories across different forms and representations, and set an interdisciplinary framework for analysing water's social-ecological multiplicity (see **Figure 3.9**).

Water is a process of becoming and revealing itself in a **hydrosocial cycle** through interactions of:	Water emerges from a cultural landscape that is the product of interactions and arrangements that are:
•H_2O, •Social power/structure, •Technology/Infrastructure	•Social, •Spatial, •Economic, •Political, •Cosmological/religious, •Material Culture, •Ecological constraints/opportunities

Figure 3.9: Aspects of water in a hydrosocial cycle, and water in a cultural landscape.

I furthermore undertake a third, and final, stage in my adoption of dialogics in a social-ecological context which builds on my consideration of assemblage in the arts. Reflecting on the features of dialogics that I have thus far framed in social-ecological terms I amend the third grouping — extending it from 'analysis' to 'analysis and representation' — and add a new category, 'forms of representation' (see **Table 3.2** — highlighted row). This feature seeks to incorporate more diverse ways and mediums in which dialogical accounting information is represented — formats such as narrative writing and storytelling, pictorial and photographic imagery, mapping, object and artefact collection, and sound recordings. These, collectively, generating representations of water relations in its multiple forms, pieced together, akin to the process and outputs involved in a work of assemblage art.

Table 3.2: Social-ecological dialogics with the addition of arts-based forms of representation.

	Theme	Dialogics applied in a social-ecological context of water relations
Research style	*Research approach*	A social-ecological interdisciplinarity, consider alternative voices from nature-cultural perspectives and expertise.
	Purpose	The need for a reflexive approach to research that allows for the generation of insight into water relations in a place.
Epistemology and ways of seeing	*Epistemological basis*	Water relations as place-based, with knowledge determined by intersecting social and ecological influences. A weak constructivist position. A recognition of critical perspectives and influences of power in water relations.
	Information sets	Information is encountered in an emergent process, and which significantly considers context. Includes understanding of place and ecology of water in addition to social and cultural contexts.
	Technical experts	Inclusion of perspectives from different individuals, including on cultural insights on water. Critically reflective of the primacy that has been given to more positivist scientific consideration of water.
	Human beings	Recognition of 'political ecological persons' recognising that people are in relationship to, and within, place and ecology in terms of water. Furthermore, noting political, social, and cultural influences as part of this.
Analysis and representation	*Analytical approach*	Less focused on solutions as to how to deal with water relations but seeking to generate understandings and perspectives around water relations in societies and place.
	Level of analysis	Analysis integrated within discussion of observed water relations, and very open ended and multidimensional.
	Forms of representation	A variety of forms of multi-media — images, mapping, narrative in a multi-dimensional storytelling format loosely assembled.

This third, and final, stage of my emerging conceptual framework progresses from the previous stages — a process summarised in **Figure 3.10**.

Stage 1	•Introduce Brown (2009), and the selection of 8 features describing a dialogical approach •Reflect on appropriateness of features for a social-ecological study
Stage 2	•Extend and define selected dialogical features in the context of a social-ecological study of water
Stage 3	•**Analytical categories of water in a hydrosocial cycle and a part of a cultural landscape.** •**Adding an extra dialogical feature relating to 'forms of representation', extending the mediums and forms in which infrormation is represented.**

Figure 3.10: Summary of stage 3 in the conceptual framework.

Summary of this chapter

This chapter has developed my onto-epistemological orientation as part of my research methodology. It has furthermore explored the theoretical concept of assemblage, looked to several disciplines for interdisciplinary application of its ideas in terms of water, and incorporated these influences into my conceptual framework.

Chapter 4: Research methods — attending to a social-ecological autoethnography

What does this chapter seek to explore?

This chapter describes the research methods I employ during a period of fieldwork in Malawi (see **Figure 4.1** as part of thesis flow chart). Having explored and defined the 'social-ecological' philosophy of my methodological orientation, I return to the visual metaphor of the 'tree of life' to describe the adoption of autoethnography as my means to enact my methodological approach (see **Figure 4.2**).

C1
- Chapter 1: An introduction — navigating a shapeshifting flow
- Thesis structure; situating of research; overview of literature, theory, and methodology; introducing central research question

C2
- Chapter 2: A basis in literature — social-ecological interdisciplinarity
- Social Environmenal Accounting (SEA) literature review; dialogics in SEA; *conceptual framework stage 1;* first part of research question

C3
- Chapter 3: Methodology and theoretical insights — water as plural
- An onto-epistemology of water; *conceptual framework stage 2;* theoretical insights from assemblage thinking; second part of research question; interdisciplinary influences; *conceptual framework stage 3*

C4
- **Chapter 4: Research methods — attending to a social-ecological autoethnography**
- **A social-ecological autoethnography; water walks as a research method; contextual information on Malawi and the empirical site**

C5
- Chapter 5: Results as an assemblage — curating some accounts of life with(in) water in Malawi
- Undertaking a travelogue; narrative and visual accounts of water walks in Malawi; reflective summary of water walks

C6
- Chapter 6: Discussive reflections — a process and representation of water relations in a place
- Analysis of water walks using conceptual framework; reflections on research process; opening up contributions from the research

C7
- Chapter 7: Conclusions — giving attention to other ways of SEAing water
- Overview of thesis; future areas of research; final thoughts

App
- Appendices

Figure 4.1: Chapter 4 as part of thesis flow chart.
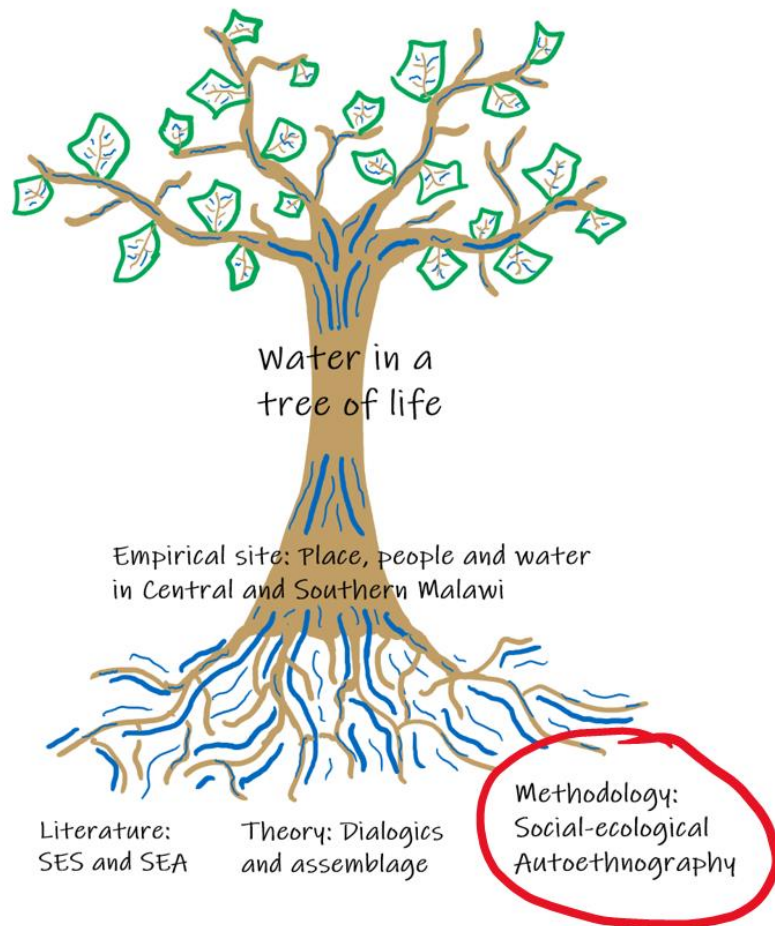
Figure 4.2: Introducing autoethnography as part of methodology in the 'tree of life'.

Enacting my methodological orientation — towards an autoethnography

"Water is also both body and milieu." (Neimanis, 2017, p. 68)

In the widest sense the methods I adopt are ethnographic — or, at least, ethnographically inspired. With its roots in social anthropology, ethnographic research is undertaken through direct and sustained contact with people in the context of their daily lives/culture. Incorporating a 'family of methods', it is generally pursued through a researcher undertaking a period of observational fieldwork, of which a rich description is developed through a written account (see Jary and Jary, 2000; O'Reilly, 2005).

However, over time, criticisms of ethnography as a research approach have emerged. Denzin and Lincoln (1998) refer to 'crises' associated with ethnography's use and application — a 'crisis of representation' (the ability for the process/research to provide 'truth claims'[89]) and a 'crisis of legitimisation' (the ability of the researcher to be part of the research). As Culhane (2017a) explains, conventional anthropological and ethnographic accounts, in response to positivist social theories emerging from the nineteenth century, sought to produce authoritative, monologic, objective accounts in the style of scientific reports. However, contemporary ethnographic practices, rather, seek to focus on relations between the researcher and participants — and that incorporate the wider context of a study — in a dialogical process where knowledge is co-created and shared. Culhane (p. 8) describes such research and practices as having hallmarks of *"dialogue, collaboration, ethical engagement, imagination and creativity"*.

With this in mind, I seek to specifically undertake what is known as an *autoethnography* — described by Ellis, Adams and Bochner (2011) as an ethnographic research approach that foregrounds the researcher's personal experiences and encounters with others, incorporating tenets of autobiography, in a wider ethnographic study. There are clearly congruent themes that bind dialogics, assemblage and autoethnography, all linked by iterative and emerging collation of multiplicitous sources of knowledge, experimenting in ways of representing, and, through such, a recounting of the process of doing so. I specifically note the claim of Ellis, Adams and Bochner (p. 273) that *"as a method, autoethnography is both process and product"*, and how this resonates with the underlying ideas of *agencement* as described by De Landa (2016) in terms of assemblage (see **Chapter 3**). Significantly the autoethnographic process involves the collecting of contextual information and knowledge about a study or place to reflexively inform, and be informed by, more conventional ethnographic approaches and techniques.

The autoethnographic process can be seen to align with the hallmarks of an intersubjective inquiry as per Cunliffe (2011) — incorporating qualities of reflexivity, collaboration, and where life experiences are interrogated and explored. As Reed-Danahay notes, the researcher is an active participant, rather than a neutral bystander or observer, in "*a genre that places the self of the researcher and/or narrator within a social context"*[90]. However, this quote recalls some of my concerns from my consideration of intersubjectivity and dialogics in **Chapter 3**, whereby autoethnography is generally framed as an

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[89] My objective is not to seek 'truth claims' of positivist research — but instead seek to develop insight into alternative ways of knowing/representing water relations.
[90] Reed-Danahay, (28/02/2017) *'Autoethnography'*. Available online at: [https://www.oxfordbibliographies.com/view/document/obo-9780199766567/obo-9780199766567-0162.xml]

exploration within *a social context*. With a social-ecological concern central to my research, I am concerned that ethnographic methods — including those used in autoethnography — remain anthropocentric in their focus. Are autoethnographic approaches suitable for a social-ecological study of water relations? If not, what can I do about this?

Developing a social-ecological autoethnography

I move on, in one more step, from what might be understood as a conventional autoethnography[91], and I consider my interpretation of autoethnography in wider social-ecological terms. Aligning with the interdisciplinary concerns of this research Culhane (2017a, p. 7) observes recent shifts whereby anthropologists and artists have begun to draw on each other's disciplines to open up interdisciplinary spaces and collaborations. They note that *"many contemporary anthropologists and artists are turning their attention to creative methodologies, to tackling ethnography and artistic practices in the **process**[92] of research, and to ethnographic knowledge co-creation."*. This includes practices such as sensory ethnography, which recognise intersubjectivity in terms of a *"space of thinking/feeling/doing/being created by people interacting with each other in and through social relationships"* (Culhane, 2017b, p. 56). These approaches open up possibilities for the consideration of human interactions in a wider ecological context, as well as, crucially, the possibilities for other means of representing such interactions.

Opening up the 'auto' of an autoethnography — recognising my position of privilege

Aside from being conscious of the potential anthropocentric orientation of ethnographic methods, it is also important for me, as the researcher undertaking this research, to recognise my own position and privileges, particularly given its geographic and cultural context. This is particularly important to reflect on given the autoethnographic method I adopt, which differs from more participatory methodologies, and whereby the voice of the narrator is foregrounded.

There are a number of issues related to race, gender, class, privilege, and financial position that will affect and shape my research, and capacity to carry it out. I am likely to, on account of these privileges, able to access places, knowledge and situations others are not able to. My race and gender is much less likely to exclude or discriminate me, and my financial support allows me to undertake my research, and access

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[91] Autoethnography is often consider a starting point for designing an ethnographic enquiry — and should incorporate other forms of ethnographic methods suitable for the specific context of the investigation.
[92] Bold added to replace italicisation in original text.

places, those without such resources could not. Arguably I embody some of the criticisms of social-ecological research that has been developed and carried out by individuals and groups from Western institutions (see **Chapter 2).** As I highlight in forthcoming sections of this chapter, this is notable given the colonial and imperialist history of Malawi linked to the United Kingdom and, in particular, Scotland. My lifestyle means I have been privileged with a level of social and financial security whereby I have not experienced material poverty, and always had access to basic needs (including water). Therefore, I cannot know or comprehend the experience of poverty that affects some of the people and communities in my research site. Furthermore, my position as a researcher has embedded privileges, and a worldview, which will affect what I am able do, and encounter, in my research — and ultimately what I represent through it. Indeed, this affects the very essence of my research question — a representation of water's values in Malawi — and the outcomes of the research I produce.

It is vital I seek to mitigate some of these inherent aspects of my position through a careful ethical approach to my research, so that it is considerate and attentive to these issues. This includes by designing and undertaking my research in a process of ongoing and reflexive consultation with Malawian researchers (a process I detail later in this chapter), and the use of local guides and aides to physically/spatially, as well as in terms of cultural awareness and knowledge of place, help steer my experiences when undertaking fieldwork, and whose perspectives and insight I constantly seek to include in the information and evidence I collect (as detailed in **Chapter 5**).

A note on seeking to give cultural representation without cultural relativism

Ethnographic studies can fall into the trap of 'cultural relativism'- a reductionism to symbolic or preconceived and reinforced cultural understandings (reminiscent of the warnings of the previously referenced Hahn, Cless and Soentgen (2012)), and an issue raised in interpretivist accounting literature (Gallhofer and Chew, 2000)[93]. Neimanis (2017) warns against the exoticism and overt 'othering' of alternative cultural representations, whereby they are *"not interested in an unknowability that shadows knowledge of a colonized other, or a dangerous feminine one either, but rather and unknowability that we can learn from by thinking with difference"* (p.144). These are aims and reflections which align with the application of the autoethnographic methodological process in this research, and I should seek to keep in mind throughout the undertaking of my autoethnography.

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[93] See p.258 *"Engaging with other cultures is always difficult especially if one is mindful of the dangers of ethnocentric analysis. At the same time there is, however, also the need to avoid the trap of another danger, namely an extreme relativism in the analyses of other contexts and cultures.".*

In the next section, I begin to develop some practices in which I can enact these possible methods for undertaking a social-ecological autoethnography. Specifically, this centres around perhaps the most fundamental, and basic, means of social-ecological interaction with place — the act of walking.

Walking — an interdisciplinary methodological practice for a social-ecological autoethnography

> *I only went out for a walk, and finally concluded to stay out till sundown, for going out,*
> *I found, was really going in."* (Muir, 1938)[94]

Walking, and engaging in the world through it, is central to literature that has influenced me from before, and throughout my research journey — particularly narrative non-fictional texts by the likes of Shepherd (2011) and Macfarlane (2008; 2012; 2015; 2019). Walking, as a practice, has been a significant part of my approach to learn about, and engage with, the world. Wandering in, and absorbing, many places I have visited — undertaking countless thousands of steps, mostly on my own — has been a central part of my own lived experience[95]. In many ways walking has shaped my understanding of the world, and I find myself in agreement with Solnit's (2014, p. 10) declaration that they *"like walking because it is slow, and I suspect that the mind, like the feet, works at about three miles an hour. If this is so, then modern life is moving faster than the speed of thought, or thoughtfulness"*.

Walking, and its role in my philosophical and theoretical influences

The source of this quote, Solnit's interdisciplinary historical account of walking, *'Wanderlust: A History of Walking',* highlights the etymological roots of some of the schools of (Western) philosophy, and their links to the practice. Aristotle's 'Peripatetic' school — peripatetic in English pertaining to extensive walking or travelling — refers to the school's colonnade/walkway that teachers and pupils wandered along during lectures. Similarly, the 'Stoics' are named after the stoa, a colonnade in Athens where they also walked, while the 'Sophists' were also renowned walkers and wanderers. Solnit furthermore describes Jean-Jacques Rousseau and Søren Kierkegaard as philosophers for whom walking was

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[94] Wood, H. 'Quotations from John Muir'. Available online at: [https://vault.sierraclub.org/john_muir_exhibit/writings/favorite_quotations.aspx].
[95] While (and like perhaps European literature's most famous wander, Cervantes's Don Quixote (and my favourite book), who relies on their rickety horse Rocinante to travel around on their hapless adventures) I have now come to move around most frequently on my bicycle. But walking and cycling are of the same principle — they are ways of enacting an embodied relationship to the world.

fundamental to their process of thinking, while also notes phenomenologist Edmund Husserl's view that walking is an experience through which our bodies understand the world. The act of walking as a means for engagement with place is central to the practices of several of the influences on this research — Guy Debord's application of the derive', or 'drift', (essentially observant unplanned walking) was central to their artistic practices of psychogeography, while Arne Naess' writings on deep ecology repeatedly refer to their experiences as a mountaineer and walking in the Norwegian landscapes (see **Chapter 3**).

Walking as a means for enacting methodological practices

> *"Perhaps it is because walking is itself a way of grounding one's thoughts in a personal and embodied experience of the world that it lends itself to this kind of writing."* (Solnit, 2014, p. 26)

Here Solnit observes that the physical act of walking allows for the mind to absorb and process information; a way of engaging in the world that, by its very act, allows the mind to give attention, absorb and interpret what is around. Considering walking in anthropological and ethnographic framings takes it beyond being 'simply a method' to, as Moretti (2017, p. 94) describes, as a *"research strategy, a practice of learning, and a way of being in place"*. Moretti furthermore notes that walking can be a way of engaging with other people — those whom you walk with, or those that you encounter on the way — and that the undertaking of an 'ethnographic walk' with a guide allows for an individual to visit landmarks or sites, undertake specific (or emergent) itineraries, and partake in *"modes of listening and seeing, as well as relating to each other and the spaces around you"* (p. 97). Herein such walks enact possibilities for dialogical engagements (see **Chapter 2**) in a social and ecological context.

Further to this Moretti recognises walking's capacity as an imaginative ethnographic practice, that allows for *"inhabiting, researching, and representing everyday realities"* (p. 93) that can *"open a performative space: a time and a place for inhabitants to take on, bend, and respond to the many histories, questions and meanings that might be associated with particular locales"* (p. 96). Personal accounts of walking can be reflexively intertwined and integrated with secondary evidence related to social, cultural, political, ecological, and economic knowledge of a place as part of the autoethnographic process. While walking can be recognised in terms of its capacity to stimulate intellectual or cognitive processes it, of course, is fundamentally a physical and corporal activity. Solnit (2014, p. 29) powerfully describes the act of walking as a means of *"engagement of the body and the mind with the world, of knowing the world*

through the body and the body through the world". This consideration of walking as a means *and* an end, a process *and* an outcome, of the body *and* mind, in a deeply entwined interrelationship to its ecological surroundings, echoes the principles of assemblage as both a process (*agencer*) and a product (*ensemble*) (see **Chapter 3**). By extension, seeing walking in this way, could be considered a rejection, or an act of resistance to, Cartesian dualistic separations of the cognitive and corporal, the mind and body — and useful to reflect on in terms of my onto-epistemological discussions in **Chapter 3**. Significantly, these descriptions of walking as a methodological practice — one that involves 'getting outside' — and the possibilities for creative practices and art-science collaborations, once again recall the specific recommendations of Russell, Milne and Dey (2017) that I seek to carry through this thesis.

Water walks — a research methodology to open up different values of water

"To listen to and tell a rush of stories is a method." (Tsing, 2017, p. 134)

Returning to my core research question — **'***What are different values of water in Malawi, and how can they be represented?'* the following section describes my application of walking as a central method of my autoethnography, and a means for me to seek, encounter and open-up some of the values of water that I aim to represent. Herein the fieldwork element of my autoethnography is centred around a series of *water walks* that I undertake in Malawi — which I present in a personal narrative account. By physically moving in a place, water walks facilitate and allow for the application of various other autoethnographic methods to observe, connect and offer some interpretation of the multiplicity of everyday water uses and relations I encounter during a period of fieldwork. Aligned with my social-ecological onto-epistemology (as developed in **Chapter 3**), they allow for the observation and inclusion of issues present in the wider social-spatial landscape.

Like described by Tsing (2017) above, these involve my listening to, and then recounting, a 'rush' of stories about my experiences and observations during my fieldwork. Through this, aligning with the principles of *assemblage* (both in terms of a methodological process, and the creation of an empirical outcome), I bring together a multiplicitous case study that utilises multiple means of collecting and representing those encounters and stories. From an accounting perspective, this multimethod and multimodal approach aligns with dialogics, and the opening up of values (applied in a social ecological context of water).

Applying walking methodologies as a means for researching water furthermore aligns with political ecology water studies that foregrounds water relations in a time and place — see Linton and Budds (2014) — including to identify the variability, multiplicity and dynamism of how communities interact with different types of water (see Elliott and Culhane, 2017). Notably the method of water walks has been applied in an urban context in Malawi by Rusca *et al.* (2017) to identify and explore multiple practices linked to household water use, and the relative advantages and disadvantages of different water sources.

Water walks as multifaceted assemblages of engagements with water

> *"As social beings and scientists we offer each other truncated images of people and their world. Experiences are slighted or ignored because the means to articulate them or point them out are lacking."* (Tuan, 1977, p. 201)

Each water walk can be described as a snapshot, or 'vignette', of my experiences of places during a moment of time. My fleeting, brief encounters cannot claim to be conclusive or complete, but rather seek to open up some insight and new knowledge of the various uses, meanings, values, and representations of water relations in the places I visit. The undertaking, and consequent recounting of these walks should be considered in terms of my adoption of assemblage as a theoretical lens for my research. And where I seek to practice and present those key aspects of assemblage as a 'means of engagement' — recalling Anderson and McFarlane (2011) — that are formed through an *"ethos of engagement with the world"* opening spaces and possibilities for *"experiments with methodological and presentational practices"* to *"attend to a lively world of differences"*.

These walks are recounted as autonomous experiences which can be understood as, and of, themselves — bound in the context of the physical location in which they take place. However, it is their collective interconnection, where they interlink and overlap in their representation of water relations at different temporal and spatial scales, that enhances the rich description and layers that this research seeks to convey. While they are assembled to some extent in a temporal progression of my visit — this 'curation' is an order that I have chosen. They are only some of the walks I undertook in Malawi — there are others which I have not included here, which I intend to use as material for other outputs outwith (or 'beyond') this thesis.

Techniques for investigation

My undertaking of water walks seeks to adopt the practices of mobile and sensory ethnography in my autoethnographic inquiry. The following is a brief description of these techniques.

Mobile ethnography

Much of my fieldwork research requires physically moving — both in terms of the water walks themselves, but also between the sites of each water walk. Herein I draw on some of the principles of mobile ethnography, described by Hamilton and Alexander (2017, p. 2105) as an exploration of spatial, temporal, and social mobilities associated with a physical journey in a *"relational ontology"* — one that considers *"both human mobility and the mobility of objects, images and information"*. Recognising the place-based and social-spatial focus of my writing, this form of dynamic ethnography allows me to foreground spatial relations in my investigations. Furthermore, undertaking and representing a mobile ethnography aligns with the creation of a travelogue — a piece of writing, a talk, film or otherwise that recounts a travel experience. It is a style of representation that I will utilise in the presentation of my fieldwork, including inspired by some Malawian literature I have encountered (e.g. Phoya (2008)[96]).

Sensory ethnography

Sensory ethnography is a progressive and interdisciplinary ethnographic approach which seeks to extend ethnographic research to a more multisensory and embodied engagement with the world. It is inherently reflexive and intersubjective — indeed, in a social-ecological context, interobjective in its approach — and aligns with a 'sensory turn' in ethnographic practices (see, in particular, Pink (2015)). Sensory ethnography's embodied approach aligns with creative practices of the arts, and has clear links to the phenomenological philosophies and practices of Merleau-Ponty (2012), while it furthermore aligns with contemporary anthropological ideas of embodiment (as described by Ingold (2007; 2011)). In terms of water studies, examples of sensory ethnography approaches are described by Strang (2005), and also from a performance arts perspective by Donald (2019)[97].

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[96] Phoya's '*Walks of Life: The Other Side of Malawi*', presents a series of brief anecdotal, and often humorous, accounts of life in Malawi, enhanced with illustrations. Stylistically, like Phoya, my water walks are written in the first person, are loosely assembled in a storytelling travelogue format, and that intertwine narrative accounts with visual representations.

[97] Donald's research intersects with a number of the methodological and theoretical sources in this writing — and could be considered an intersubjectivist arts-based inquiry into water. It has included wider pace-based engagements that have drawn on Debordian concepts of the derive'.

Recording and representation

As a means for 'recording and representing' my experiences I adopt techniques of narrative reflections, deep mapping, and a variety of visual and sound recordings. I utilise a number of approaches and forms of equipment for this purpose — two cameras, an audio recorder, a Global Positioning System (GPS) recorder, two notebooks, and pencils[98] — as visually captured in **Figure 4.3**.

Figure 4.3: Principal materials and equipment used for observing and recording my fieldwork.

Narrative reflections

In a reflexive approach to my fieldwork, the recording and representation of my water walks are developed in an iterative manner, whereby the physical undertaking of the walks, the recording of those experiences, and the representation of them as 'findings' (a word I use loosely) are significantly entangled in the assemblage I curate/create. My experiences include insights from defined site visits (to villages, heritage sites, water infrastructure, etc.) as well as considered observations from journeys between specific site locations (both reflecting on visits, roadside observations, and contextual conversations with others).

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[98] Note the opening words of (Raworth, 2017, p. v): *"The most powerful tool in economics is not money, nor even algebra. It is a pencil. Because with a pencil you can redraw the world.".*

As my principle means of recording, I use a small pocket-sized notebook to make rough notes and record conversations. I furthermore use a larger notebook to keep more considered notes, writings and to develop an extensive journal reflecting on my daily experiences — written in opportune moments during my fieldwork (such as in the evenings when at my lodgings, or in rest days between undertaking fieldwork). These form the foundation for a rich narrative account of my water walks, as well as the experiences that connect and link them.

Deep mapping

> *"Drawing maps is indubitable evidence of the power to conceptualize spatial relations."*
>
> (Tuan, 1977, p. 76)

I adopt 'deep mapping' techniques — an approach that extends conventional mapping from its focus on objective representations of physical features of a landscape to include narrative, history and subjective experiences (see Springett, 2015; Roberts, 2016). Ideas of deep mapping — exploring and representing the multiple social, cultural, ecological, and symbolic characteristics of a place — aligns, and enhances, the 'thick description' of a social-ecological autoethnographic case study. Such forms of mapping are implicitly linked to my application of assemblage, as they allow for the gathering of multiple sources of information and narratives, in different formats (textual, schematic, image, photographic, numeric, etc.), that can be collectively assembled, but also which can be interpreted separately.

Deep mapping concepts have also been framed in terms of 'counter mapping', used in anthropological and ethnographic approaches to convey indigenous perspectives and representations of relationships to place and landscapes[99]. This use of mapping as counter to conventional forms, clearly echoes, and parallels, ideas of alternative and counter accounts in SEA literature (see **Chapter 2**). Furthermore, the use of mapping as a form of expressive cartography to convey alternative ways of moving in, and representing, place aligns with other theoretical influences of this research such as Debordian psychogeography practices (**see Chapter 3**).

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[99] See the film on 'Counter Mapping' by Adam Loften & Emmanuel Vaughan-Lee, and essay by Chelsea Steinauer-Scudder, for Emergence Magazine, available online at [https://emergencemagazine.org/story/counter-mapping].

Inspired by deep mapping concepts, I supplement the textual narrative accounts that I record in my main fieldwork notepad with hand drawn mappings of my daily spatial movements, interspersed with sketches of specific notable experiences, observations, and things of interest[100]. Occasionally I also used a small Global Positioning Satellite (GPS) computer to record some water walks to locate and map my movements spatially.

Audio-visual recordings

The use of photography, and occasionally movie clips, is a key medium for recording my water walks, providing a means for visually representing my experiences. For this I use different audio-visual means to record information — two cameras (a high-quality compact systems camera, and a smartphone camera — used interchangeably depending on the situation) to take photographs (focusing on non-human subjects — aligning with my research ethics) and occasional video recordings (mostly of water features).

I use a hand-held digital audio recorder to record some self-reflective commentaries of my experiences, occasional interviews/ reflective discussions with others, and soundscapes of nature and places — with a specific focus on sounds of water[101].

Physical and bodily privileges embedded in walking methodologies

In addition to, and intertwined with, the privileges and assumptions previously highlighted pertaining to race, gender and financial position that affect (auto)ethnographic research, there are specific privileges and assumptions related to physical and bodily abilities associated with walking based methodologies. In the context of walking methodologies (Heddon and Turner, 2012) quote geographer Tim Creswell that *"ways of moving have quite specific characteristics depending on who is moving and the social and cultural space that is being moved through"*, and whereby the body (including related to gender) affects that. It is vital to recognise that my method of water walks in Malawi is significantly linked my physical capacity to physically move in which I undertake fieldwork, and that there are significant privileges associated with that. Certain places and times, and something particularly relevant in Malawi, may be more dangerous for women to walk, while those with physical disabilities may be excluded from taking part in such walks

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[100] Importantly, this notepad contains a mixture of lined, blank and squared pages. This allows for a 'canvas' for different form of representation. It even contains some small plastic pockets — in which I collect some small fragments of notes, documents, or any other interesting pieces I might consider documenting.

[101] These recordings form part of my wider 'observation' (to use this in a wider sensory/perceptual sense) of place — particularly in relation to water. I am not clear how some of these recording can be included in a written thesis. Rather, I feel they can be used as prompts to help me recall my experiences of place as I write up my fieldwork. However, I might seek to use them directly in future outputs beyond the thesis.

altogether. This is especially pertinent in the context of Malawi, where difficult terrain and low level of disability accessibility are commonplace. While the physical privileges are inherently part of my application of water walks, I should be conscious of these assumptions that are embedded in the representation of my fieldwork when using such methods and use the opportunity to reflect on ways they can be make more inclusive and accessible — or, at least, can be used to provide knowledge that can be used by others unable to undertake such walks.

A 'pre-departure' assemblage — gathering some specific knowledge of water in Malawi

"water is a situated knowledge" (Neimanis, 2017, p. 139)

While the evidence I collect in the fieldwork element of my research is the main empirical contribution, it has been informed by, and intertwined with, various other sources which have been collated throughout the extent of my doctoral research as part of my autoethnographic process. In a 'magpie like' approach to evidence collection, I have sought to constantly gather and record sources which may prove useful or interesting, allowing for an emergence of evidence as I undertake the research.

It is important for the reader to be aware of some of the wider geo-political and cultural context of the place of study, as well as its water. In this section I provide some knowledge of the empirical site — its people, place, and water (see as part of the 'tree of life' visual — **Figure 4.4)**. Presenting this background, or contextual, information serves several purposes. It conveys the extensive and informed process of my autoethnography, and the breadth of knowledge it seeks to give attention to; it serves as an introduction to the empirical site of my research, informing the reader about the social-ecological context of Malawi; and seeks to be a bridge between the desk research I have undertaken, and the in-depth account of my personal experiences during my fieldwork that I present in the next chapter.
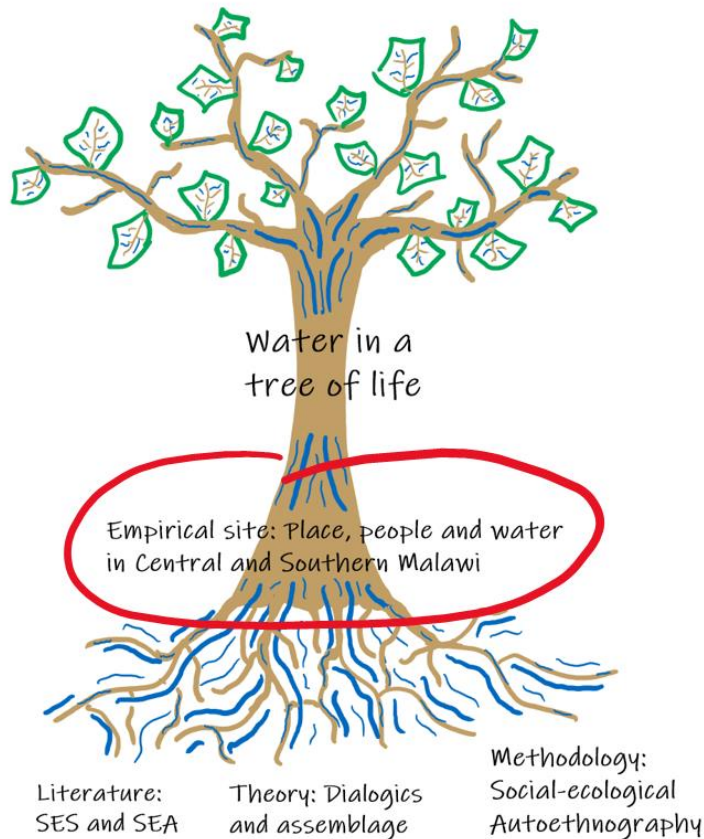
Figure 4.4: Developing some context of the empirical site as part of the 'tree of life'.

Malawi — A geo-political and social overview

My investigation into water in Malawi involved a personal journey of coming to know about the country as a place, as well as its water. The following is some key information on the country, facts about Malawi relating to its social, cultural, political, ecological, and spatial make up, as well as some specific information about its water. This information is useful as an initial introduction, but also for recurring reference while reading this chapter — and cross refers to water walks in which some of these are described in greater detail, and in a specific context.

Table 4.1: Profile of Malawi — key facts (as at time of fieldwork visit).

Category	Details	Source/ notes/ water walks
Name	Republic of Malawi	Previously called Nyasaland prior to independence. See **water walk 3**
Geographic description	Landlocked country in southeast Africa. Area of 118,000 km^2	Approximately 1.5 times the area of Scotland.
Geographic features	Land surface a large plateau. The north highlands southern part of the African Rift Valley.	At 3,002m Mount Mulanje/ Mulanje massif is the highest point in Malawi. See **water walk 5.**
Climate and rainfall	Warm-wet: November- April; Cool-dry: May- July; Hot-dry: August- November	My fieldwork was at the end of the dry season.
Significant water bodies	Lake Malawi, Lake Chilwa, Lake Chiuta, Shire River	Lake Malawi nearly 20% of country's area. See **water walk 3.**
Population	19,160,000 with a 3% growth rate	(Munthali and Culture Smart, 2018)
Demographic description	Rural population with some urban centres (16.6% urban) (2017)	(Munthali and Culture Smart, 2018)
Urban centres	Lilongwe, 989,318, Central Region (Capital); Blantyre, 800,264, Southern Region; Mzuzu, 221,272, Northern Region; Zomba, 105,013, Southern Region	(Munthali and Culture Smart, 2018) Also **water walk 4.**
Political	President Peter Mutharika (transitioning to Lazarus Chakwera in 2020 electoral re-run).	Contested elections in 2019. See discussion later in **this chapter.**
Language	English (official) and Chichewa (national) language. Numerous local languages.	Chinyanja and Chisena as significant local languages.
Religion	Christian majority, significant Muslim minority. Traditional religions also present.	See **water walk 3**
Tribes	Chewa, Lomwe, Yao, Ngoni, Tumbuka, Sena, Tonga, Nyanja, Nkhonde.	(Munthali and Culture Smart, 2018)
Universities and colleges	University of Malawi (1965)- Zomba, Blantyre, and Lilongwe (College of Medicine, Kamuzu College of Nursing, Chancellor's College); The University of Mzuzu (late 2000s)- Northern region; Lilongwe University of Agriculture and Natural Resources (2010)- Central region; University of Science and Technology (2014)- Southern region	
Locations of cultural significance	2 UNESCO heritage site: Lake Malawi National Park and Chongoni rock art area. Other significant cultural centres: Malawi museum/ Chichuri Museum in Blantyre; Lake Malawi Museum, Mangochi; Cultural museum center, Karonga, Chamare/KuNgoni Museum, Mua	See **water walks 1 and 3** See **water walk 2**

A lingering Scottish and colonial impact on place

"Maps organise information about landscape in a profoundly influential way… they create forceful biases in the ways a landscape is perceived and treated." (Macfarlane, 2007, p. 10)

Malawi's national language (that which most people speak) is *Chichewa* (with many regional dialects) — one of hundreds of Bantu languages spoken in southern Africa. The official language (that which is used by the government, and for official purposes) is English. This distinction points to a significant aspect of Malawi's recent social, cultural, and political history — and which is worth exploring. The country was ruled as a British colony from the late 1800s until it became an independent nation in 1964 (one of the many pink coloured territories depicted in the map in **Figure 1.1, Chapter 1**). Malawi's imperial control by the British was preceded by, and directly resulted from, Scottish missionary David Livingstone's expeditions to the region in the 1850-60s. The ongoing cultural, political, and economic links between Malawi and Scotland, including Scottish Government's ongoing international development work in the country can be traced back to Livingstone's expeditions.

David Livingstone's impact on Malawi is a complex one — having been significantly involved in the curbing of slavery in the region, but also central to the imposing of religious, political, and economic values on the communities they encountered, and the country as a whole. Livingstone's belief in the 'three C's' of Christianity, colonisation and commerce underpinned their expeditions and attitudes in Malawi and the wider region (Briggs and Turay, 2016). Livingstone's impact is furthermore apparent in terms of place names and other forms of nomenclature in Malawi. Most notably the country's commercial capital Blantyre, which is named after Livingstone's hometown in Scotland on the outskirts of Glasgow.

In contrast to maps that depict national political boundaries, the '*Map of Tribes, peoples and modern nations of Africa*' (The Times, 1972) depicts an alternative representation of the continent — describing its tribal heterogeneity and diversity. It shows indigenous affiliations to the landscape that criss-cross political national boundaries (largely drawn up by colonial powers after the continent's independence movement in the mid-20th century) (see **Figure 4.5**). Like Macfarlane's (2007) quote above, Solnit (2005, p. 162) notes that *"any place can be mapped infinite ways, that maps are deeply selective",* whereby maps can construct ideas of place, and be discriminatory through ways they do this. These two maps highlight this.
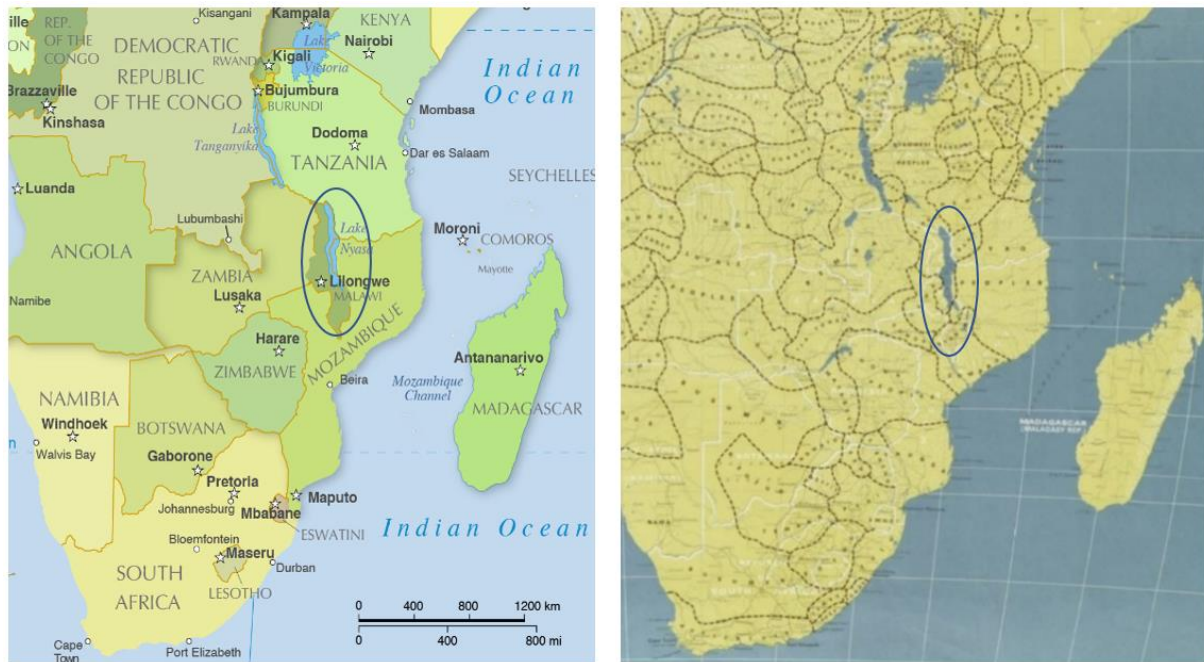
Figure 4.5: Southern Africa in two maps of social-political 'boundaries' (with Malawi circled). Left — modern political representation[102]. Right — overlain with a network of tribes and peoples[103].

Tribal lands in Malawi seep across its modern borders — the Kinga to the north, the Chewa tribes' traditional lands in the west, the Yao people in the east, the Nyanja people in the south — with other tribes as part of this mix (see **Figure 4.6**). In the European colonial period, Mozambique was ruled by the Portuguese, while Malawi was under the control of the British. However, prior to this, Malawi's neighbour's long coastline on the Indian Ocean was a trade route for merchants between the Arabian Peninsula and east Africa. The influence of Islam was spread across the region via these traders and was to be adopted by the Yao tribe who settled around the southern edges of Lake Malawi. This explains the small, but significant, minority of Muslims in Malawi in what is a predominately Christian country.

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[102] Nations Online Project, *'Political map of Africa'*. Available online at: [https://www.nationsonline.org/oneworld/map/africa-political-map.htm].
[103] The Times, (1972), *'The Times map of the tribes, peoples, & nations of modern Africa'*. Available online at: [https://www.loc.gov/resource/g8201e.ct001273].
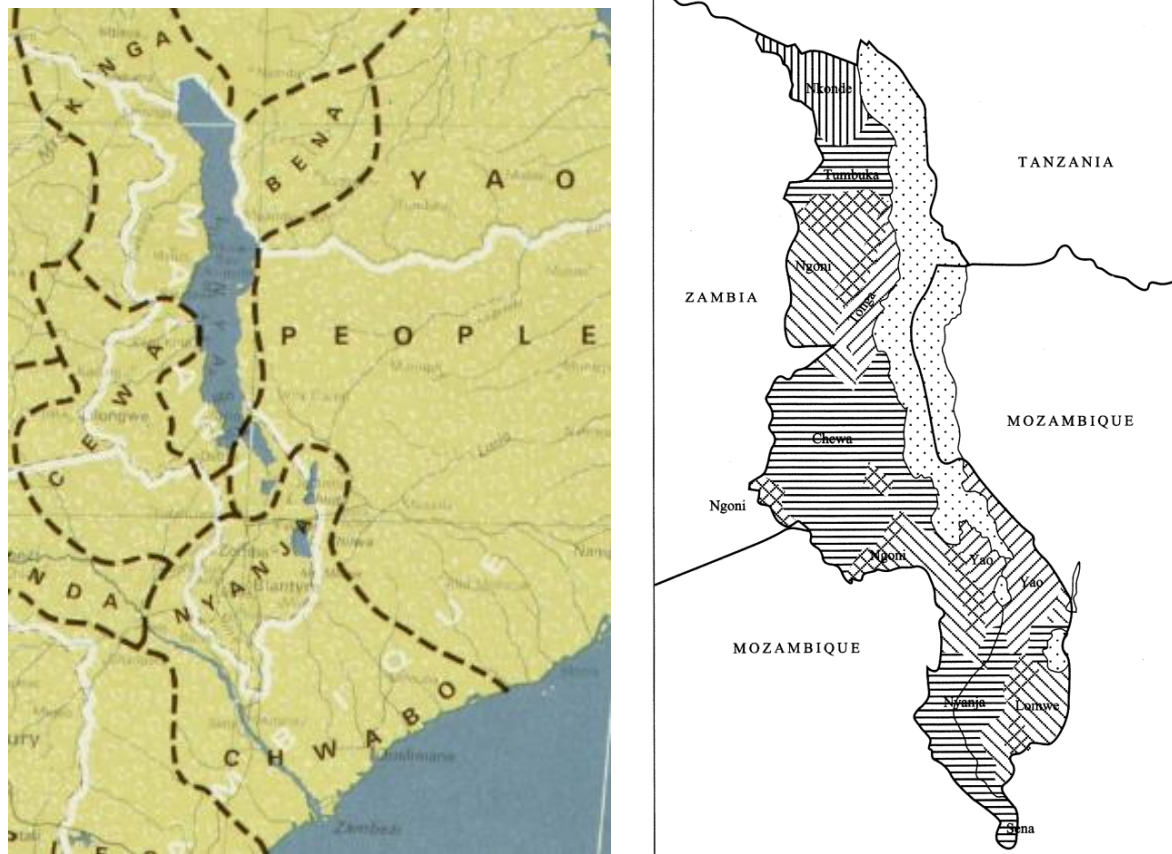
Figure 4.6: Tribal territories in Malawi. Left — section of **Figure 4.5** focused on Malawi. Primacy (the dark dotted lines) is given to the tribal 'boundaries', with the white political boundaries fading into the background — countering contemporary political representations. Right — Map of Malawi labelled with geographic locations of traditional tribes (Kaspin, 1995, p. 600)**.**

A narrative experience (extracted from my fieldwork) that specifically focuses on Malawi's tribes, and their association to places and landscapes, is provided in **Appendix C**.

A modern political and legal perspective — Water Resources Act, 2013

As a political/legal insight into water in Malawi it is useful to briefly consider the '*Water Resources Act, 2013*', the overarching water policy framework that the Malawian government seeks to work towards. The Act is a generally prescriptive legal document that sets out standards, regulations, and mechanisms of accountability with the aim *"to promote the rational management and use of the water resources of*

Malawi…" (p. 11). What is more, reflecting earlier points about language, it is written in English rather than Chichewa.

The document provides little, to no, guidance on means to manage water resources from a social, cultural, or economic perspective — rather focusing on the effects and impacts on the natural environment. However, the term 'environment' is defined in the act to mean *"all aspects of the surroundings of humans, including the physical, biological, economic, cultural and social aspects"* (p. 7). This wide ranging definition of environment, which includes physical and biological issues — as well as economic, cultural, and social aspects — potentially opens a space for inclusion of wider social and cultural considerations and relationships to water[104].

Alongside the promotion of universal access to safe water and sanitation (i.e., in SDG6), the Sustainable Development Goals (see **Chapter 2**) advocate for inclusivity, participation and representation in decision making processes[105]. The UN's review of progress towards SDG6 (i.e. UN Water, 2018) specifically highlights weak governance structures and insufficient capacity in water management as a specific challenge. This once again highlights that there is a significant social/political challenge to creating effective water management, as much as there is a technical or infrastructural one[106].

However, extending inclusivity and representation of institutions should not just be about 'asking the opinions of more people' (consider criticisms of stakeholder engagement in **Chapter 2**), or in the case of water management in development contexts, shifting the burden of responsibility to communities (consider criticisms of the role of Community Based Management — see Chowns (2014; 2015)[107], but to seek to be inclusive and represent *values* in a more pluralistic way. This includes representations of water that relate to its use and non-use, instrumental and intrinsic, material, and symbolic values. However, as discussed in **Chapters 2 and 3**, there has been a tendency of water management, like conventional

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[104] Following through with this interpretation, wherein social, economic, and cultural issues are deemed worthy of consideration when the environment is impacted, is seems there are provisions in place for Water Users Associations (WUAs) to affect the granting of water abstraction licences on this basis.

[105] As discussed earlier, SDG16, specifically, stipulates the need for *"building effective, accountable institutions at all levels"*.

[106] Of the 17 SDG goals there a number of more 'process' or overarching goals which both support and oversee many of the other goals that are focused on specific social, ecological and economic concerns (including SDG 6 on water and sanitation). One of these is SDG16, which seeks to *"Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels"*. This goal has clear links to social and environmental accounting/accountability themes — specifically on inclusivity, representation, and accountability. Specifically, worth of note, are the two stated aims to: *"Develop effective, accountable and transparent institutions at all levels"* and *"Ensure responsive, inclusive, participatory and representative decision-making at all levels"*.

[107] Rural Water Supply Network- blog, (28/06/2017), *'Still barking up the wrong tree? Community management: more problem than solution'*. Available online at [https://rwsn.blog/2017/06/28/still-barking-up-the-wrong-tree-community-management-more-problem-than-solution].

accounting approaches, to have historically ignored the latter in these pairings (i.e., non-use, intrinsic, and symbolic values) in favour, or at least given primacy to, the former (use, instrumental, and material values).

Practical challenges in the everyday — political elections, civil unrest, and seasonal change

During the planning and design of the fieldwork for this research in summer/autumn 2019, civil unrest developed in Malawi in July 2019 after contested tripartite elections, which included accusations of electoral fraud. By August 2019 updated travel advice from the UK Government highlighted ongoing tensions, and with demonstrations and protests throughout the country. This consequently led to a two-week governmental ban on civil protests in an attempt to quell public discontent, but with protests in the country's major cities re-emerging in mid-September 2019[108].

Climatic and physical factors, including water related challenges, significantly affect the possibilities to undertake fieldwork in Malawi at certain times of the year. Risks of flooding during the wet season from November until April can make travel difficult, especially in rural areas. Cyclone Idai had catastrophic social and ecological consequences in the region in March 2019, including significant water related impacts — flooding, infrastructure damage and then clean water shortages (see **Chapter 3** for water's physical and symbolic duality to both give, and take, life).

A cultural and ethical note — the bloodsucker/vampire mythological narrative

A significant cultural/mythological narrative in Malawi is of recurring rumours and fears over 'bloodsuckers' — stories of individuals accused of using magic or witchcraft (known as '*ufiti*') to draw blood from people, and with retributions of violent acts against these individuals. In October 2017 several killings were reported in the south of the country— and it was a specific risk listed by the UK Government's Malawian travel advice during the period of my fieldwork. To provide insight and understanding, the Scottish Malawi Partnership published a series of blogs by academics from backgrounds in anthropology and cultural studies into the historic and cultural roots of the mythological narrative[109].

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[108] Nyasa Times, (18/09/21), *'Mutharika off to UN, leaves behind demos over Malawi presidential election'*. Available online at: [https://www.nyasatimes.com/mutharika-off-to-un-leaves-behind-demos-over-malawi-presidential-election].
[109] Birch Kilgore, L., (20/10/17), *'Understanding the 'blood sucker' attacks in Malawi (Part 1)'*, available online at: [https://www.scotland-malawipartnership.org/news/understanding-the-blood-sucker-attacks-in-malawi-part-1-2] and Lwanda, J., (26/10/17), *'Understanding the 'bloodsucker' attacks in Malawi (Part 2)'*, available online at: [https://www.scotland-malawipartnership.org/news/understanding-the-blood-sucker-attacks-in-malawi-part-2-2].

Furthermore, Lameck Masina, in their background piece for '*African Arguments*'[110], notes the symbolic significance of blood-sucking as representing the wider fears, experiences, and difficulties of many people living in acute poverty in a country beset by underdevelopment. In this interpretation, the cultural narrative can be representative of much wider socio-economic — and indeed social-ecological — challenges and conditions. This should be of note for any international development work — not least that which involves the spatial and social reconfiguration of water — that affects access, availability, and affordability of something that is so central to people's livelihoods. Considering the link between water and life in Malawian culture expressed by the phrase '*Madzi ndi moyo/* water is life', it is notable that in Chichewa language *'madzi'*, the word for water, is significantly close to *'magazi'*, the word for blood. This, of course, recalls the wider symbolic links between water and life opened up in **Chapter 3**, as well as recalling the expression of SES scholars Falkenmark, Wang-Erlandsson and Rockström (2019, p. 2) that water is the *"bloodstream of the biosphere"*.

Reflexive adjustments to fieldwork

On this basis of these considerations, and furthermore conversations with partners in Malawi, I incorporated adjustments to my methodology and research design that sought to ensure that:

- Ethical considerations are foregrounded on who/how/where to engage with people — taking advice, in particular, from Malawian partners and contacts.
- I utilise Malawian researchers and guides, and 'follow their lead', especially during site visits that involve interaction with local people.
- **My fieldwork should be understood as a piece of research raising issues for further investigation, rather than a definitive assessment of what I encounter. It is about setting some initial methodological justification and building some context and initial evidence, but that should only precede/inspire further work by (or collaborations with) Malawian researchers to develop and undertake.**

More widely it points to the need to reflect on the centrality of ethics in the project specifically, and social-ecological research more generally. Herein the Scottish Malawi Partnership principle of 'Respect,

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[110] Masina, L., (9/11/17), *'"A symbolic representation of life": Behind Malawi's blood-sucking beliefs'.* Available online at: [https://africanarguments.org/2017/11/09/a-symbolic-representation-of-life-behind-malawis-blood-sucking-beliefs].

trust and mutual understanding'[111] should be considered as a key consideration and guide to undertaking my fieldwork and developing in my writing.

Some additional cultural and symbolic links to water

> *"For the most appalling quality of water is its strength. I love its flash and gleam, its music, its pliancy and grace, its sap against my body; but I fear its strength. I fear it as my ancestors must have feared the natural forces that they worshiped. All the mysteries are in its movement. It slips out of holes in the earth like the ancient snake*." (Shepherd, 2011, p. 27)

Water is symbolically associated with a range of non-human life. While there is an obvious association with riparian animals — fish, water-based mammals, etc. — there are some other specific associations which have both universal and place-based manifestations. A particular symbolic association exists between water and the serpent/snake which Chevalier and Gheerbrant (1994) describe as evident in cultures across the world. Strang (2015) describes the 'Rainbow Serpent' in the culture of Aboriginal Australians, the Japanese and Chinese dragon (known as a rain serpent), and the practices of early irrigators as venerating gods and other mythological representations manifest in serpentine forms[112]. They furthermore note the practices of early irrigators as venerating gods and other mythological representations manifest in serpentine forms and particularly amongst African, and African diaspora — an example being *Mami Wata* water spirit (Strang, 2015)[113]. While, interestingly, Sullivan (2010) and Sullivan and Low (2014)[114] describe symbolic representations of the water and serpent link in Namibia/Botswana in Southern Africa. In a further manifestation of this link, Chevalier and Gheerbrant (1994), and furthermore explored by Runcie (2019), describe the mythological ouroboros[115]. A serpentine figure depicted in either a circle or figure of eight eating its own tail, and which is present in ancient Norse, Greek and Egyptian mythologies. The representation of an unbroken circle of an unending cycle,

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[111] Scottish Malawi Partnership, *'Our Partnership Principles'*. Available online at: [https://www.scotland-malawipartnership.org/get-involved/principles].

[112] Other intertwined associations with the serpent/snake and water in many cultures include Lagarfljótsormur (glacial lake worm/monster) in Iceland, an ancestral anaconda in the Amazon, to the Loch Ness monster in Scotland.

[113] Also see Strang's blog post *'A winding trail: following serpents, dragons and other water beings around the world'* accompanying the previously discussed *'Living with gods: peoples, places and worlds beyond'* exhibition at the British Museum, available online at: [https://blog.britishmuseum.org/a-winding-trail-following-serpents-dragons-and-other-water-beings-around-the-world].

[114] This is the same researcher referenced earlier (Sullivan, 2010) who critiqued ecosystem services linking to assemblage ideas.

[115] Interestingly, Haraway (2016, p. 118), refers to the Ouroboros: *"It matters what stories we tell to tell other stories with; it matters what concepts we think to think other concepts with. It maters wherehow Ouroboros swallows its tale, again."*.

or an intertwined figure of eight which is similar to the symbol for eternity or infinity, can be compared to water's symbolic meanings of birth, death, rebirth and the 'circle of life'[116].

The serpent and water in Malawi

Cosmological representations of the serpent are described by Ott (2000) their text *'African Theology in Images'*[117], and it is notable that the serpent has a symbolic similarity to water — able to create, and destroy, life. As Ott footnotes in their text, we have to recognise this paradoxical, sometimes contradictory, relationship to the python — and snakes more generally — in Malawi. While sacred in the context of traditional cosmologies and rituals, they are often considered dangerous in everyday life, and routinely killed.

Specific representations of serpents in Malawian cosmologies, which also appear in storytelling and poetry, include '*Thunga*' and '*Napolo*'. Steve Chimombo (1994, p. 3), one of Malawi's most celebrated poets, writes about the mythological python *Napolo* in the context of water and rains.

> *Yes it rained.*
> *Oh, how it rained that time!*
> *The parched throat of the earth drank it up,*
> *swelled its stomach in pregnancy;*
> *but it came so late,*
> *and with it came Napolo.*
> *Napolo gnawed the womb of the earth,*
> *the earth groaned and aborted, showing its teeth,*
> *its teeth uprooted the trees on the banks,*
> *the banks where birds sang around the python's flanks.*

Chimombo's poetry furthermore refers to an ouroboros like figure — and which is specific linked to water and its physical manifestation in Malawi. Linking the mythological and the ecological they write that the

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[116] Note (Gibran, 1996, p. xii)*: "...life and death are one, even as the river and the sea are one"*.
[117] Note the importance of this text, emerging from Ott's doctorate, and considered seminal on African religious symbolism — and with specific focus on Malawi.

"*Shire curled round its course and bit its tail*" — the Shire is Malawi's main river, and its presence dominates the landscape of large parts of the southern part of the country.

The rainbow as an interlinked serpent phenomenon — including in Malawi

The rainbow is another link to the serpent/water symbolic association — auspicious across religious and various indigenous cultures for its symbolic meanings, as well as specifically in African and Malawian cosmologies. Chevalier and Gheerbrant (1994) describe its symbolic association as a bridge between earthly and heavenly realms, formed of light and water. They identify the cosmologies of the west African Dogon tribe, who regard the rainbow as a pathway for the heavenly ram (whose urine is rain) to come down to earth. Tribes in central Africa have been recorded as referring to the rainbow as the 'perilous sky-serpent' — a solar arch formed by two snakes welded together. Reinforcing this aesthetic-symbolic link, Sullivan and Lowe (2014) present evidence of this connection between snakes, water and the rainbow.

Nyau Society and the dance of the Gule Wamkulu

Prior to visiting Malawi, I undertook some desk research on the Nyau secret brotherhood, as practiced in Malawi and the neighbouring regions. The society is most notably represented through the ritual dance of the Gule Wamkulu (the Great Dance), a practice officially recognised by UNESCO in 2008 as having intangible cultural heritage[118].

Towards the narration of an interdisciplinary case study

> "*Any perspective which reduces water to a problem of supply or to questions of value[119] and price will fall short of understanding the social and cultural variations of water. Equally problematic is the reduction of water to being just a carrier of meanings, religious convictions or symbols and rituals, which would involve an exclusive culturalistic argumentation. Both contexts are connected and intertwined and can only be disclosed and discovered through detailed studies of specific cases.*"[120] (Cless and Hahn, 2012, p. 9)

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[118] UNESCO, '*Gule Wamkulu*'. Available online at: [https://ich.unesco.org/en/RL/gule-wamkulu-00142].
[119] Here the authors use the term 'value' in terms of its economic representation — compare discussions in **Chapter 2**.
[120] Bold added for emphasis.

To conclude this chapter this perspective from Cless and Hahn (2012) is worth presenting in full. It describes the requirement to consider the different values of water as intertwined and related, and the need to give attention to these in a place — values that relate to both the material and the symbolic dimensions of water. This takes me to the next chapter, where I seek to describe different values of water in the context of a case study in my empirical site.

Summary of this chapter

This chapter describes the methods I use to enact my methodological approach of autoethnography during a period of fieldwork in Malawi, principally through undertaking a series of water walks. It furthermore provides some secondary and desk-based evidence of the empirical site.

Chapter 5: Results as an assemblage — curating some accounts of life with(in) water in Malawi

What does this chapter seek to explore?

> *"...I am committed to the finicky, disruptive details of good stories that don't know how to finish. Good stories reach into rich pasts to sustain thick presents to keep the story going for those who come after."* (Haraway, 2016, p. 125)

This chapter recounts my fieldwork experiences in Malawi (see **Figure 5.1** for the thesis flow chart). As follows, my social-ecological autoethnographic enquiry, informed by the secondary evidence and contextual understanding I have gathered and presented thus far, is layered with a rich account of my personal experiences. This is presented in a narrative format recounting my time in Malawi, supported, and enhanced by, other visual representations.

Figure 5.1: Chapter 5 as part of thesis flow chart.

A travelogue of moving, looking, and recording water relations in a place

From the 20th of October to the 6th of November 2019, I travelled to Malawi to undertake a short, but intense, period of fieldwork. **Figure 5.2** is a hand drawn representation of my movements during this period, in which I travelled overland through the central and southern regions of the country (the area in

blue) using different modes of transport — encountering people, place and water as I undertook my series of water walks.
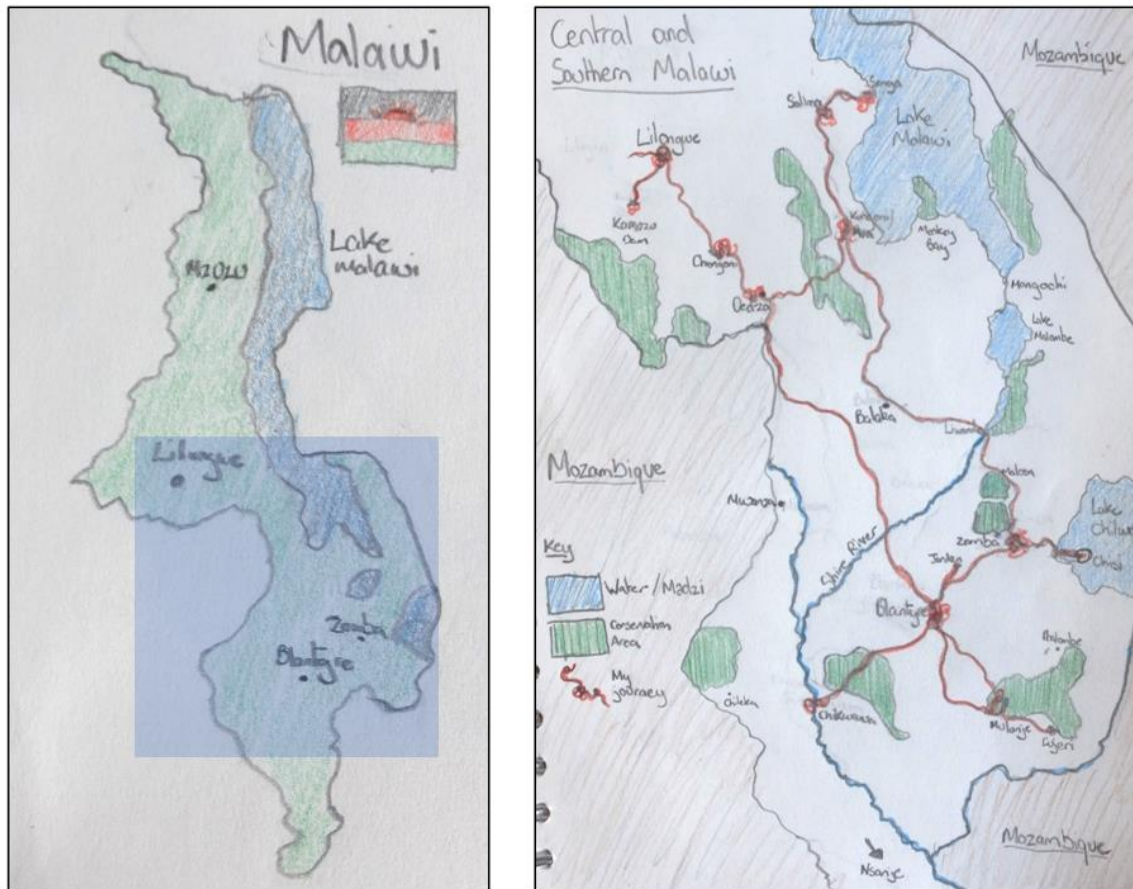

Figure 5.2: Hand drawn maps depicting my movements in Malawi.[121] Left— Malawi, with geographic area of focus highlighted. Right— Detailed map of fieldwork movements in highlighted area.

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[121] The use of lines and 'squiggles' is inspired by the place mapping and connections in Ingold (2007). My journeys represent over 1,000 kilometres travelled, and 10,000 metres elevation gained.

Means of moving and seeing: Guides and transport in Malawi

"For it is not, after all, really a question about whether you can know the unknown, arrive in it, but how to go about looking for it, how to travel." (Solnit, 2005, p. 24)

In the first eight days of my time in Malawi I was led by a professional guide, whom I will refer to as '*Kalozera*' (a Chichewa term for 'guide' or 'insight') in this writing. A Malawian social/cultural anthropologist, *Kalozera* is employed by an organisation that conducts tours with a focus on historic and cultural sites in the country[122]. From my second week I would utilise some independently organised mobility, as well as travel and guidance from local contacts previously established through my institution (and which I detail in the following narrative accounts). Most notably this would include RC, a Malawian academic whom I met in Glasgow during their residency at the University of Strathclyde in summer 2019. A lecturer with expertise in water management issues at Mzuzu University in the north of Malawi, they had helped me in my initial fieldwork design, while we had planned to then meet over several days while I was in Malawi.

The contribution and assistance of my guides/interpreters, that also included several other local aides, were of invaluable help during my investigations and engagements in Malawi. From transport, local knowledge, customs and behaviour, translation, to providing historical and cultural information, they were fundamental in my ability to undertake my fieldwork. It is, however, important for me to note and critically recognise that this does have methodological implications for the information I collected. A close relationship to guides, and particular that of *Kalozera,* means the information I gathered — or the *curation* of information that makes up my *assemblage* — will be significantly affected by their guidance and perspective. Indeed, this is an unavoidable aspect of qualitative and interpretative research involving others — particularly in the context of development related studies. However, such a considered inclusion of the views and interpretations of local guides align with an intersubjective approach to research (see **Chapter 3)**, my adoption of an autoethnographic methodology (see **Chapter 4**), as well as a dialogical approach that advocates for an inclusion of local expertise and perspectives (as per my conceptual framework).

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[122] In a 'line' of connection linking the empirical and theoretical aspects of my research, the director of the organisation for whom Kalozera works is an anthropologist academic based in Malawi. Their name was recommended to me by Professor Veronica Strang (as frequently cited in my research) , a keynote speaker at the 'Twenty65 social sciences in water conference' in March 2019, whom I met having presented some of my evolving research ideas at the event. This represents a bridge, and continuity, between theory and praxis in my research.

Three forms of representation — intertwining the pictorial, and the textual

Drawing from my description of methods in **Chapter 4**, I present the following water walks utilising three core forms of representation — mapping (digital and hand-drawn), narrative reflections, and visual imagery (photographs and hand-drawn sketches).

Mapping

Each walk is introduced with a location map, which is supplemented (and, to some extent, juxtaposed[123]) with a hand drawn map from my fieldwork journal depicting the location and route taken. Both forms of mapping have been retrospectively digitally annotated to provide extra information, while explanatory text is added to give more detail. Herein is a use of 'deep/counter mapping' (see **Chapter 4**), as well as an application of concepts and techniques associated with assemblage art. In seeking to draw attention to the cultural links to place, while also honouring indigenous links to the landscapes I encounter, I introduce each walk noting the traditional tribe(s) present in the area.

Narrative reflections

These maps are followed by an immersive and descriptive autoethnographic narrative account written in the first person and present tense, derived primarily from my detailed fieldnotes and reflective audio recordings. These insights are reflexively threaded with contextual knowledge I have garnered through the wider autoethnographic process of my research — cross referencing to chapters in which I have developed this knowledge in more detail. Specifically, experiences and encounters related to water — materially and symbolically — are highlighted in bold in the narrative. I will use these references to undertake some more specific analysis of the different values of water from my fieldwork observations.

Imagery

The mapping and narrative accounts I provide are furthermore enhanced and supplemented by photographs from my fieldwork which I collate together in several *collages*, which I cross reference to in the writing. Additionally, I occasionally include hand drawn sketches extracted from my fieldwork journal to furthermore describe my experiences and encounters with water and place. These collages and visual representations of my empirical evidence help me capture and recount my experiences, while are another adoption of a presentational technique associated with assemblage art. They furthermore widen the

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[123] A motif of assemblage art (see **Chapter 3**).

representation of my fieldwork, aligned with my development of social-ecological dialogics, so it can be engaged with by a wider audience of people.

On curating an assemblage of my fieldwork

> *"Collect, accumulate, gather, preserve, examine, catalogue, read, look, study, research, change, organise, file, cross-reference, number, **assemble**[124], categorise, classify, and conserve the ephemeral."* (Ruppersberg, 2008, p. 54)

I use the term '*curate*', a word with association to, and use, in the arts, to describe the extensive process of gathering, selecting, organising, and presenting the content of my fieldwork[125]. This is a representation of my experiences, but it is by no means the only way of presenting my research. This is 'an account' — '*my account*' — of those experiences, informed and directed by everything that came before — my exploration of literature, philosophy, theory, and methods design. But it is also a representation of an emergent and explorative process of undertaking fieldwork, one in which I reacted to, and was guided by, the people I met, and the places I encountered. While I had designed a semi-structured plan of activities to undertake during my fieldwork, I also sought to 'follow the water'[126] while in Malawi, and to allow stories and insight to emerge in a more organic process.

The *account* of my experiences is split into three parts — each part centred around two or three thematically connected water walks**. In a total of seven walks, I adopt and apply my methods to collect evidence and represent my findings — drawing on desk research and secondary evidence, as well as my experiences and observations from fieldwork (see **Figure 5.3** and additional details in **Appendix D**).

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[124] Emphasis added.

[125] To curate is *"to be in charge of selecting and caring for objects to be shown in a museum or to form part of a collection of art, an exhibition, etc.*; *to select things such as documents, music, products, or internet content to be included as part of a list or collection, or on a website.".* Cambridge Dictionary, (2021), definition of 'curate', available at: [https://dictionary.cambridge.org/dictionary/english/curate]. Notably, ideas of curating in accounting are explored in McGuigan and Ghio, (2019).

[126] Or lack of it, as was often the case — noting my visit was at the end of the dry season in Malawi.
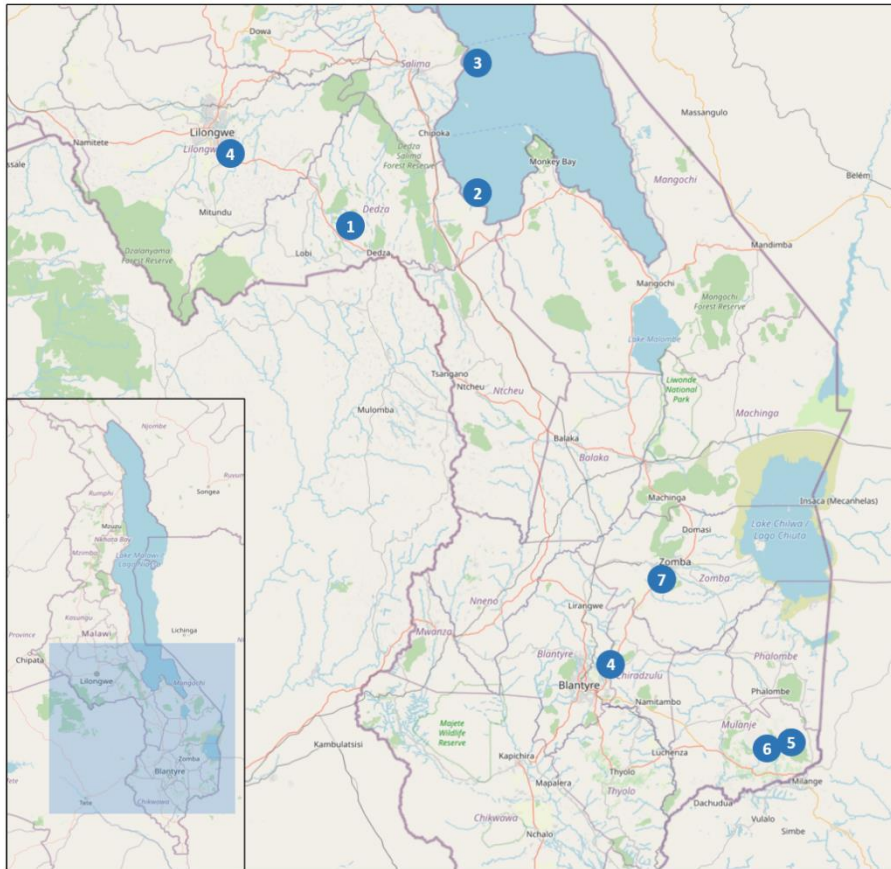
Figure 5.3: Locations of 7 water walks. (Insert— shaded section defining the geographic area of focus in Central and Southern Malawi.).[127]

These seven walks, though presented in a linear narrative in three distinct parts, are significantly interconnected and interlinked. While my presentation of the walks, for the most part, aligns with the order that I undertook them while in Malawi, several of the experiences I recount overlap in time (for example I visit the capital city Lilongwe twice at either end of my visit, but I combine my time there into one walk). Other encounters relate to experiences which emerged over a period of time, yet I gather these into single water walks. **Figure 5.4** arranges the seven walks in these three parts, presented in a circular format, to convey their non-linear interrelationship. The title of each part refers to symbolic connections to water in Malawian culture and will be explained within the narrative.

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[127] This, and following maps, are made using 'Open Street Maps'. Water walk 4 takes place across 2 locations.
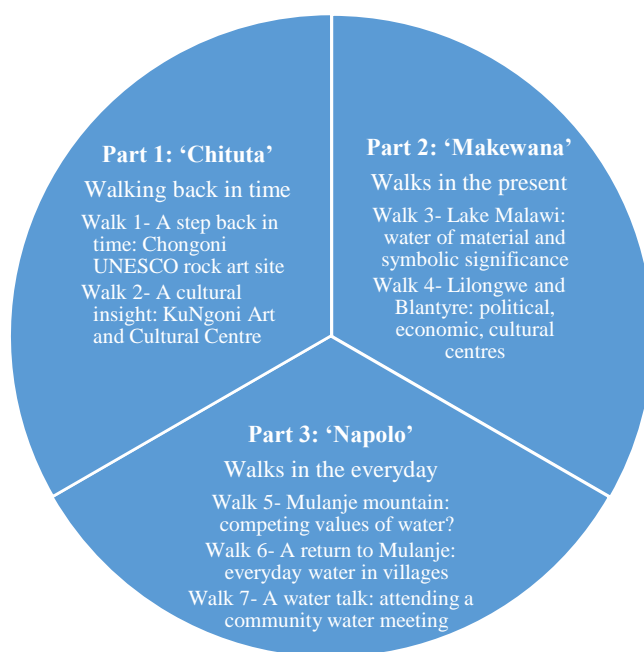
Figure 5.4: 7 water walks in 3 parts.

'Part 1' recounts two culturally orientated walks (**water walks 1 and 2**) — to rock art at a UNESCO World Heritage Site; and a visit to one the richest cultural and arts centres in the country. These provide insight into Malawian culture and histories of place, including narratives and artistic expressions related to water, as well as allowing me to directly encounter some of the contextual knowledge I had gathered in my secondary research. Moretti (2017, p. 95) recognises the value of walking to explore historical narratives as a way *"to connect the past and the present to validate and re-establish relations to ancestors or past events"*. Referring to the quote by Haraway (2016) that opens this section, the experiences of these walks can be considered as foundations for *"good stories"* that seek to *"reach into rich pasts"*.

'Part 2' describes two walks **(water walks 3 and 4)** that intertwine narrative and observations of social, spatial, ecological, economic, and technological relations to water. A walk at Lake Malawi (the country's other UNESCO World Heritage Site), providing insight into to significance of this major water body and its role in shaping and affecting cultural, economic, and geo-political aspects of modern Malawi; and 'a walk' which is actually the accumulation of observations from various accompanied daily walks in and

around the major economic, cultural, and political urban centres of Blantyre and Lilongwe. These experiences provide first-hand evidence to compare and contrast secondary information I had collected as part of my autoethnographic research inquiry prior to visiting Malawi pertaining to social, cultural, and economic aspects of daily life and water relations, as well as allowing for insight to emerge of everyday uses and links to water. Referring to the second part of Haraway's (2016) aforementioned quote, these are helpful "*to sustain thick presents to keep the story going*".

'Part 3' focuses on water relations in place-based contexts, and recounts three in-depth walks in rural locations in the southern region of Malawi **(water walks 5, 6 and 7)**. This includes a visit to a culturally significant water body in the southern Mulanje region; time visiting villages in close proximity to this location; and the attending of a water focused community meeting in a rural village. These experiences help illuminate and depict social-ecological water relations at a local and everyday context, bringing to attention the multiplicity of ways communities utilise and engage with water — as well as some of the significant challenges they face related to water access. They also generate insight into deeply embedded cultural relations to local ecologies and water, as well as supporting and reinforcing knowledge encountered from the wider autoethnographic process and preceding water walks (particularly from **water walks 1 and 2**).

Part 1: Walking back in time

> *Chauta/Chituta — the 'Great Bow': God in the rainbow. Creator god and bringer of rain.*

Starting at the beginning of a circle

How to start a story about something that is eternal and cyclical? That does not have a beginning or an end? That does not operate within linear conceptions of time and has been around for billions of years — constantly flowing, shifting, and moving. Something that has been shaping landscapes and sustaining all life — in Malawi, and the whole planet. How to find a point in which to enter that ceaseless flow?

Water is generally represented in terms of an ongoing *cycle* in scientific studies — the 'hydrological cycle' schematic conveys a material flow of the substance circulating through the earth's atmosphere, surface water, and ground water (see **Chapter 3**). Naturally this lends itself to symbolic associations of water as being circular and regenerative. However, as discussed in **Chapters 2 and 3**, water can carry

contradictory symbolic meanings. While it can symbolically represent conceptions of renewal and 'the eternal' — associated with ideas such as the 'circle of life' — water, and its source, also often marks an 'entrance point', the start of things (and life)[128], the 'original element'. Aligning with the dual meanings of water, while my walks are interconnected in a non-linear relationship, there is a 'starting point' to the narration of my fieldwork in Malawi. Drawing on a universal symbolic place of origin — a cave (see (Chevalier and Gheerbrant, 1994) — it forms an ideal place to commence my journey.

Water Walk 1 — A step back in time: Chongoni UNESCO rock art site

More of a hike than a walk — mountain scrambling, and an introduction to the heat
Having arrived in Malawi via the capital city of Lilongwe, *Kalozera* and I are driving south towards the town of Dedza. We are travelling to Chongoni Rock Art area — a UNESCO World Heritage site. Leaving the city behind we pass several townships as we move into the rural landscape that dominates most of the country — this is the traditional land of the *Ngoni* tribe. *Kalozera* informs me of the link between the term Cho-*Ngoni*, the mountains here, and the *Ngoni*. My self-recorded audio reflections note *Kalozera's* explanation[129] that the term means 'this being their land/ they are of the land'[130]. This nomenclature of place demonstrates an intimate interlink between land and people, the social and ecological — represented in its naming. We leave the main road to visit the *Mphunzi* area, which contains some of the most prominent examples of rock art in the wider site (see **Figure 5.5 and 5.6**).

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[128] Evident in religious practices and material culture — from washing facilities at the entrance to mosques, holy water fonts in churches, baptismal and similar sacraments marking the introduction into a religion or community.

[129] There is a 'learning by doing' quality to my fieldwork methods. Throughout my time in Malawi, I find myself increasingly making use of audio clip reflections to document my journey and site visits. I find that these allow me to make quick notes and then focus on being 'present' in the locations I find myself, or to observe the surroundings in our long car journeys. As my relationship with Kalozera develops over time I learn more and more from them about Malawian social-cultural history, often stimulated by my roadside ethnographic observations. Kalozera find ways to connects water to place in the context of social, spatial, political, and historical narratives — insights which have played a significant role in my investigations — and align with an autoethnographic research approach.

[130] I am unclear if the land, or the tribe, name has come first. Either way, it points to a social-ecological interdependence and interrelationship.
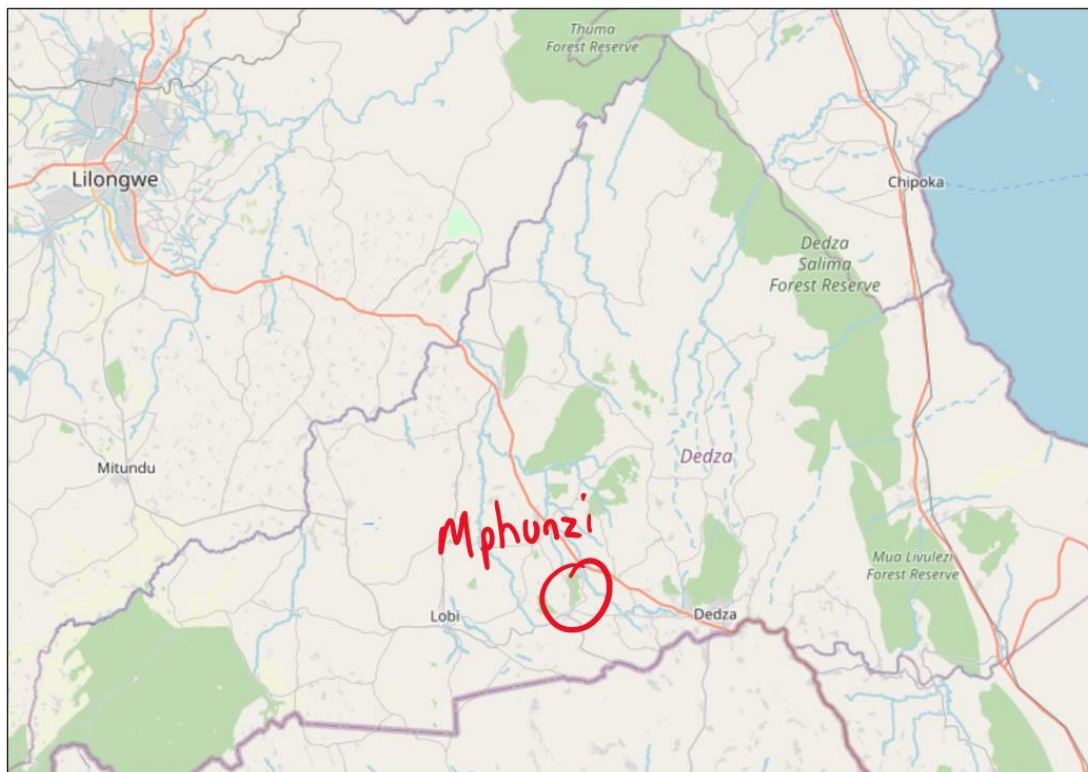
Figure 5.5: Area of focus for water walk 1 (refer to **Figure 5.3** for wider context) — Mphunzi, within the wider Chongoni rock art site, north-west of the town of Dedza (Source: Open Street Map).

Figure 5.6: Extract from hand drawn map in fieldwork journal[131] with digital annotations — Lilongwe to Chongoni.[132]

We park our vehicle in a clearing at the end of a bumpy road, close to a small number of buildings — including what appears to be a health clinic. Leaving our vehicle I take my backpack with cameras, journal, audio recorder and other bits and pieces, as well as some of the more personal practical things I need for a water walk — my cap, sunblock, and of course, **my water bottle[133]**. A local guide appears from the buildings, speaks to *Kalozera* for a few minutes, before leading us to a hut behind the health clinic. They open the door, take out a large metal sheeting perhaps a metre wide, and place it in front of the hut

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[131] In comparison/contrast to digital maps, my deep mapping of this site (and forthcoming sites) is one which I find increasingly useful, and very natural to me to undertake, during my time in Malawi. After each day of moving and undertaking site visits, I would sketch a map in the evening — 'drawing' (quite literally) on a combination of my reflective journal writing, memories, and self-recorded audio notes. Significantly, in accordance with my project ethical approval, the photography I take seeks to avoid capturing direct images of the public. As such, hand drawn maps and stetches become a very useful means for me to represent such situations.

[132] This map depicts the road route from the capital city of Lilongwe to Chongoni rock art site, about 80 kilometres south-east, situated in the mountains close to the town of Dedza. My sketched observations include of roadside townships (and **waterpoints**), frequent bicycle usage that **includes water transportation** (also see **water walk 3**), general topography, and the railway line (**see water walk 3**).

[133] Every water walk we take begins whereby I ritually fill my bottle from the large disposable plastic bottles of water we buy from supermarkets, and which we keep in our vehicle. There is an inescapable irony underpinning all my experiences and water walks in Malawi. I go out to study water — including that which is consumed by the people I meet — but, meantime, **I drink the purified bottled water** that I can afford to purchase in my privileged position as a researcher coming from abroad. It, in a way, seems to tangibly represent the 'crisis of representation' of ethnographic research (see earlier) — can I ever know the water in Malawi if I do not drink it?

for me to read. It describes the site in English and Chichewa (**Figure 5.7** shows the English section). It notes that the rock art of the site, and dances they are linked to, helped the Chewa (one of Malawi's main tribes in this region) *'maintain their traditions and build ties between their villages'*. This includes symbols which are carried through to present day rituals and practices (including linked to the Nyau society — see **Chapter 4**) and with specific links **to water (and in this case rain) related rites and rituals.**
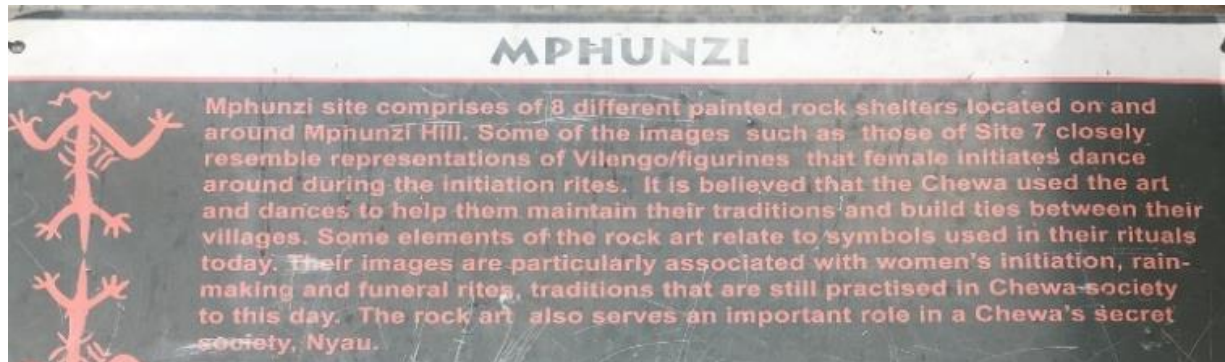
Figure 5.7: Close up image of sign introducing the *Mphunzi* area of the Chongoni rock art site.

Even though it is only around 9am it is already hot; over 30 degrees Celsius[134]. It is a reminder that **in this environment and climate your body needs a constant access to drinking water**. Limited supply, coupled with acute demand, bring water's preciousness ever more into focus. Our local guide leads us onto the nearby *Mphunzi Hill*, and up a rocky path. After climbing for some time, we reach the entrance to a secluded cave — this is 'site 7', and one of the most significant locations in the whole site. We find a flat spot on a huge slab of stone and sit for some moments, quietly absorbing and appreciating the significance of the place we are in before entering the caves[135].

A moment of sitting/pausing

> Our local guide points out the physical vantage point the location affords, offering protection from the searing sun and heat, and a view all the way down the valley. My self-recorded audio notes (and distinctive memories) recall, that we collectively sit for some moments silently in the space. I

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[134] This is 'cool' compared to the over 40 degrees it would become later (and in many afternoons during my time in Malawi).

[135] Here follows a momentary pause in the flow of the walk, something that emerges in my experience of doing, and writing up, these experiences. There are moments of pause and reflection in a number of the water walks — and I come to reflect on their importance and value. Some of the most important aspects of the walks are the moments of 'not walking'. To emphasise this, I have stylistically indented these moments in the text throughout this chapter.

took time to record the silence on my handheld audio recorder — in which only the wind channelling through the valley could be heard. Explaining to *Kalozera* that I was keen to attempt, in some way, 'give voice' to the landscape — and they translated this to our local guide. Recognising my attention to the local landscape and place, I remember my companions nodding and smiling in a very sympathetic moment of non-verbal communication — indicating, to me, that they understood, and appreciated, my intent here. This affording of momentary pause and silence becomes a hallmark of my meetings in Malawi — I come to recognise it as an important characteristic of Malawian conversations whereby moments of silence amidst engagements are common — and it is a recognition that dialogic conversations in a social-ecological context might also involve such moments in which there is no dialogue at all.

After our momentary pause I am guided around the cave, the walls of which are adorned with dozens of zoomorphic images painted in a white pigment (see **Figure 5.8** and **Figure 5.9**)[136].

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[136] The Chongoni rock art can be categorised into two periods, named in reference to the colour of pigment used. 'Red paintings' that were undertaken by the *BaTwa* hunter-gatherers in the late stone age period, and 'white paintings' carried out by the Chewa people who had settled in the region since the late iron age and had continued to paint here into the 20th century. There is further discussion on this on the British Museum website. Available online at [https://africanrockart.britishmuseum.org/country/malawi/namzeze].

Figure 5.8: Extract from hand drawn map in fieldwork journal with digital annotations — *Mphunzi* area of Chongoni rock art site.[137]

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[137] A topographical sketch of this site visit and walk — having parked our vehicle at the health clinic before commencing a water walk to Mphunzi Hill and other sites. Also depicted are two sketches representing my personal impressions of some of the cave art paintings encountered during this walk (as will be discussed forthwith).

Figure 5.9: A collage of some of the rock art at 'site 7'. Images: top left — view from cave, a place of shelter safety and symbolic significance; bottom left — several representations of lizards. Centre — the omnipresent image of the chameleon; right — faint human figure in profile.

Specific representations include the chameleon, the lion, lizards — **as well as several water-related animals, such as a duck and a crocodile**. Our local guide draws our attention to a representation of a human figure, standing in a side-on profile, amidst the animal depictions. It is not given primacy over the other images (either in form or arrangement — it is smaller than many of the animalistic paintings, and positioned alongside them, not separately). This seems convey an ecological order in which humans are *within,* rather than distinct from, the local social-ecological context — and echoes ideas I have discussed in terms of human relations to the rest of nature from a methodological perspective.

It is notable that, unlike the white pigment for all other paintings, this human figure is painted in black. My guides note this as a clear reference to the skin colour of the local people (see **water walk 3** for how this is symbolically represented in Malawi's national flag). In a further interpretation, as recounted by *Kalozera* in their explanation of the symbolic meanings of the paintings, it is also a link to the recurring association between the colour **black and water in Malawi, particularly in the context of rain rituals**. This confirmed and corroborated desk research in which I had noted this symbolic colour association in

Malawi and the wider region — with, as I had assumed, black representing storm clouds portending rain (Schoffeleers, 1992).

Going downhill, and further back in time

Descending the hill, passing through some agriculture and mango (*mtondo*) trees, we work our way to 'site 1' and 'site 5'. Again, sheltered in secluded caves, we come across numerous symbolic representations — circles, spirals, lines, and other geometric shapes — depicted on the rocks (see **Figure 5.10**). These are the so-called 'red paintings', in reference to the predominantly red pigment used, contrasting with the more realist zoomorphic images further up the hill painted in white. Our local guide and *Kalozera* note that potential interpretations of these images include as being *accounts* of time, seasons passing, or even possibly a **representation of falling rain.** I think how these are, in many ways, forms of social-ecological accounting in deep time — the marking, recording, and communicating of past events noting changes in the social-ecological experiences of people.

Figure 5.10: A collage of representations from 'site 1' and 'site 5' in Chongoni. Images: clockwise from top left — various abstract representations including lines noting seasons, events, rain; my hand in the foreground with handprint on rock; faint pot with steam; the cave entrance.

Aside from the more abstract representations, there is also **a depiction of material culture linked to water** — a pot with steam is faintly apparent (though, this would clearly have been painted at a different time to some of the other older images). Amidst all of these images, perhaps the most compelling and emotive, is a small human handprint — a representation that is a recurring symbol, and practice, in cave art throughout the world. Here, for a moment, I feel somehow connected to whomever made this handprint — that other human. It is a reminder that this is not only a landscape of now, but also one with a deep past that has been emerging over many thousands of years.

We spend some more time exploring the surrounding area, encountering other rock art animal representations including a giraffe and a millipede. The latter recalling the description of '*Bongololo'* in St-Arneault (2007)*,* the *Gule Wamkulu* (see **Chapter 4**) representation of a creature that is not seen in the dry season in Malawi — but **conspicuously present during the wet season**.

Evidence of the symbolic serpent and water link

We wander back to our truck. During our time at Chongoni I speak to *Kalozera* and our local guide about some of the cosmological order present in Malawi, and which I have investigated to some extent prior to my visit (also see (Schoffeleers, 1992; Chimombo, 1994; Ott, 2000; St-Arneault, 2007). In particular *Kalozera* explains, in a social-natural medium that reminds me of land art[138], the **etymological roots of the traditional god called *Chiuta*, often linked to water and rain rituals** — (see title of 'part 1'). They pick up a stick and draw an image of a bow and arrow in the parched dirt — the term *Chi–Uta* (or *Chauta*) translates as the 'Great Bow' (or 'Big Bow') — and who manifests in the rainbow. It is insight that significantly reflects the symbolic connection of the **rainbow, water, and the serpent in various cultural and mythological narratives** across traditional and indigenous knowledge systems (see this described in detail in **Chapter 4**)**.** Here I am encountering evidence of this, specifically in a Malawian context.

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[138] Consider, for example, Richard Long's '*A Line made by walking'*. See online at: [https://www.tate.org.uk/tate-etc/issue-29-autumn-2013/richard-longs-line-made-walking].
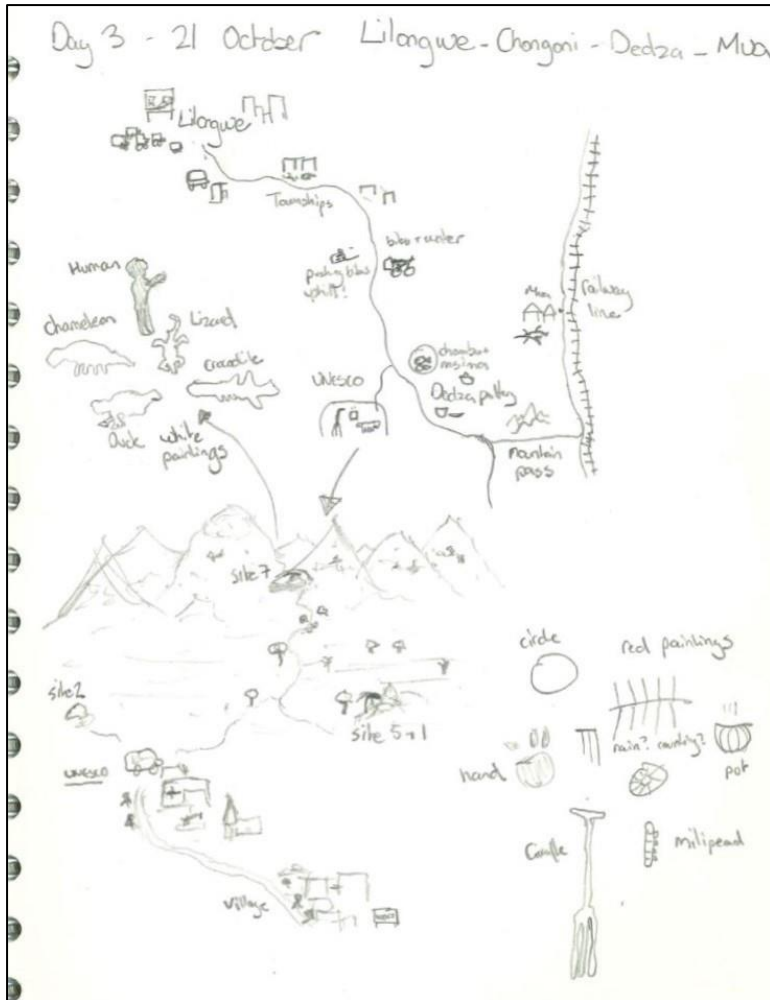
Figure 5.11: Full hand drawn map extracted from fieldwork journal of water walk 1, drawn when visiting Chongoni rock art site.

Water Walk 2 — A Cultural Insight: KuNgoni Art and Cultural Centre

"Getting to know and understand traditional culture can provide an insight and entry into the social fabric of communities. Indeed, knowledge of the culture and values of the community in which one lives and works is almost a precondition for success, whether in development or business. At KuNgoni, the process of becoming culturally literate can begin." (St-Arneault, 2007, p. 30)

Descending to Lake Malawi, and an introduction to KuNgoni Art and Cultural Centre

From the town of Dedza, at an altitude of 1,500 metres, *Kalozera* and I drive eastwards, and descend over the Kirk Range (named after John Kirk, a Scottish naturalist, and companion of David Livingstone). These mountains, like so many places in Malawi, bear shadows of Malawi's Scottish and British colonial past[139] which renamed traditional/indigenous references given to features of the landscape. Scientific and political mapping and nomenclature that has been layered on the landscape that represents both a physical colonisation of place, but can also be interpreted as a symbolic imposition of the values of those colonising cultures. I acknowledge that that this is the traditional landscape of the *Ngoni* tribe, but also the home of the *Yao* people.

We wind down the escarpment towards Lake Malawi — the temperature starts to notably rise, and the unrelenting sun is incredibly hot. The landscape is a haze of parched brown, interspersed with the green of hardy plant life and some magnificent baobab trees. We drive onto the village/trading centre of Mua, a little northwards along the lake, and the nearby 'KuNgoni Centre for Culture and Art' at Mua mission — recognised as one of Malawi's richest cultural sites (Briggs and Turay, 2016; Munthali and Culture Smart, 2018).

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[139] As Phoya (2011, p.54) dryly quips in one of their stories of Malawi: *"We finally reach Williams Falls… Knowing Malawi's nomenclature system, I'm guessing the Falls were discovered by a colonial named Williams"*.

Figure 5.12: Area of focus for water walk 2 (refer to **Figure 5.3** for wider context) — KuNgoni Art and Cultural Centre near the village of Mua. (Source: Open Street Map).
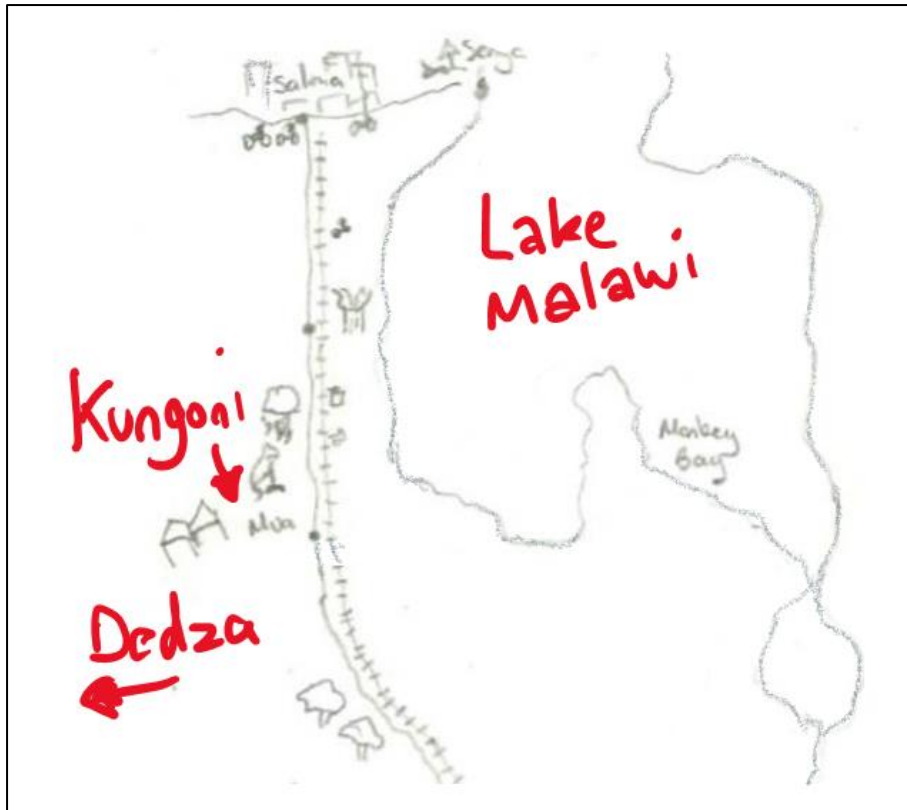
Figure 5.13: Extract from hand drawn map in fieldwork journal, with digital annotations — KuNgoni Art and Cultural centre and Lake Malawi.[140]

We are shown to our rooms, and soon dark descends — abruptly as it does at these latitudes[141]. The transition between day and night is marked by the human voices of **villagers undertaking domestic chores at the river (and where spirits, according to local lore** (see St-Arneault, 2007)**, also came to do such activities)** giving way to the sounds of crepuscular animals (those that become most active during the twilight hours around dawn and dusk). Most notably are the voices of crickets and frogs — the latter with a literal and symbolic connection to water in Malawian life. **The presence of the frog reminds people of the coming rain and is a symbol of water and life**. It is an example of Malawian indigenous/traditional knowledge (compare Nkomwa *et al.* (2014))**,** while St-Arneault (2007, p. 25) explains that *"For the Malawian farmer, water is life.[142] This is especially true in the dry season between*

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[140] This map depicts the centre's location near Mua village, close to the south-western shore of Lake Malawi. Sketches also note some of the sights — baobab trees, the railway line next to the lake, and the town of Salima to the north (**water walk 3**).

[141] The disappearance of natural light, and limited provision of artificial sources (we lose all electricity in our rooms for a period) remove the means to observe and record through visual means, which I had been primarily focusing on all day. Rather, it is an awareness of the aural that becomes much more acutely apparent at night, and sound becomes the primary means of orientation.

[142] As ever, this fundamental connection where water is life — *Madzi ndi moyo.*

May and November, when the land turns brown and the water holes dry up. In the wet season, the frogs sing praises for the rain.". The frog's song is also a '**guide' to direct people to water's rare availability** during the dry season— and furthermore important where artificial light, especially in rural areas, is often very limited. This aural connection to water, through the medium of another animal, is part of the necessary human/natural relationship of everyday life for many rural Malawians[143].

A walk through culture — a tour of KuNgoni/Chamare Museum

> *"Like any country, the culture of Malawi is in flux. The Chamare Museum is a window on the past and may be the template for a promising future. The aim is to help Malawians to gain a deeper understanding of who they are and to stimulate them about the richness of their culture. For the non-Malawian visitor, the Museum is a gateway to Malawi's cultures and traditional beliefs."*
>
> (St-Arneault, 2007, p. 23)

In the morning *Kalozera* and I are given a tour of the centre's *Chamare Museum* by the museum's guide[144]. This commences with a visit to a large circular room, where our guide explains the various stories, photographs, paintings, narratives, and sculptures within the space (see **Figure 5.14**). They note the low seated benches around the perimeter, utilised for performances of the *Gule Wamkulu/ Nyau* society dances.

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[143] I make some sound recording of these frogs, while I also wake in the very early hours of the morning — around 4 or 5am. I also note the noise of birds outside, and make recording of them too. As per my earlier note, perhaps I will use these in another project or output.
[144] We are first given an introduction to the centre's history — established in 1976 on the site of the Mua mission (originally dating to 1902 when three 'White Fathers' — catholic missionaries — took residence there) by French-Canadian anthropologist, artist and priest Father Claude Boucher who had been working in Malawi since 1967 (see St-Arneault (2007)).

Figure 5.14: A collage of material culture, art, and landscape in and around KuNgoni. Images: clockwise from top left — a python and water in sculptural form; KuNgoni wood carving; Father Claude Boucher's painting of a Malawian cosmological order; inside the museum; descending the mountains towards Lake Malawi.

There are many symbolic narratives and representations in various artistic forms in the room — perhaps the most eye catching being a painting of the cosmological collage (or a 'visual account' of Malawian theological culture) painted by Father Claude Boucher (see **Figure 5.14**). It depicts several social-cultural narratives central to traditional Malawian cosmological beliefs. I am drawn to the **water themed representations in the image — the serpent in the water pool, and that recurring representation of the rainbow**, evidence of that link between the two (see **water walk 1, and Chapter 4**). Herein a Christ like figure (this is possibly a representation of *'Mbona'* — see (Schoffeleers, 1992; Chimombo, 1994; Ott, 2000), with 'roots' in a human-animal everyday naturalistic realm, looks upwards to a **rainbow** with outstretched arms. *Gule Wamkulu* masks sit atop the rainbow, while a golden mask with fractal roots serenely observes the scene. This masked figure is seemingly *Chiuta/Chauta* — the 'Great Bow', the **God of the rainbow and whose rain giving powers are often sought** (see **water walk 1**) and evidence of this recurring symbolic link. Fully interpreting the symbolism in these representations exceeds the scope of my inquiry, and an extensive account is provided by Ott (2000). However, this small insight

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demonstrates the methodological process of this research which recognises the capacity of aesthetic forms to connect these **symbolic and material representations of water**.

We continue our walk by moving through a small archway, drop a step, then climb again to another circular building. This room contains a plethora of exhibits that narrate the knowledge systems of the three tribes in the surrounding area — the Ngoni, Chewa, and Yao. The exhibits convey the tribes' understandings of the journey from life to death — and the cultural and cosmological rituals and ceremonies practiced marking stages of that journey. **From ceremonies at birth, adulthood initiation customs, marriage, and funerary practices, I take specific note of the involvement of water** — **used in ritualistic cleansing, its use as a mark of absolving, in hair shaving practices, the washing of the dead, and even in the form of ritualistic offerings to gods**. Of note is the offering of beer, which both contains water and is also linked to rain rituals[145].

An incredible display of Gule Wamkulu masks — and some significant revelations
In a third, and final, room we are taken into a space filled from floor to ceiling with masks and costumes — displayed in a mountain like sculpture. These are revered material culture and symbolic objects, and fundamental to the practice of the UNESCO recognised *Gule Wamkulu* dance and *Nyau* secret society (see **Chapter 4**). It is a spectacular display (the museum claims to have one of the largest collections in the world)[146].

Our guide directs us to, and explains, one of the most prominent figures in the room for its specific **water associations**. It is a full life-sized model depicting one of the '**Spirit Wives' who performed rain calling ceremonies in rain shrines or spirit pools**. These celibate females were married (literally or symbolically) to *Chisumphi* (the supreme God), held roles of political and spiritual leadership and performed **rain calling and other initiation rituals**.

Continuing our walk outside — taking in some of the museum's grounds
We leave the museum's main buildings and continue our walk outside. Our guide introduces us to a series of frescos adorning the outside walls of the building, depicting cosmological narratives in the form of

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[145] See Schoffeleers (1992, p. 242) for evidence of beer and rain links: *"When the beer was fermenting, everybody would be at peace, for they knew that the rains would not be long in coming. When it was ready for consumption, the beer would be taken to Khulbuvi as an offering to Mbona, their great spirit."*.
[146] Photography is strictly forbidden in this section of the museum, and I cannot, therefore, use this medium of representing my encounters.

pictorial representations, with notable recurring animal symbolism and links to rain calling rituals (see **Figure 5.15**)[147]. I specifically identify a fresco which similarly represents the **aforementioned water mythology**. It depicts the Spirit Wife called *Makewana* having a ritual meeting with *Thunga* the mythical snake — a symbol representing God, and an ancient symbol of fertility, at the local *Mankhamba* shrine (a place linked to worship of the rain god Chauta). **In this ritual they would enter the pool in which *Thunga* lived**, staying there for hours or even days — accompanied by drumming and hand clapping — **throwing water into the sky, calling for rain in times of drought, or seeking to ward off excessive rains during flooding** (see St-Arneault, 2007).

Further elaborating on the symbolic links between water and colours, our guide notes that a **black cloth would be placed over the roof of a shine during rain calling rituals, a white cloth if seeking a reduction in rains when there is flooding**. Schoffeleers (1992) describes similar symbolic associations in other Malawian folklore — recounting a story whereby *Mbona's* (see in Boucher's painting in **Figure 5.14**) wife *Salima* was brought two cloths — one black, and one white. Their wearing of either colour would have significance — the black signifying a year of plenty and successful harvest, the white of famine and hunger. **This mythological narrative has a direct association with water, linking to the occurrence of the rains — so vital for crops and food.**

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[147] See also Boucher, C., (2002), *'Digging our roots: The Chamare Museum Frescos'*.

Figure 5.15: A triptych of murals adorning the outer walls of the Chamare museum. Images: from left — mural of *Makewana* and *Thunga*; representation of cave art painting at Chongoni (see **water walk 1**); rain calling myth of Kaphirinthiwa.

These accounts further reinforce and support the symbolic serpent mythology that I have been developing throughout this writing (also see **Chapter 4**), as well as the connection **of the colour black to rain, and water** (also noted in **water walk 1**). Herein these representations — both the sculpture figure inside the museum, and the outside fresco — link together several water associations.

As we continue to walk around the grounds, we encounter various other sculptures and installations that reinforce some of these cultural narratives (notably performing both symbolic and functional purposes). **I see the ever-recurring serpent and python *Thunga* — and befitting its symbolic association with water, merging into the form of a pond** (see **Figure 5.14** and **5.16**). This is juxtaposed with a modern form of technology — a water pipe and pump — emerging from the pond. My eye is drawn to their continuous line and colour — perhaps merging under the water in an ouroboros like relationship (see **Chapter 4**), **symbolising change and the continuous flow of water and life**.
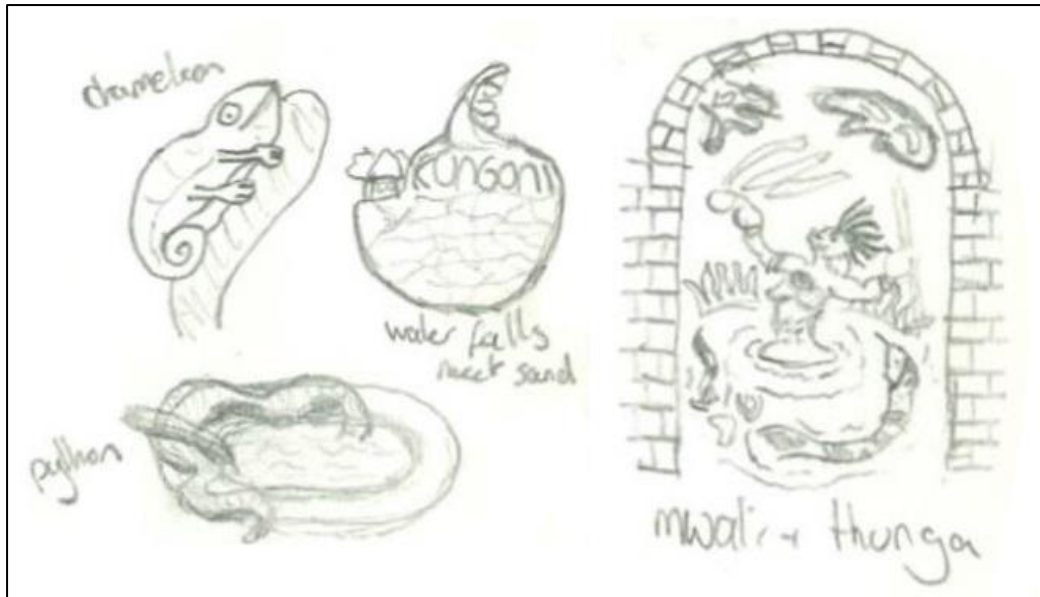
Figure 5.16: Extracts from fieldwork journal of some sketches of the **water related art** around KuNgoni[148].

As *Kalozera* and I are about to leave the KuNgoni centre we notice Father Claude Boucher's recognisable presence sitting at a desk in a corner of the museum's workshop/library. Working with a Malawian aide, they appear to be transcribing some literature. Aligned with the emergent approach of my research, in which I sought to react to opportunities as they might arise, I introduce myself. I am invited to sit down with him, and after explaining my research interests, we proceed to engage in an informal discussion about art, culture, sustainability, and water in the context of Malawi.[149]

A moment of sitting/pausing

In our discussion about development work and its wider social cultural effects, **Boucher refers to an EU funded project nearby which sought to reengineer water**, **and we discuss both the effect of materially altering the water's physical flow on the landscape**, but also how social structures and local knowledge systems can be undermined through these processes. They also talk about their involvement in archaeological digs, particularly looking at fragments of potsherd (broken pottery and otherwise), and how these can be interpreted form historical accounts of

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[148] The practice of sketching these observations at the time, and presenting them here, are a form of evidence collection. However, further to this, the time spent drawing these symbolic representations encouraged me to consider their meanings more attentively.
[149] While I did not record this meeting, I noted the reflexive discussion in brief hand notes, narrated it in a self-reflective audio recording shortly after the meeting, and then later wrote it up as a journal entry in my fieldwork diary.

culture and place — but whereby many hydrological engineering projects in the country neglect such studies.

While this discussion I had with Claude Boucher has not been fully represented here, perhaps one key line that stands out from our conversation is their assertion that *"capital does not care for culture"*. It is a statement which resonates with several of the papers in the hydrosocial cycle special issue in the journal Geoforum (47, 2014) I referred to in **Chapter 4** (see (Boelens, 2014; see Budds, Linton and McDonnell, 2014; Linton and Budds, 2014). Where capital (or economic priorities) often preside over cultural values. Indeed, this closely reflects what is considered as the dominant framework of development that gives primacy to economic or financial interests (see discussions in **Chapter 2**).
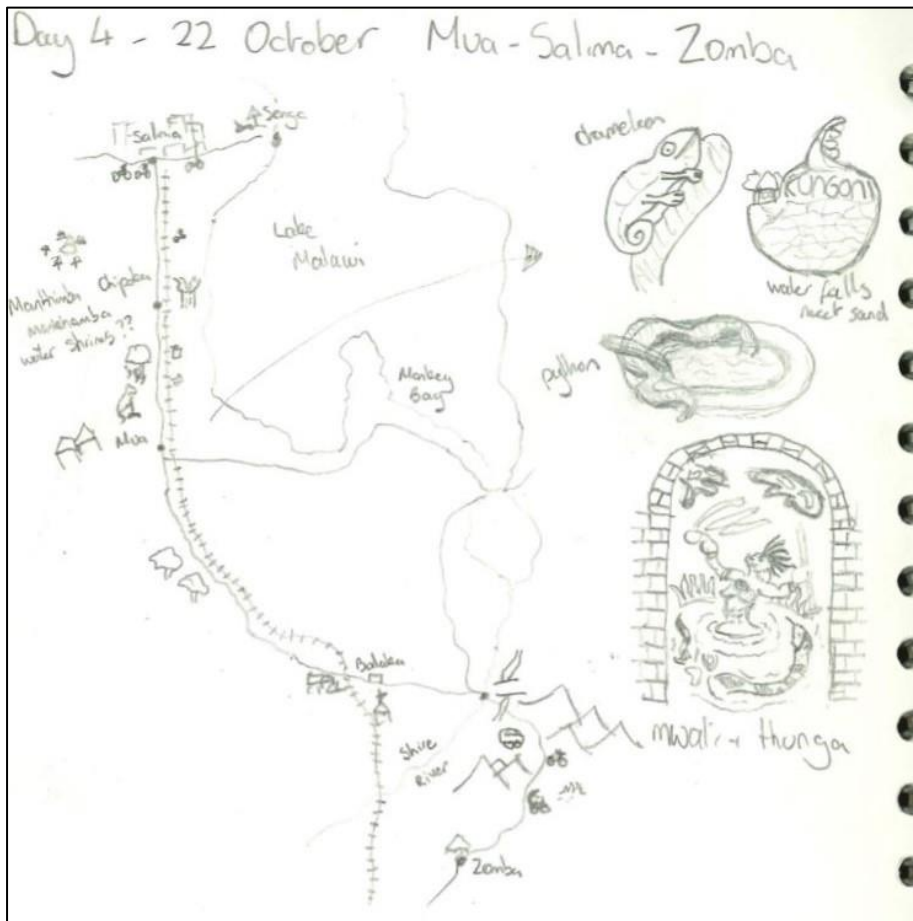
Figure 5.17: Full hand drawn map extracted from fieldwork journal of water walk 2 at KuNgoni Art and Cultural Centre near the village of Mua.

Part 2: Walks in the present

Makewana — the rain priestess associated with Thunga, the python.

Having introduced some of the cultural context of Malawi in the previous walks, the second part seeks to collate some evidence from walks that refer to more recent social, cultural, political, and ecological histories of Malawi with links to water. Thus, it recounts two water walks — one at Lake Malawi, and then 'a walk' (that is actually a collection of micro walks) in and around the main cities of Lilongwe and Blantyre. In the spirit of my autoethnographic approach it reflexively intertwines my personal experiences and observations, with wider social, cultural, and ecological knowledge of Malawi — and the role water has had in materially and symbolically shaping the country as a modern nation state. In doing so it seeks to pay attention to the key perspective of Mathur and Mulwafu (2018, p. 7) assertion that there is a *"lack of serious attention to historical perspectives regarding many of the environmental issues facing the country [Malawi]. The desire for quick fixes to environmental problems ignores existing historical knowledge about local systems and previous interventions."*.

Lake Malawi: A body of water that dominates a country like few others

Lake Malawi (or simply referred to as 'the lake') **is both materially and symbolically significant in Malawi, and the wider region**. It is the **fourth largest freshwater lake in the world by volume and is around a fifth of the country's area**. Significant in determining the country's physical boundaries, its economy, its social and cultural practices, and its fundamental identity — it is also a significant freshwater source. Part of the East African Rift valley, it is noted as the lake with the **highest number of species of fish in the world** and its biological diversity makes it of significant and universal value[150]. This combination of cultural and ecological significance contributes to Lake Malawi National Park (at the southern extent of the lake) being one of the country's two UNESCO world heritage sites[151] (along with Chongoni rock art area — see **water walk 1**). Here we remain in the tribal area of the *Yao* people, but also the *Chewa* — Malawi's largest tribal group.

Throughout my time in Malawi, I hear stories linking the lake to Malawian identity, and conceptions of place. From *Kalozera's* recounting of David Livingstone's 'discovery' of the body of water — who, on

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[150] UNESCO, *'Lake Malawi National Park'*. Available online at: [https://whc.unesco.org/en/list/289].
[151] On reflection I would have liked to have visited this specific part of the lake given its UNESCO status.

asking local people the lake's name, was told '*Nyasa*' — the literal word for lake in the local language[152]. Known as Nyasaland during its British colonial rule, the country's name was a hybridisation of local language and English to mean 'land of the lake'. The change of title to (Republic of) Malawi at the time of independence is a reference to a traditional name for the Nyanja people who settled here, the *Maravi*. Their name is reputedly derived from the Chichewa word for flames. **Herein the name Malawi is associated with 'flaming waters', a reference to the image of the sun over the lake** and is symbolically referred to in the flag of Malawi, with its recognisable half sun symbol (see **Figure 5.18**). What is more, the 31 rays emanating from the sun on the flag represent that Malawi became the 31st nation in Africa to achieve independence, with the recognisable pan-African colours of black (representing the people), green (nature), and red (blood)[153]. **It is a flag with apparent social-natural symbolism, including with specific links to water**.

Figure 5.18: Flag of the Republic of Malawi.[154]

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[152] Therein the body of water was named 'Lake Nyasa', literally translating as 'Lake Lake'!
[153] Britannica, '*flag of Malawi'*. Available online at: [https://www.britannica.com/topic/flag-of-Malawi].
[154] *Ibid.*

Water Walk 3 — Lake Malawi: water of material and symbolic significance

Leaving Mua Mission and the site of **water walk 2,** *Kalozera* and I drive northwards along the lake towards the town of S*alima*[155] following the single-track rain line — the only rail track in the country[156] (see **Figure 5.19** and **5.20**). I am increasingly **observing and noting water relations and practices** that seem to be specifically tied to the presence of the lake. **The economic utility value of the lake is evident by the fish on sale at the roadside**, while a greater number of small Islamic mosques, in addition to Christian churches, point to the religious practices of the region we were transitioning into — in this case of the Yao tribe. **The proximity of water points to places of worship in rural locations (and often observed being used) is notable**. *Kalozera* and I discussed this observation, and the impact this might have on local and everyday water practices. The following reflective notes from my journal indicate some of these considerations:

'Water uses at different religious sites[157]. For example, passing a mosque, and I talk with Kalozera about ***the extra demands that a water point at such a site might require owning to the repeated ritual washing*** ***involved at the site for religious purposes.*** *Will it cause waterpoints to wear down quicker with greater use, or will it be maintained more readily due to its location and necessity for everydayness — maintaining it for longer?'.*

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[155] The name *Salima* comes from a mythological narrative (see **water walk 2**) with water links, and further evidence of place-based nomenclature.
[156] While marked on maps — running from Mozambique in the east, through the Southern Region, along the lake, before acutely turning westwards towards Lilongwe and onto Zambia — I never quite get a full understanding of the train's current use. It is clearly a major form of economic and technological infrastructure, and by connecting to the coast in Mozambique it has links to water in terms of trade, or the movement of goods, from the coast.
[157] Note the information from **water walk 2** on the various water rituals of the three different tribes around KuNgoni. Understanding these may offer significant insight into specific water practices and demands on water supplies in different areas.

Figure 5.19: Area of focus for water walk 3 (refer to **Figure 5.3** for wider context) — Senga Bay on the shores of Lake Malawi, east of the town of Salima (Source: Open Street Map).
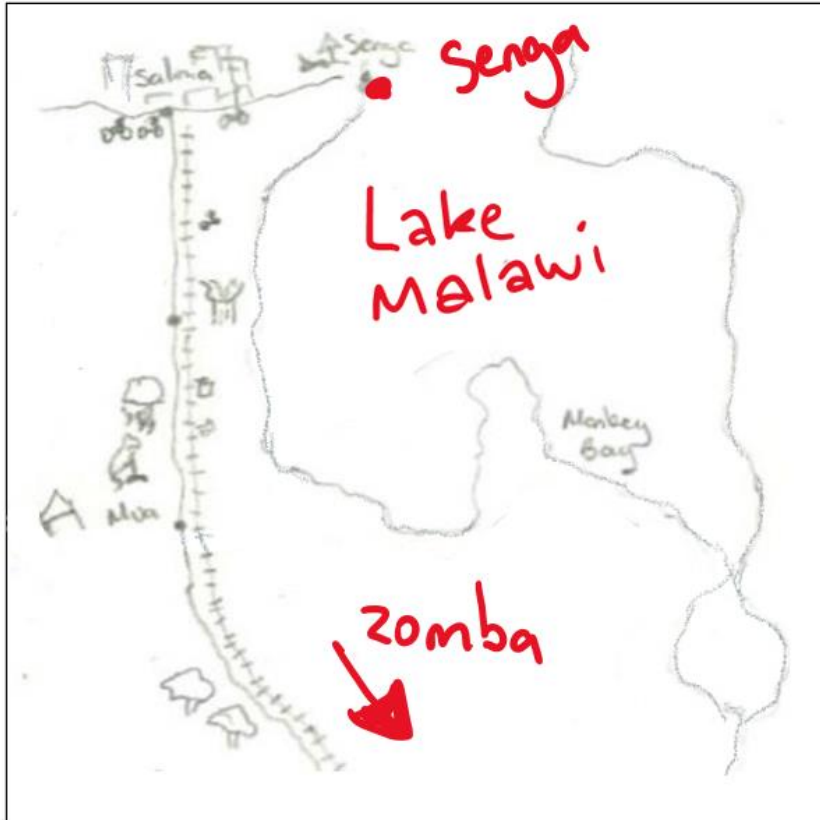
Figure 5.20: Extract from hand drawn map in fieldwork journal with digital annotations — Senga Bay.[158]

A walk on the lake's shore — Salima to Senga Bay

As we enter *Salima* it is clear how important the bicycle is as a form of everyday mobility in Malawi (see **Figure 5.21**), including for **transporting water — moving empty jerry cans, plastic bottles, and even full containers**. Just south of the town we cross the Lilongwe River, which flows from the capital city, Lilongwe — but, at this time in the dry season, only exists as a small, braided shadow of its full self. We drive the short distance to the east, meeting the lakeshore at the resort of Senga Bay.

We spend some time walking along the shoreline of this sea-like lake. A hundred or so meters along the beach we come across a pipe 'snaking' its way along the sand, directly into the lake, coming from one of the hotel's neighbouring houses (see **Figure 5.21**). **This appears to be drawing water directly from the lake into this large, luxurious house —** *Kalozera* **and I discuss this, assuming it likely for a non-**

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[158] Map of Senga Bay beachside resort on the shore of Lake Malawi, with the busy town of Salima is to the west. Detailed sketches once again note the use of **bicycles as a form of transport, including of water**.

consumptive use — possibly a swimming pool. We continue to walk along the sand, and a short distance on, pass some fencing that seemed to demark the boundaries of the beach. Here we encounter some women washing clothes at the lake shore. Around them several children play in the water, while nearby a group of adolescent boys are attempting to catch fish. **This scene, one of everyday interactions with the lake, depict some of the different uses of water in Malawi. A domestic use of water for laundry, recreational and social interactions through play, as well as a potential source of food (which might even form part of an economic transaction).** These uses and interactions with water are juxtaposed with the walled off luxurious home we had passed, and their contrasting experiences and privileges associated with what was essentially the same water, at the same place.[159]
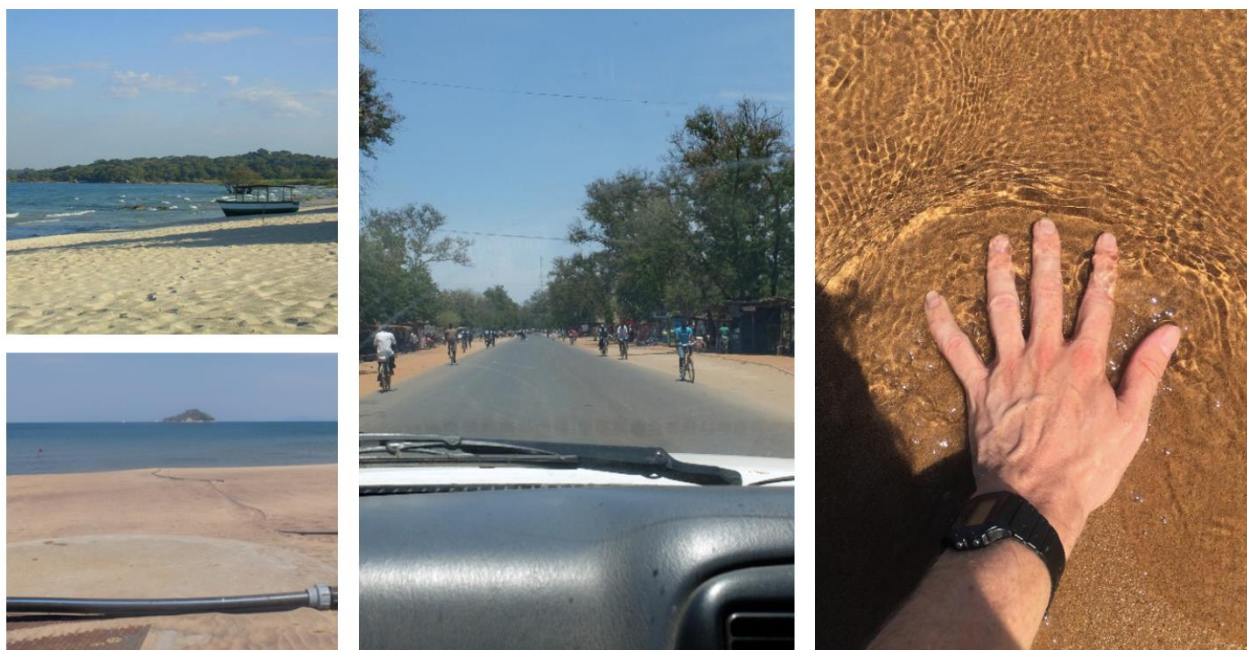
Figure 5.21: A collage of images around Lake Malawi. Images: Top left — Lake Malawi in 2005 during my previous visit to the country; bottom left — a winding pipe drawing water from the lake; centre — ubiquitous bicycles in *Salima*; right — touching water at the lake shore.

In my ongoing collection of small artefacts and objects during my fieldwork, aligned with the practices of assemblage art, I take the chance to gather some beer and soft drink bottle caps I find in the sand[160]. I

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[159] Recognising some of the health issues with the lake's water quality — including schistosomiasis/bilharzia disease, it is worth noting that people — both rich and poor — are nonetheless apparently using the untreated water from the lake as part of their everyday water use practices.
[160] I recall the similar practices of Gange (2019, p. 60) who notes that *"When I wandered ashore, I found myself watching each inch of ground for traces of the past until every broken plastic bucket or scrap of rope became an artefact."*

recognise international, and some regional, brands — the ubiquitous names of 'Carlsberg' and 'Coca-Cola' — but also 'Fanta', 'Castle' and others. **Soft drinks and beer — products which are mainly derived from, and depend on the availability of, water.** It also points to Malawi's, like much of the wider region, significant consumption of beer (with the Danish company Carlsberg dominating the market). My mind connects back to **water walk 2,** where I learned that beer was often offered as a gift to gods, including during rain calling related rituals.

I would later use these collected bottle tops in some assemblage art creations, making physical representations of a map of Malawi, and its national flag (see **Figure 5.22**). Practices that sought to honour and fulfil some of the characteristics of assemblage, recalling the Anderson and MacFarlane (2011) description of assemblage to undertake *"experiments with methodological and presentational practices"*, as well as the recommendations of Russell, Milne and Dey (2017) to apply art-based methods (and 'getting outside') in SEA research.
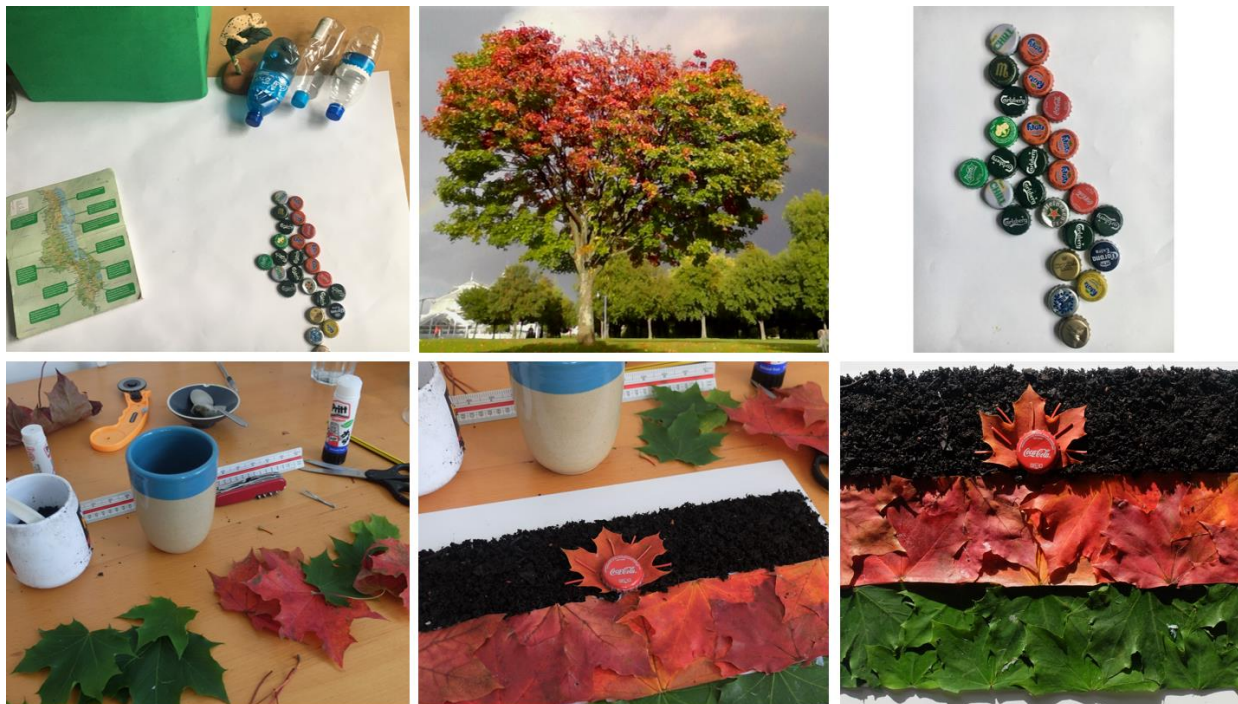
Figure 5.22: A collage of alternative experimental assemblages of the Malawi map/flag. Images: Top row left and right — bottle top map of Malawi[161] (orange/red representing lake Malawi, greens/gold

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[161] Bottle top collages, a form of assemblage/found object art, is a popular artistic practice in sub-Saharan Africa.

representing the land); top row centre — my favourite local tree in Glasgow in autumn 2020 (from which I collect leaves during the year); bottom row left to right — leaf collecting and preparing in autumn 2020; assemblage of leaves and soil plus a single bottle top from Lake Malawi to create an assemblage art representation of the Malawian flag.

Water Walk 4 — Blantyre and Lilongwe: walks in cultural, economic, and political urban centres

Rather than a single walk, **water walk 4** is a collation of 'micro walks'[162] in the cities of Blantyre and Lilongwe. They seek to represent an emergent understanding of place based on observation of the everyday, including relations to water, and specifically in the context of an urban setting. Perhaps counter-intuitively these walks also involve significant periods of being physically stationary — moments of sitting and observing. This is an important, but perhaps less obvious, aspect of my method of water walks; they also include moments of 'pause' — whereby it is necessary to stop, and reflect, on the unfolding experiences and encounters of the walks (see, for example, in **water walk 1**).

Walks in Lilongwe — insight into the political history of modern Malawi

Bookending my time in Malawi, I have a few days in the national capital city of Lilongwe (see **Figure 5.23**). I visit a number of sites in the city connected to the legacy of President Hasting Banda (Malawi's first post-independence leader) and whose image and presence is still keenly felt in modern Malawi (from their images on banknotes (see later), to their influence of ways of dress (see Munthali and Culture Smart, 2018)). Specifically, I visit President Banda's mausoleum, the government compound they built, and the nearby civic square — symbols of their presidency imprinted in material culture. Later presidents have also sought to represent their political legacy in the form of large, distinctive (and expensive) construction projects — including, for example the National Stadium, which I also visit (see **Figure 5.24***).

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[162] Or, perhaps, better described as 'wanders'. Indeed, these city walks most closely resemble notions of the derive of Guy Debord's psychogeography (see **Chapter 3**), especially considering their urban setting.
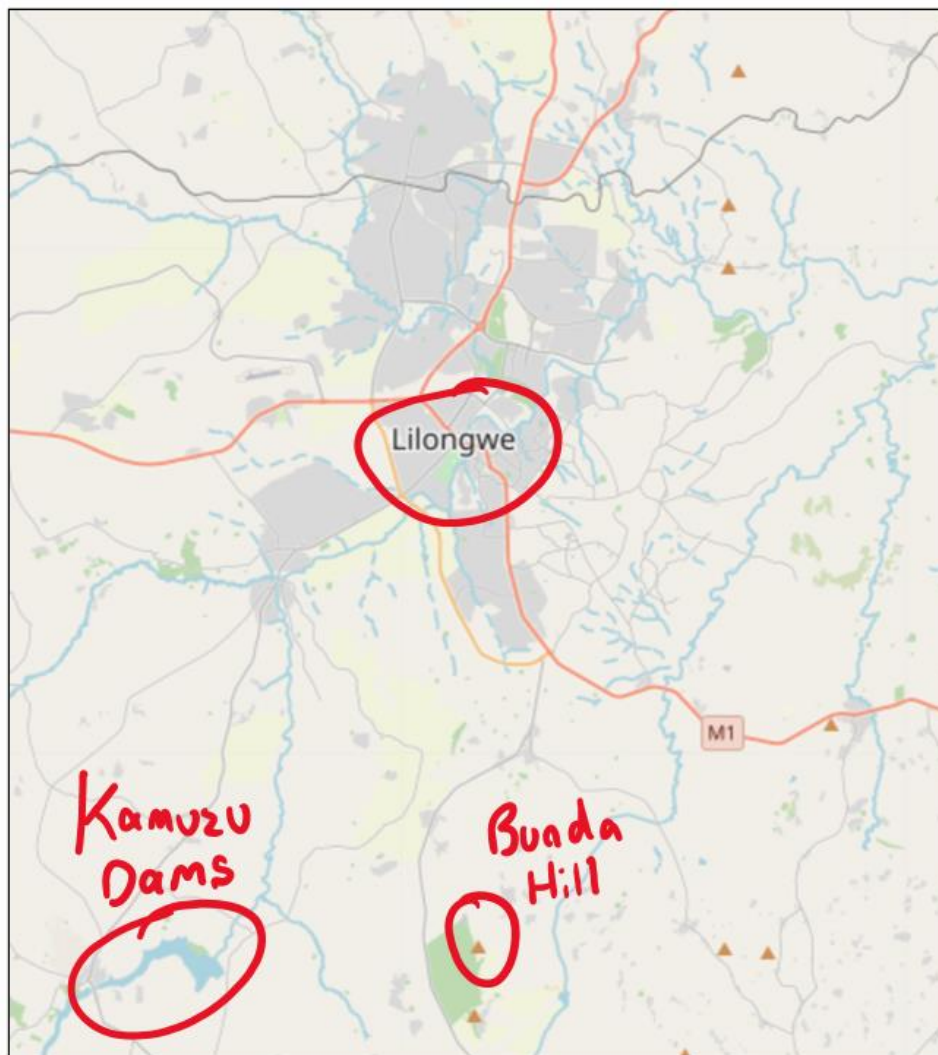
Figure 5.23: Area of focus for [Lilongwe part of] **water walk 4** (refer to **Figure 5.3** for wider context) — the capital city of Lilongwe, with Kamuzu dams and Bunda Hill to the south. (Source: Open Street Map).

I have an accompanied visit to some of the markets around Lilongwe, as well as to the physically and topographically distinctive *Bunda Hill* on the outskirts of the city, a **site of spiritual significance and water pilgrimage** (see **Figure 5.24**). At times of drought, or expected rains, **pilgrims make their way to the hill — trekking to the top to perform rain calling rituals**. I walk around the base of the hill and see people trekking up its spine — it is the first few days in November, and the rainy season is imminent. My time is tight, and though I would like to partake in a climb up the hill, I feel this is something for another time, and again the possibility for future research.

Figure 5.24: Sites visited in Lilongwe. Images in clockwise from top left — National Stadium; Bunda Hill to the south of the city; President Banda's Mausoleum; President Banda's portrait at their mausoleum.

Kamuzu dam — water as layers of infrastructure, political, recreational, and the everyday

To gain some insight and impressions of the role of significant water infrastructure in the region, *Kalozera* and I take a short trip following the path of Lilongwe River to the Kamuzu Dams (about 40 kilometres) to the southwest of the city (see **Figure 5.25**).
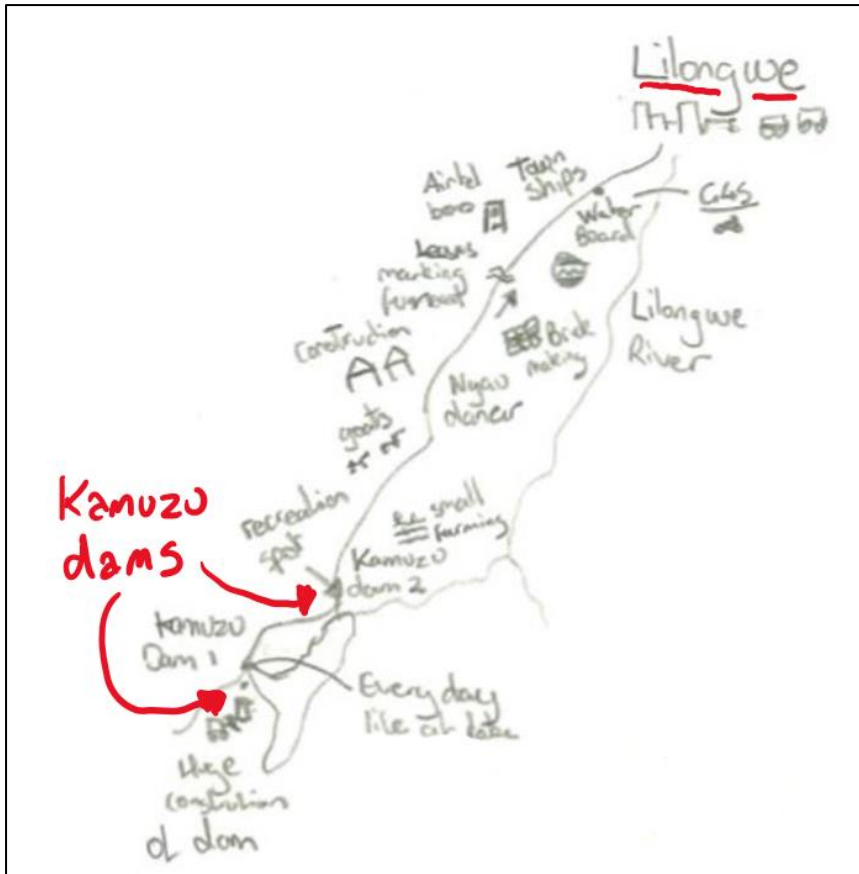
Figure 5.25: Extract from hand drawn map in fieldwork journal with digital annotations — Kamuzu dams to the south-west of Lilongwe.[163]

Arriving at the construction of a new dam, close to the existence of a current one, we drive over a short bridge, park, and get out for a walk. While this clearly important infrastructural project, and more likely to be the attention of a study of water, my eye is drawn across the bridge separating the dam from the feed lake. Here various everyday engagements with water are taking place — activities that represent the multiplicity of everyday interactions, and uses, of water (see **Figure 5.26**). The following extract from my fieldwork diary reflects on the scene:

'Construction work is juxtaposed by the nearby lake and daily life on a Sunday. Boys are swimming, people conversing, washing utensils, cleaning clothes, air pollution from machinery. Interpretation of

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[163] Here shows the road route taken, including depictions of observations at the roadside including townships, everyday water uses (brickmaking, agriculture, recreation). During this journey we pass an individual dressed in partial Gule Wamkulu regalia (see **Chapter 4**).

variability in depth (through Kalozera) from a woman washing clothes — in wet season need a canoe, whereas in dry season that the lake dries up in summer. A young child gives their account of being able to walk into the water at those times. How do these various activities affect different uses of water?'.

Significantly Strang (2015) notes the wider symbolism of dams in addition to their material impact — holding back water can provide power in terms of mechanical or electrical energy, but also represents power in terms of influence and control. Kamuzu is the middle name of the aforementioned Hastings Banda, Malawi's first president, and evidence of nomenclature linked to water related material culture.

Figure 5.26: Extract from hand drawn map in fieldwork journal with digital annotations — Kamuzu dams.[164]

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[164] This sketch is a topographical image of the scene we encounter — with a new dam construction separated by a bridge to a lake in which everyday water engagements continue. I list some of the water uses I observe, as well as some of the non-human life I see engaging with the water.

Walking in Blantyre and syncing with Malawi time

Blantyre is the southern region's main financial and commercial centre. The city, which forms a conurbation with the town of Limbe, is noted for being named after the town of Blantyre near Glasgow in Scotland, the birthplace of David Livingstone. The footprint of a colonial legacy can be seen in some of the architecture and institutions which remain in the city. Neighbouring Limbe is a main stop for the train line that travels north to south through the southern/central part of the country and is a bustling and congested place of activity and life[165].
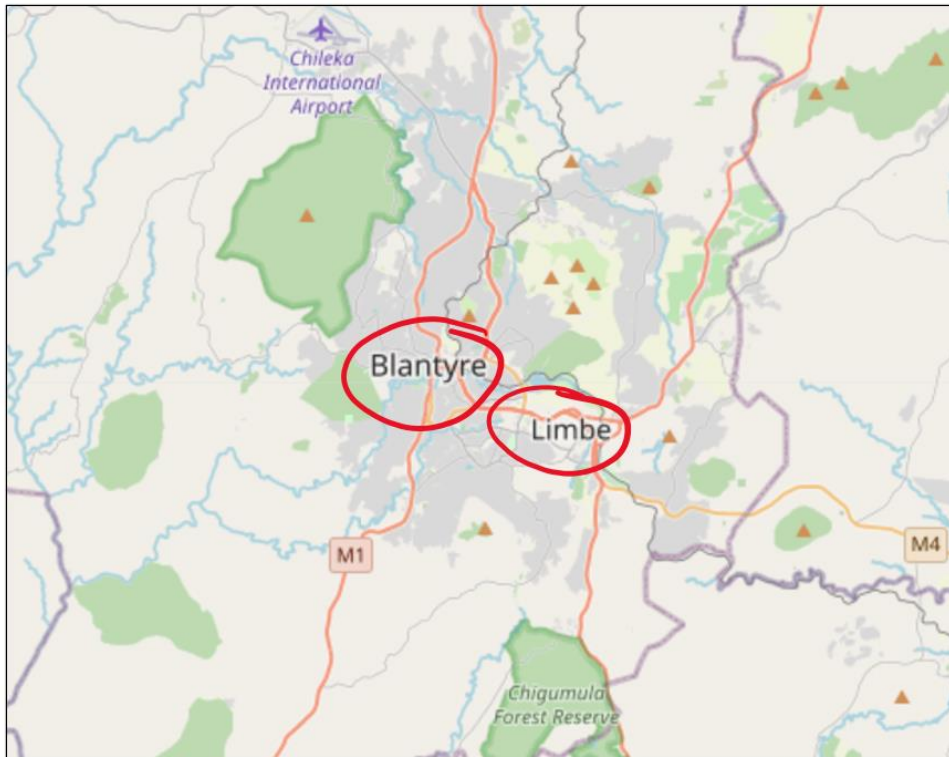
Figure 5.27: Area of focus for [Blantyre part of] water walk 4 (refer to **Figure 5.3** for wider context) — the Southern Region city of Blantyre and nearby Limbe. (Source: Open Street Map).

I meet RC, a Malawian academic I know from having met in Glasgow (see described earlier), in the centre of Blantyre. We walk to one of the city's large malls, bustling with families shopping and eating on a

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[165] In the days before we arrive the main thoroughfare in Blantyre has imposed a new one-way system to try and deal with congestion issues. This, in itself, leads to significant congestion. But I am assured that this is better than it was previously. It brings to my attention the recurring challenges of transport that affects urban locations around the world, and especially in countries in the global south.

Saturday lunchtime, and we talk about my experiences thus far in Malawi. After lunch we decide to walk the few kilometres back towards the centre of Blantyre. The sun is nearing its peak in the early afternoon sky, and it is hot. I am used to walking and cycling, even in some heat, for hours at a time when I am at home — but this is extreme. I recall us driving down this road the previous day in just a few minutes — but protected and sheltered in our privilege of a vehicle.

RC and I talk about the tendency for Malawians to rise very early in the morning — 5 or 6am in order to start work for perhaps 7am or earlier (including non-agricultural workers). Working to perhaps 3.30 or 4pm in the afternoon, before finishing and going home. This is somewhat out of sync with conventional UK working practices — starting at 9am and working through until 5pm (or later). Though taking a few days to get into this daily routine, it was becoming very apparent to me why it was a much more suitable — indeed necessary — practice for work and life in Malawi. The cooler temperatures early in the day at sunrise are much more suitable for working (**especially for physically exerting tasks like water collecting**). Recalling my experiences in **water walk 2 —** the sun disappears year-round (often in a rapid descent below the horizon around 6pm) — and it would be necessary for people to be home, having completed household tasks before sunset. Work beyond mid-afternoon (and furthermore starting work late, missing the cool morning sunlight) is often not appropriate for the social-ecological context of place.

Eventually we reach the centre of Blantyre, crossing the Mudi River. The water is at a low level at this time of year, while disposable blue plastic bags litter the river's banks — an image that is seen throughout the country in urban and rural contexts[166]. **It is a reminder that water is a carrier of 'good' and 'bad' — including pollution and waste**. We find our way to Kwa Haraba café, just off one of the city's main thoroughfares behind some buildings, and a place I have been recommended to stop at. It is a sanctuary of shade and peace from the bustle of Blantyre. The cafe is adorned with Malawian art and crafts, including a significant number of Gule Wamkulu masks (see **Figure 5.28**), reminding me of our visit to Kungoni (**water walk 2**). I introduce myself to the café owner — and promise I will come back on a future day to spend more time.[167]

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[166] See similar challenges, and potential social-ecological and locally inclusive solutions in Lilongwe River in the article by Kavonic, J. and Chiunjira, S., (19/04/28), *'Cleaning up Lilongwe River'*. Available online at: [https://rethink.earth/cleaning-up-lilongwe-river].
[167] The café is to become a central place of contact and learning during my time in Blantyre.

Figure 5.28: Sites visited in Blantyre. Top left — *Kwa Haraba* café sign post bordered in the colours of Malawi's flag (see **water walk 3**) and featuring the thin human figures common in Malawian art; bottom left — welcoming entrance to the café; centre — Mudi River; top right — typical Malawian ceramics with the iconic baobab tree depicted; bottom right — Gule Wamkulu masks adorn the walls of the café.

Kwa Haraba cafe — a place to meet, talk and learn about Malawian culture

A couple of days after my first visit to Kwa Haraba I have a day off, and I am quite tired. I have spent over a week moving almost every day and would like to spend some time sitting in the café to write up some reflections in my journal. I walk to the city centre in the morning, chat a little to the café owner whom I had spoken to before, and settle down to a cafetiere of *Mzuzu* coffee (named after the region of its origin in the north of the country — coffee is one of Malawi's primary exports).

Some moments of sitting/pausing

After some time, the café owner comes over to me and asks if they could introduce someone who is interested in my research — a young Malawian, OS, a 'herbalist' who supplies the café with some drinks from locally sourced natural ingredients. We talk of Malawian culture, folklore, and art — including through their academic studies — and our informal conversation picks up on numerous

fragments that align with my secondary, and now primary, evidence collection. They confirm and elaborate on several small 'fragments' of information I had gathered as part of my research, as well as suggesting to me some useful literature to consider. These include:

- Mulanje mountain (see forthcoming **water walk 5**) is symbolically regarded as male, while Zomba mountain as female.
- Lake Chiuta (north of Lake Chilwa, on the Mozambique border) is named after the **creator god *Chiuta*, who is linked to the rains and takes the form of the rainbow** (reinforcing a connection I have made in **Chapter 4** and **water walks 1 and 2**).
- Lakoma island and Chismaro island in Lake Malawi contain significant water shrines.
- Further elaboration of the water/snake manifestations I have investigated, and also confirming the associations I have made as **black being symbolically a water related colour** (see **Chapter 4** and **water walks 1 and 2**).
- Elaboration that the **chameleon has links to the serpent/rainbow mythology**, due to its ability to physically change colour (see **Chapter 4** and **water walk 1**).

As our time sitting chatting together progressed, I could sense that OS recognised my (though limited) understanding and appreciation of the value of such cultural knowledge. This, I feel, allowed them to gradually open up, reminding me again of the importance of sitting with people and giving time to allow context and knowledge to emerge (see, for example **water walk 1**)[168]. This conversation, and others like it, are a practicing of the features of the social-ecological application of dialogics from my conceptual framework, whereby I seek to include input and knowledge of place from a range of people and perspectives.

A few days later I am in the city again, and with some time to spare before another engagement, I thought I would enjoy another Kwa Haraba visit. Again, I order a cafetiere of coffee and sit down. Soon the café owner comes over, and indicates they have someone they would like to introduce to me who would like to talk about some of my research interests — just like my previous visit! I am joined by WA**,** who brings a copy of *'The National'* newspaper to flick through as we speak. The café owner,

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[168] OS also recounted the cultural importance of the *Mbona* water shrines in *Nsanje,* in the very south of the country. It is a location I had identified as a possible visit during my fieldwork — but had ruled it out due to various factors. (Not least because recent reports had identified the temperature had risen to near 50 degrees Celsius during the time of my visit.)

I understand, has told them about my interest in Malawian art and culture, and we slowly begin to discuss various issues around art and culture as a means to express deep seated traditional values and worldviews in Malawi, including as a means to counter imposed colonial narratives and ways of seeing. After some time, WA tells me they have written a column in *'The National'* for a number of years, and we come around to discuss the relationship between **cultural narratives, politics, and water in terms of power**. Once again, this small, but important encounter speaks of my research approach, and aligns with the principles of social-ecological dialogics that I have been developing. It also notes the importance of places, such as a café, in allowing for such informal conversations, dialogue and sharing of knowledge to take place.

Some 'sidewalks' — observations of other water symbolism in Malawian society

My autoethnographic approach picks up on, and records, several other observations and experiences linked to water, and its management, during my time in the main cities of Blantyre and Lilongwe. The following are some accounts of observations of water as identified in modern material culture, products, advertising, and currency.

Noticing water symbolism in modern society — Plastic water bottles

A recurring everyday object I engage with in Malawi, one which clearly represents modern life and also privilege (including my own), is **plastic water bottles**. The names, imagery, and messages of these are interesting and worth considering for their symbolism and associations. Some examples of bottles that I collected include (see depicted in **Figure 5.29**):

- 'Cool Breeze': A blue bottle with blue and white label of snow-capped Alpine mountains. Words include *'"Embrace Life". Indulge your senses with the thirst quenchingly experience of Cool Breeze'*.
- 'Vital': A clear bottle, with red label and photograph of a mountain — possibly Mulanje. Includes the slogan *'...Life in every drop'*.
- 'Nyika': A clear bottle, with a blue and white label. Includes a stylised water droplet image with and alpine mountain and glacier like river. The slogan is *'Purity in every drop'*.
- 'Quench': A blue bottle with a blue and white label. The message reads *'Premium Still Water'*.
- 'Ling Xiang': A clear bottle white a white and purple label and red text. A stylised calligraphy image of a mountain and stream. Thus, perhaps, reflecting the Chinese manufacturer (LingXiang Investment Company Limited).

- 'Cool Drop': A clear bottle, with a black and blue label. An image of a blue droplet. The slogan is *'Every drop counts. Beat the heat'*.

Figure 5.29: Evidence of water symbolism in place and objects. Images in clockwise from top left — The blue colouring and 'waves' of water of Lilongwe Water Board's logo; plastic water bottles conveying various symbolic messages; water bottle; blue water and white bubbles imagery on an executive's car in the headquarters of Lilongwe Water Board.

It is clear that the marketing and presentation of these bottles make use of many of the **recurring universal symbolic associations with water — life, purity, cleanliness** (see **Chapter 2 and 3**) — and they are evidence of how such ideas are conveyed — or indeed co-opted — in the commercialisation of water as a sellable product. Strang (2015) identifies ways that imagery and references used by international brands to sell bottled water reinforce and align with these symbolic associations. Some of the wider symbolic meanings associated with the substance. Here, however, the inclusion of images and associations such as (often snow-capped) mountains, streams, and notions of 'coolness' **are representations which are quite clearly at odds, and often juxtaposed, with the parched landscape in Malawi much of the time**.

Symbolism in everyday economic transactions — water associations in Malawian currency

My secondary desk research had identified the **presence of symbols associated with water on many of the banknotes of the present circulation of Malawian currency, the *Kwacha (MK)***[169]. I learn that the word *Kwacha* translates as dawn, while I am told the sub denomination of the currency unit, the *Tambala,* translates as rooster/cockerel — an image of the animal having been imprinted on the back of some coins[170]. While I do not encounter any *tambala* coins in my time in Malawi (they are rarely used due to their now low value — pointing to inflation rate changes over time) I do meet (and hear) a number of roosters/cockerels (see **water walks 2 and 3** on getting up early in the morning)[171].

Physical currency, as a material artefact of financial transactions and everyday economic life, is a notable source of symbolic representations of perceived value. MacGregor (2019), for example, considers the symbolism on coins and banknotes, especially in ancient cultures. Malawi has seven different bank notes in circulation in denominations from 20 to 2000 MK (2000 MK being equivalent to approximately 2 GBP at the time of my visit). The front of each note has the image of a person of national significance, the back depicting a Malawian symbol of natural or cultural value (See **Figure 5.30). Significantly, there are a number of symbolic representations of water, and water relations, imbued within these notes**:

- At the lower left on the **front of all notes is a security feature (a 'watermark') of a fish**. In the more recently introduced 2000 MK note the image is right centre (with a hatched shadow).
- Nearby the fish watermark is a small image of **fishermen casting a net.**
- On the top left of the front of 20-1000 MK notes an image of a **fish is incorporated into the numerical value marked on the note** (this is not in the 2000 MK note).
- A faint repeating pattern of a **stylised fish forms the background part of the 2000 MK notes**.

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[169] The word 'currency' in monetary terms is defined whereby *"current as a medium of exchange; the circulating medium (whether coins or notes); the money of a country in actual use"* (OED, (2021), definition of 'currency'. Available online at: [https://www.oed.com/view/Entry/46095]) has apparent links to water — current, circulating, flow, fluidity.

[170] Also see evidence of tambala coins via The British Museum online catalogue, available online at:

[171] *'Kwacha'* means 'dawn', while the sub-denomination '*Tambala'* — the rooster/cockerel, the animal associated with 'announcing' daybreak (see online at: [https://www.britishmuseum.org/collection/object/C_1994-0221-27]). Here is a link between economic value, and a symbolic representation from nature.

Figure 5.30: Water symbolism in Malawian banknotes. Images: top left — notable Malawian political and cultural figures on the front of the series of Kwacha banknotes; right — various forms of material culture, including with water references, on the back of banknotes; bottom left — rear of 500 MK note displaying notable water symbolism.

Of specific interest is the **500 MK note for its inclusion of various water symbolism**. On the back of the note is a representation of *Mulunguzi Dam* (near the city of Zomba), a spigot/tap with water flowing from it, and a stylized image of a figure carrying a pot or basin on the top of their head (a common sight in rural Malawi, and with water the likely contents). **These three water-linked representations add to the three other recurring symbols on the front of all notes (fish and fishermen), making this specific banknote 'imbued' with water symbolism**. In these Malawian banknotes, representations of water and associated objects and practices is conspicuously, though quietly, present. **It seems water's symbolic value is recognised, and inclusion of these representations provides a symbolic 'undercurrent' and basis for economic and financial wealth**.

Messages around water's commodification in Malawi

While in Lilongwe and Blantyre I pay attention to **messaging associated with water's commodification as an economic good**. I note adverts on the gantry crossing one of the major roads into Blantyre promoting mobile phone payments for utilities — including water (see **Figure 5.31**). Furthermore, a

public information billboard at the entrance to Lilongwe Water Board offices is instructive of how to *'Be a responsible customer'* — reminding people to *'Pay your bills on time; Stop and report vandalism; Report leaks and faults, Stop and report illegal connections'*. The use of the term 'customer' has clear capitalist overtones, **where water is framed as a commodity good**. Furthermore, it points to the challenge of vandalism and illegal water connections in the country — and there is a command to 'stop & report' such occurrences. How this should be pursued by individuals is unclear, and it could be interpreted as a shifting of responsibility for such incidents onto the public, rather than the water board itself. Strang (2015) describes that trends to privatise and financialise water have been met with opposition around the world, manifesting in illegal tapping supplies as populations resist a perceived corralling of a common good.

Figure 5.31: Water in public information and water's financialisaton. Images: top left — billboard on a main road in road entering Blantyre advertises mobile phone utility payments — including water; bottom left — public information billboard outside Lilongwe Water Board head office; right — the ubiquitous presence of 'airtel' mobile phone company payment boxes.[172]

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[172] Airtel, the country's main provider of mobile internet data — which is used for personal communication, internet browsing, and also money payments. The presence of Airtel red kiosks (where scratch cards can be purchased for 'airtime' (i.e., mobile internet access) has become a common sight in Malawi — city streets, along highways, in rural villages. It is perhaps the most obvious visible difference, or surprise, I note since my last visit to Malawi, 14 years previously in 2005. The need for mobile internet data is seemingly increasingly entangled in utility payments processes — the red Airtel logo is visible on the Lilongwe Water Board billboard.

The most everyday activity — eating nsima, Malawi's staple dish

During my first few days in the country, I have my first experience of eating *nsima* — Malawi's staple dish. It is **a stodgy and starchy food made from maize flour and water**, and sometimes served with fish (*chambo*) (see **Figure 5.32**). However, beyond its material value as a source of nutrition, the food has social and cultural significance for Malawians — and is recognised by UNESCO for its intangible cultural heritage as a culinary tradition, and as a representation of intergenerational transfer of knowledge[173]. The practice of eating *nsima* is always 'bookended' by a **handwashing ritual in which the eater has their hands cleaned** (particularly their right hand — the only one used for eating) by the visible pouring of water from a jug into a small basin[174].
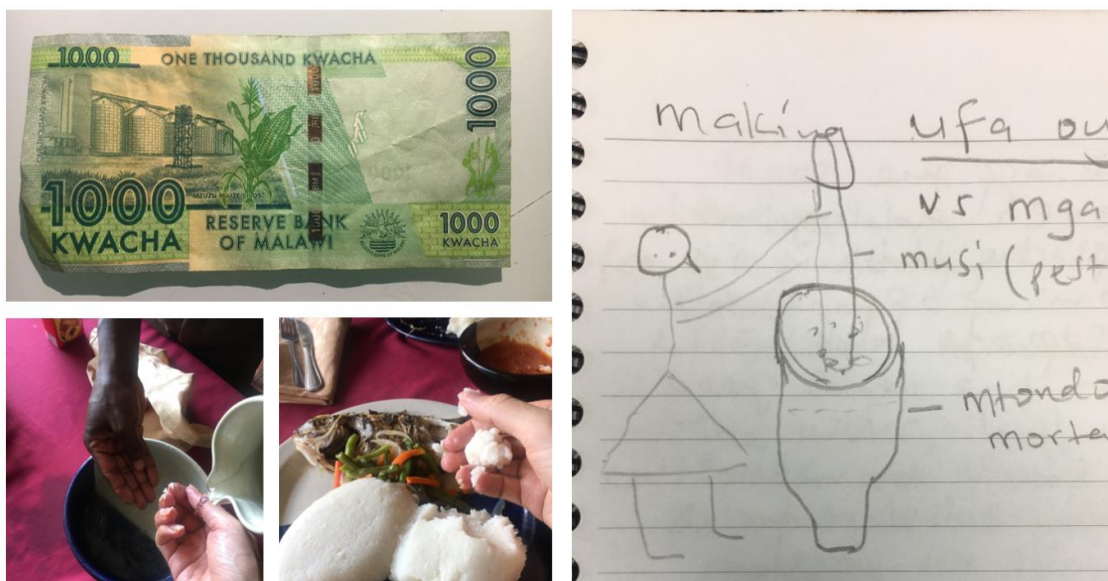
Figure 5.32: Representations of *nsima* — Malawi's staple food. Images in clockwise from top left: 1000 KW bank note with image of maize processing; *Kalozera's* guide to *nsima* making; the practice of eating *nsima*; handwash ritual bookending a meal of *nsima*.

This act ensures hand washing (and sanitation) practices are undertaken before a meal (which involves direct contact with the food). However, it also seems to serve a symbolic purpose— defining positions of power (server/diner), and furthermore 'announces' the start of a meal. Mirroring this, and to clean the hands after eating, the same process is undertaken to conclude the dish — but also providing a symbolic

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[173] UNESCO, '*Nsima, culinary tradition of Malawi'.* Available online at: [https://ich.unesco.org/en/RL/nsima-culinary-tradition-of-malawi-01292].
[174] *Kalozera* washes my hands, but pointedly would not allow me to perform the ritual back to them. Instead doing it themself.

closure to the meal. **Such practice is an indication of water performing both a practical (material) and cultural (symbolic) role in the context of the most everyday of day to day practices — consuming food.**
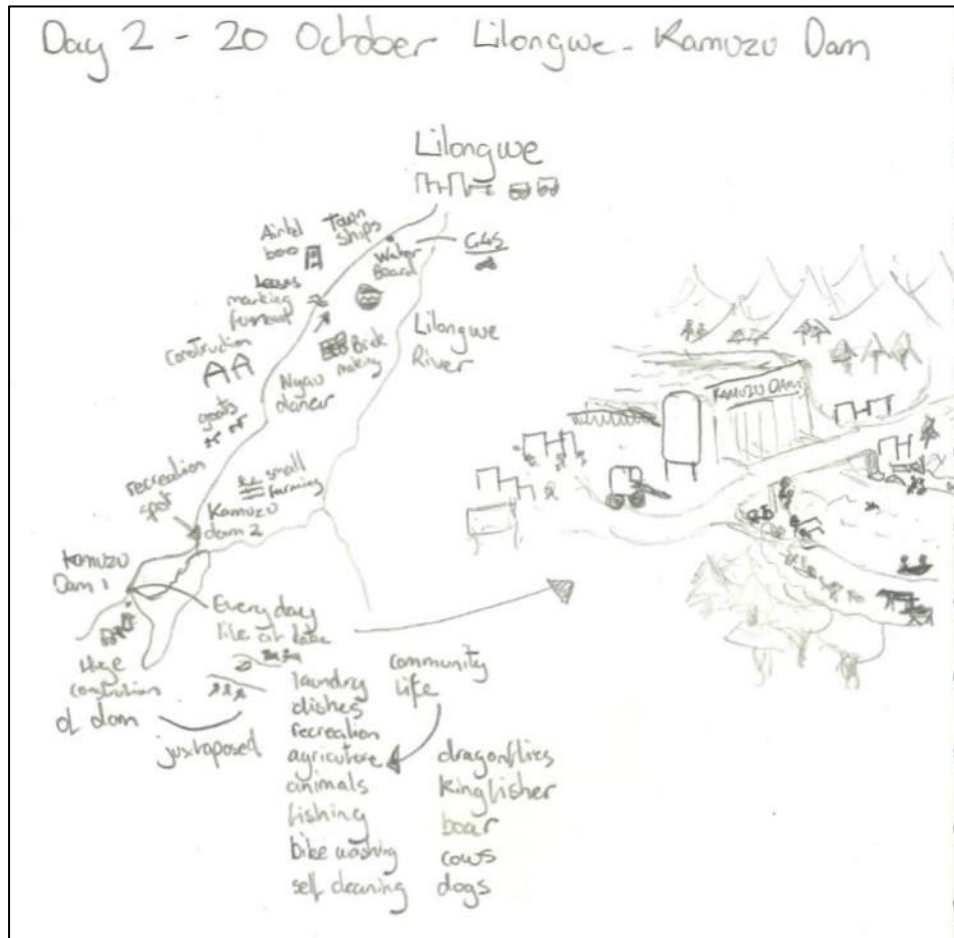
Figure 5.33: Hand drawn map extracted from journal of visit to Kamuzu dam near Lilongwe.

Part 3: Walks in place

Napolo — the destructive water serpent.

This third part is focused on two spatially interlinked water walks in the southeast of the country, and a final 'micro walk' and community meeting. Having developed an account of some of the cultural landscape of water relations, as well as some more overarching observations of water engagements in

Malawi, these engagements describe some specific cases in rural locations where social, cultural, technical, economic, and spatial factors intersect and play out in terms of everyday water activities. They are the walks from my fieldwork that are most obviously related to how water is used in Malawi. However, they are linked to, and enhanced by, the knowledge and observations in the other walks and desk research that have preceded them.

Towards Mulanje, and the setting for two days of key fieldwork

My fieldwork design had identified Mulanje, in the far southeast of the country, close to the border with Mozambique, as an area of interest to investigate rural water access (see **Figure 5.34** and **5.35**). With the assistance of *Kalozera* and others, I arranged to visit the Mulanje area over two separate days from my base in Blantyre. The visits to this area were intended to be an accumulation, and focal point, of my investigations — whereby the various contextual autoethnographic knowledge I had collated could inform (and then reflexively be informed by) a specific rural location where water was related to in different ways.

Figure 5.34: Area of focus for water walks 5 and 6 (refer to **Figure 5.3** for wider context) — Mulanje region in the south-east Malawi, including the location of Lujeri tea estate. (Source: Open Street Map).

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Figure 5.35: Extract from hand drawn map from journal (with digital annotations) — Mulanje.[175]

Kalozera and I are driving south to Blantyre, from where we will then head south-east to Mulanje. We have left from the city of *Zomba,* previously the colonial capital of Malawi, and site of British administrative control in colonial times. We pass the site of a former cotton and tobacco plantation where political activist John Chilembwe[176] lead an uprising against British colonialism in 1915 — a precursor to eventual Malawian independence in the 1960s. We note an area of significant quarrying at the roadside and discuss the **impact on local people of such industrial practices and use of 'natural resources'[177], including in terms of impacts on water availability and quality**. We discuss some of the dualities of water as a carrier of both life, but also of pollution, disease, or industrial impact (see Strang (2004)).

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[175] Map of Mulanje region in relation to the southern cities of Zomba and Blantyre. *Dziwe la Nkhalamba* and Likhubula pools to the west of the Mulanje massif, and Lujeri tea estate to the southeast. Map includes observations of peri-urban activity on the outskirts of Zomba and Blantyre, areas of agricultural land, as well as evidence of resource extractivism.

[176] Chilembwe has a very visible and symbolic everyday presence in Malawi — their face is on the ubiquitous 2000Kw banknote (see previously).

[177] Kalozera teaches me that the Chichewa the word for nature and natural resources is the same: *chilengedwe.* Water can be called `*madzi ndi chinthu chachilengedwe*` meaning `water is a thing from nature' or 'water is a natural resource'. Furthermore, there are `*zinthu zachilengedwe*`, or things from nature'/natural resources.

We transition into the traditional lands of the *Lomwe* tribe (see **Appendix C**) and encounter the Mulanje massif — a physical presence that dominates the surrounding landscape (see **Figure 5.36**). **A source for precious freshwater**, the mountain is also the setting for numerous cosmological narratives and social-cultural mythologies — **including Napolo, the destructive serpent, who reputedly resides in the mountain** (see Mulwafu, 2011; Briggs and Turay, 2016; Mathur and Mulwafu, 2018). Personal accounts throughout my time in Malawi refer to the mountain's cultural significance — *Kalozera*, originally from Mulanje has spoken about its significance, while I have learned about further associations from the likes of OS in Kwa Haraba café (**water walk 4**), and our museum curator at KuNgoni (**water walk 2**).

Figure 5.36: Collage of Mulanje massif views. Top left: Mulanje massif looms in the distance; bottom left — nearing the base of the massif; right — gateway to Mulanje district park from the south.

In my pre-fieldwork desk research, I had specifically identified a natural water feature on the west side of the massif, near the trading centre of Likhubula, known as *Dziwe la Nkhalamba* (which translates as 'Old Man's pools') with social-cultural values linked to folklore and local mythologies. In preparation for my fieldwork, I had read articles in the press (Reuters, 2018)[178] about conflict between local people and the

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[178] Reuters, (27/02/2018), *'Search for new urban water sparks conflict in parched Malawi'*. Available online at: [https://www.reuters.com/article/us-malawi-water-protests-idUSKCN1GB08A].

water board about a planned water project in the location. It seemed a particularly relevant site to investigate intertwining social, cultural, and ecological water relations.

An unexpected encounter with a material representation of the water/serpent link

We turn off the main road northwards, just before the base of the massif, and pass over a series of rivers that descend from the mountain, winding their way from west to east towards the flat landscape. Interestingly (and unusually) each river is clearly signposted with their name in Chichewa (see **Figure 5.37**). *Kalozera* translates each as we cross — and explains their association. **I am struck by the almost animist agency afforded to several of them, water with 'personality' described in verbs, rather than nouns**. Feeding into the main *Likhubula* river is *Nakatete* ('plain/empty field'), *Namboni* ('the witness'), *Nachelenga* ('caught off time'/ 'I'm late'), *Linje* (apparently David Livingstone's grandson's houseboy). Most notably, one river is called *Nansato* (python)[179]. Here is a physical and material representation of that **recurring symbolic link between water and the serpent — and the python in a specifically Malawian context** (see **water walk 1 and 2** and also **Chapter 4**)[180]. **Here is evidence of water related nomenclature 'inscribed' into the cultural landscape,** echoing the place based anthropological research of, for example, Strang (2004). While some of these names seem to emerge from deeper natural-cultural associations with place (such as *Nansato,* the python), others reflect a legacy of the country's recent political history (such *Linje,* and its links to British colonialism).

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[179] See article: Sangala, T., (24/07/15), *'Wisdom of the People'*. Available online at: [https://times.mw/wisdom-of-the-people].
[180] This surprise encounter is clearly one that excited me at the time — and my diary states that *'I am thrilled by the [presence of a] python river that winds its way down from the mountain. And that water, python, land, culture link intertwined in the animal [that is the literal] line'*.

Figure 5.37: Rivers on the road to Likhubula in Mulanje region. Images clockwise from top left —
Likhubula; Linje; Namboni; Nansato; Nakatete; Nachelenga.

As presented in **water walks 1 and 2**, as well as in previous desk research, water is linked numerous
cultural narratives in Malawi. Many of these narratives intertwine symbolic associations of local wildlife,
gods, features of the spatial landscape, and natural phenomenon. I am reminded of the hydrocosmological
landscape constructed from indigenous representations of water in the South American Andes mountains
by Boelens (2014), as described in **Chapter 4** — and I consider ways I might develop a similar
representation of such symbolic hydrosocial (and cosmological) associations and representations akin to
their work in a Malawian context. It is notable that the topography in this location has some similarities to
Boelens' example — a mountainous landscape in a rural area, with evidence of deep-seated social and
cosmological representations used to explain the material flow of water. Significantly, both places feature
the recurring symbolic link between the serpent and water. Developing this further is beyond the scope of
this thesis, but it does raises possibilities for future research.

Water Walk 5 — Mulanje mountain: competing values of water?

At Likhubula (also the name of the main river — see **Figure 5.37**) market village (known as a trading centre) we stop and pick up a local guide, who will join us during the next few days. We ascend the mountain in our vehicle via a rough dirt track before we come to a sharp bend where a few young men are selling hand-crafted wooden walking sticks for the occasional tourist hiker. Here we encounter a significant dual pipeline structure, which continues around the bend up the mountain. **This, I learn, is the Mulanje-Likhubula water pipeline — a large-scale water project, and seemingly the subject of the local conflict that I had identified when planning my visit.** We get out from our car and start walking uphill. I experiment with my GPS tracker to record our walk, which I later layer on a 'Google Earth' map (see **Figure 5.38**)[181]. This can be compared to, and contrasted with, my hand drawn map of this location which, like previous examples, depicts my experiences on this walk (see **Figure 5.39**).

Figure 5.38: GPX mapping of hike to *Dziwe la Nkhalamba* (Old Man's Pools). Top left — the red line traces the route we walked up into the mountain (blue lines representing rivers streaming down from the massif); bottom right — an extend view depicting the wider topography of the Mulanje massif.

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[181] I source some additional GPX graphics files to maps the rivers in the region. I use these to layer' a base map in Google Earth with my recorded water walk. This represents something of an assemblage process- whereby I have layered representations of social-ecological interrelationship in a place at a point in time — landscape, water, human (i.e., me) movements in a single image.
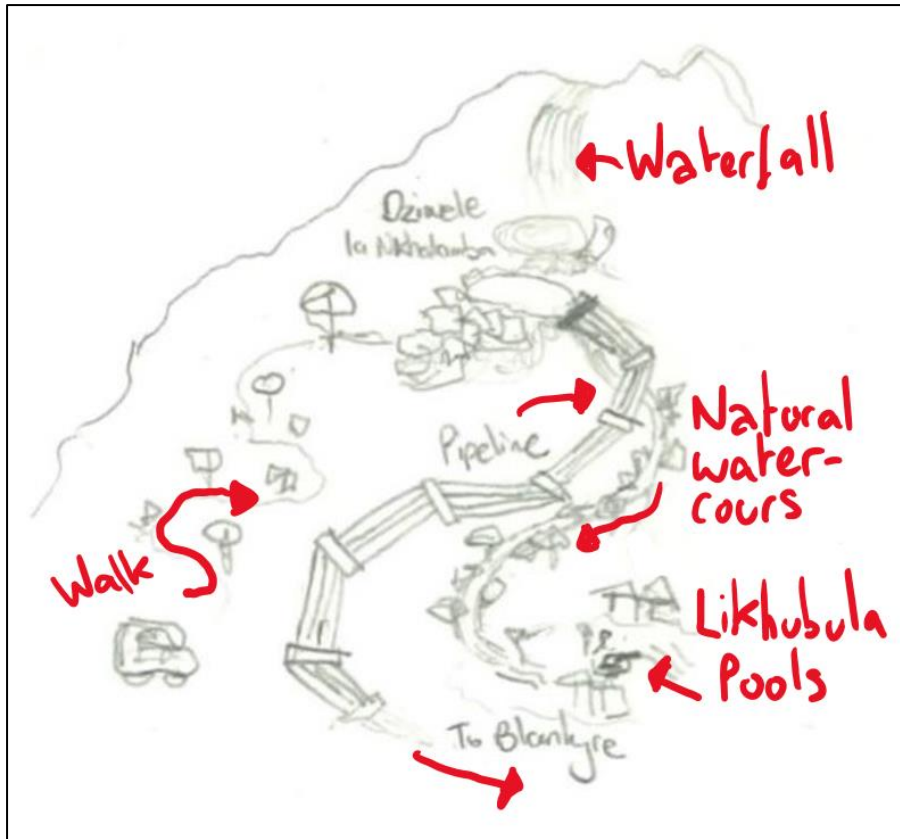
Figure 5.39: Extract from hand drawn map in fieldwork notebook with digital annotations — *Dziwe la Nkhalamba* and *Likhubula Pools*.[182]

Observing an alteration to the hydrological, social, and cosmological order?

As we walk up the mountain, following the pipeline's course, I can sense *Kalozera's* surprise at the extent and progress of the project — indicated in their body language and the tone of their discussions with our local guide. My journal recount that *'it is clear the pipeline is part of a much larger project, and I learn from our guide and Kalozera that this is a new large-scale water project drawing water to Blantyre. Kalozera hasn't been here since the installing and is clearly physically and audibly shocked by the work. I can't work out if it is our local guide's general persona or they are downhearted by the project — but their sadness is quite palpable.'*

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[182] This topographical sketch represents the place we park our vehicle before walking uphill towards *Dziwe la Nkhalamba*, following the course of the pipeline coming down the mountain. The sketch includes some reference to the vegetation on the walking route, the large boulders at the waterfall, and Likhubula Pools location downstream.

We continue up the mountain, and it is clear some heavy machinery has made its way up the widened path. There are notable ruts in the ground — I am unclear whether these are part of the natural landscape, or if they have been deepened by the construction activity. The landscape has nonetheless been reshaped by the construction work, and our local guide notes that **during the rainy season these ruts turn into fast flowing streams of water, making the route up the mountain very difficult.** They draw our attention to the huge white markings on the mountains above us, marks of waterfalls from the wet season. As the route gets steeper, we need to scramble a bit, and, like previous guides (see **water walk 1**), I am warned about where I place my hands. Snakes and scorpions are a possible danger. I use my audio recorder to note some of the animal voices we encounter, including crickets and other insects. I am struck by the visual impact of the pipeline 'snaking'[183] its way up the mountain, juxtaposed by the natural waterflow of the Likhubula river nearby (see **Figure 5.40**).
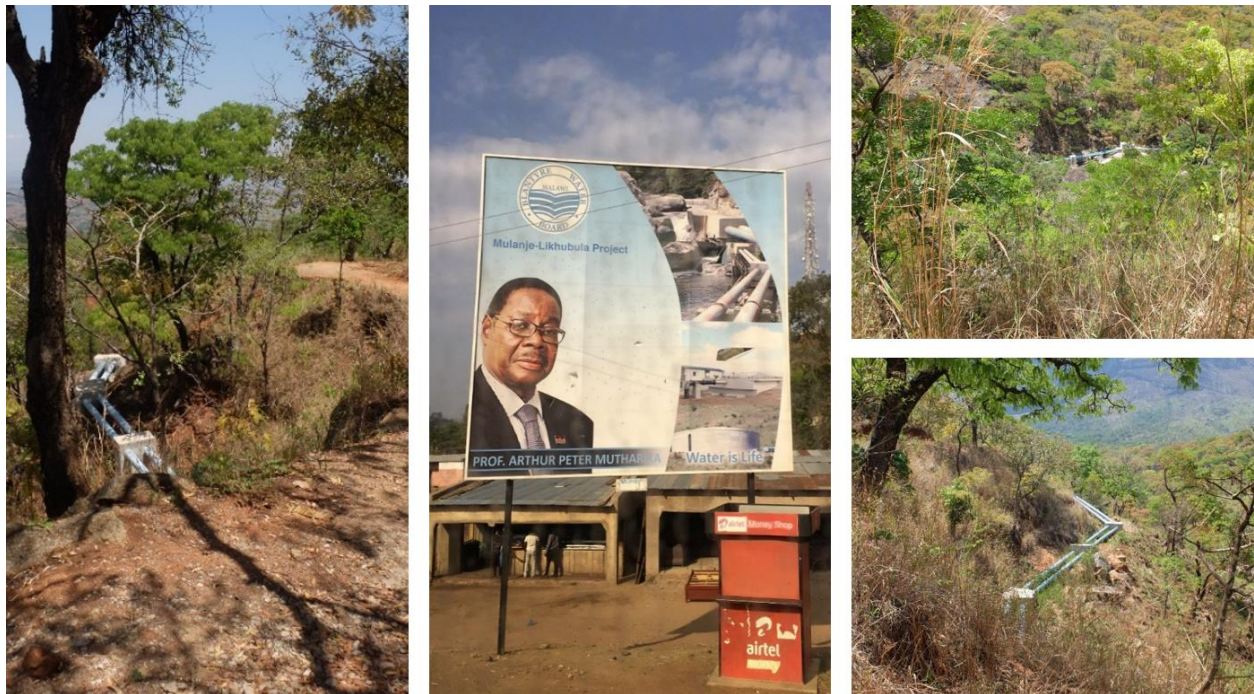
Figure 5.40: Representations of the Mulanje-Likhubula pipeline project. Images: left — the pipeline following the path down the mountain; centre — a billboard promoting the water project near Blantyre (featuring an image of President Mutharika) and also the Blantyre Water Board slogan 'Water is Life'; right top and right bottom — more images of the pipeline as it appears and disappears in the landscape.

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[183] Indeed, I am continuing to draw on the water/snake association I have identified previously.

My journal entries, which were particularly descriptive of this experience, give some account of my observations at the time. '*We slowly trek up the mountain and the pipeline is somehow strangely inconspicuous in its presence — both quiet (there is no noise of tumbling water) and in a way invisible (the opaque plastic does not give visibility to the water — only 'suggested' through the blue aquamarine colour.)*' Continuing my practice of object collection, I find, and pocket, a piece of blue plastic on the path that appears to be from the pipeline construction. This elicits a conversation between my guides and I as we walk — we discuss where the plastic might have been produced, and some of the wider issues with plastic waste around water in Malawi more generally. These types of practices, such as object collection, are useful for opening up such conversations of place, and echo the words of Moretti (2017) in **Chapter 4** on the discursive potential of ethnographic walks.

After some uphill hiking **we hear the unmistakable sound of a waterfall, and we find ourselves at the pools of *Dziwe la Nkhalamba***. We clamber across some rocks, and to another area of water that connects into the pool. Our guide invites *Kalozera* and I to sit atop a huge boulder, from where we have a vantage point directly overlooking where the pipelines penetrate the water pool (see **Figure 5.41**). My diary notes that *'the two pipelines quietly dive below the outlet to the pools — while a concrete overspill allows a limited quantity of water to feed the natural water course (i.e., the Likhubula river). The pipes have taken priority (and primacy), and the river gets what is 'spare' or 'compensation'.'*

Figure 5.41: *Dziwe la Nkhalamba* pool. Images in clockwise from top left — waterfall and pools with graffiti message in the foreground; pipelines entering the pools with our local guide watching on; close up of the water flow; water coming from the pool; overspill from the concrete installation making its way into the natural watercourse.

A moment of sitting/pausing

> We sit silently for some moments, as I have become accustomed to (see **water walk 1 and 4**), before our local guide describes the project in more detail, translated via *Kalozera*. I am particularly caught by the words they use about the impact on local communities downstream from the water project. They tell us **that in drawing water away from here via the pipeline local people are being made *'strangers'* to their own water.** It is an expression, both at that moment, and then thinking about it later, that I found particularly affecting. It seemed to echo deep ecology perspectives on the intrinsic values of water that I have explored in the development of my methodological orientation— with the water being referred to in almost animist terms.

Our guide leads us back across the rocks to the pool at the base of the waterfall, and recounts some of the mythologies I have read about, and from which the pools derive their name. **Local stories recount that a person (normally an elderly woman) would be seen in the pools, though would disappear (into the**

water) upon nearing them. Our guide tells us that local interpretations associate this figure with ancestral spirits. I am, of course, struck by the similarity of this story to the *Makewana myth* (see **water walk 2**). The woman figure, a sacred pool, and links to traditional cosmological beliefs — the resemblance is significant, and points towards the cultural importance of this site. However, notably, the name of old 'man's' pools does not align with the female figure of most accounts — and is something that warrants further investigation. Interestingly, at the pool's edge and directly in front of the majestic view of the waterfall and mountains, some graffiti has been written on a large boulder. In what seems to express a dissenting and critical perspective on the water project, it reads *'Disrupting the st^tus quo, Innovation'*[184] (see **Figure 5.41**).

We climb away from the pools, retracing our steps back down the mountain. Just as we leave, a young Malawian guide arrives with two young white tourists, and they immediately dive into the pools to swim. Our local guide does not say much about it, but I sense their disappointment. **Is it appropriate to swim in these pools? Does it give due respect to their spiritual value?** As we carefully walk down the mountain we are suddenly passed by a girl, maybe only 14 or 15 years old, carrying some thin, but long, logs on their head. This encounter is representative of other social-ecological issue in the area, whereby deforestation is disrupting soil structures, and affecting waterflows further up the mountain. I am told that tree planting projects have been undertaken (or committed to) by the water board/contractor of the pipeline project as a form of social responsibility. However, I am unclear on the details of this, and it is an issue for a separate investigation.

Watermarks of changing water availability? — Likhubula Pools
We get back to the car and drive the short distance to the Likhubula Pools, further downstream on the Likhubula River. This is a designated and popular spot for swimming (see site entrance sign in **Figure 5.42**), and a couple of adolescent Malawian boys are in the water when we arrive — before quickly disappearing.

Our guide carefully leads us to the pools, crossing the large boulders and rocks between which the water flows. *Kalozera* **notes that water levels are lower than expected, even for this time of year at the end of the dry season. Our local guide draws our attention to some white watermarks on the rocks, and**

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[184] The lettering 'St^tus' seems to be a play on the word 'status'. However, is unclear what this is in reference to. Is it a play on the word 'Saint' (shorted to St.), making a point about the spiritual value of the pools? This is conjecture on my part. My guides are unsure too.

which seem to quite clearly indicate the different water levels the pools are subject to. I ask them about these, and they are quite certain that many of the marks are newly visible. We explore the area further, and the white mark is quite visible in different rocks throughout the area — seemingly suggesting a drop in the water level. Could it be that these watermarks are like those observed far up in the mountains themselves — evidence, or even 'shadow accounts' (see **Chapter 2**) inscribed in the rocks by the water itself? Before leaving, I take some audio recording of the flowing water, as I assume the water's 'voice' is likely to have been reduced, as well as its visible presence.

Figure 5.42: The Likhubula pools. Images clockwise from top left: signpost to Likhubula Pools; me physically engaging with the water; markings on the rocks showing previous water levels; *Kalozera* indicating comparative width of water to the visible white watermark; pools leading back upstream; water marks on rocks indicating previous water levels.

A visit to Lujeri tea estate

Leaving the pools, we drop off our local guide at the trading centre, and head south. We turn east towards the Mozambique border for a visit to *Lujeri* tea estate, which covers much of the south side of the mountain. **As we drive into the estate, automatic sprinklers liberally distribute water on the tea crops.** While the plantation is a significant commercial enterprise, the area is also interspersed with villages — herein everyday life, and large scale economic production, occur in the same place, and

'compete' for access to water. ***Kalozera* notes there has been some conflict between local people and the estate with regards to water consumption**. We pass over what appears to be an old dam/reservoir — *Kalozera* notes the water level is significantly below its previous height (**Figure 5.43**). Herein the technology has become something of an artefact to water— no longer able to perform its function, but a reminder of the previous water levels.

Figure 5.43: Lujeri tea estate. Left — a landscape of the tea plantation; top right — tea plantation with water distribution systems; bottom right — infrastructure describing a water history — the watermarks show that levels no longer reach the lower extent of the control gate.

Leaving the tea estate, we drive back towards Blantyre. As we approach the city the congestion is heavy, and we find ourselves trickling towards this population centre that dominates the southern region. I think of the similar journey that we are taking to the water in the pipes of the Mulanje-Likhubula pipeline project — drawing this precious resource from the mountain towards the city. As we crawl along, I observe a large road sign promoting the project (see back to **Figure 5.40**) featuring an image of President Mutharika. I later reflect on the views of Mathur and Mulwafu (2018, p. 7), who reflect that ***"During election campaigns, water features prominently as a hotly contested issue, since the provision of water immediately earns the support of the electorate"***, and I consider that during the time of my visit to the country, Malawi is going through an extremely difficult period of national elections (see **Chapter 4**). I

also recall the pictorial representation from Kate Ely in Linton and Budds (2014, p. 173) that recognises the role of power, particularly financial, in determining water's distribution (see **Figure 5.44**). Reiterating a political ecology perspective (and conveyed in a hand drawn style that aligns with that of my own mapping), they **recreate the hydrological cycle to include the role finance plays, depicting that 'water flows to money'**[185].
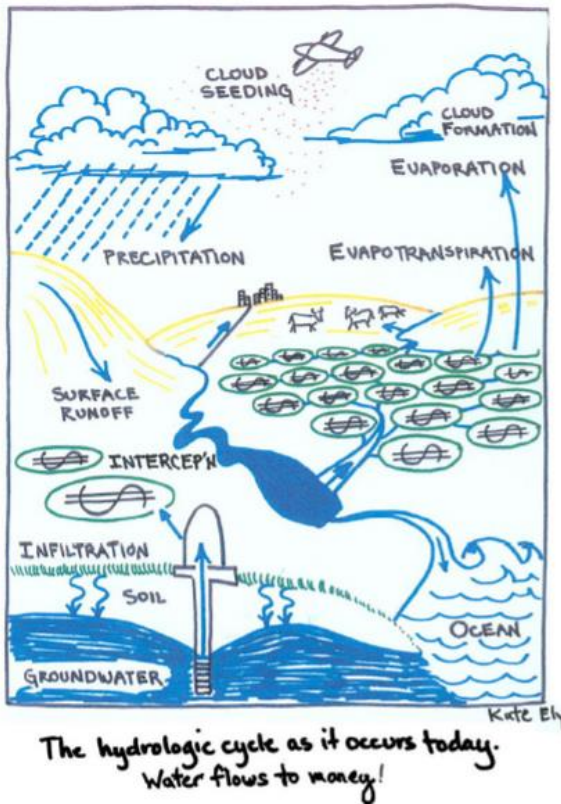
Figure 5.44: The hydrologic cycle — water flows to money (in Linton and Budds, 2014, p. 173).

And in those recurring words I encounter throughout my time in Malawi — 'water is life' (see, for example, **Figure 5.40**) — I think about some of the complex issues involved here: whose life is being referred to in the phrase, and what impacts on life arise from activities that significantly redistribute water from one place to another?

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[185] I consider the wordplay that Blantyre, though not the political *capital*, is the country's commercial and *economic capital* city. Herein an economic and geopolitical use of the term 'capital' seem to intersect.
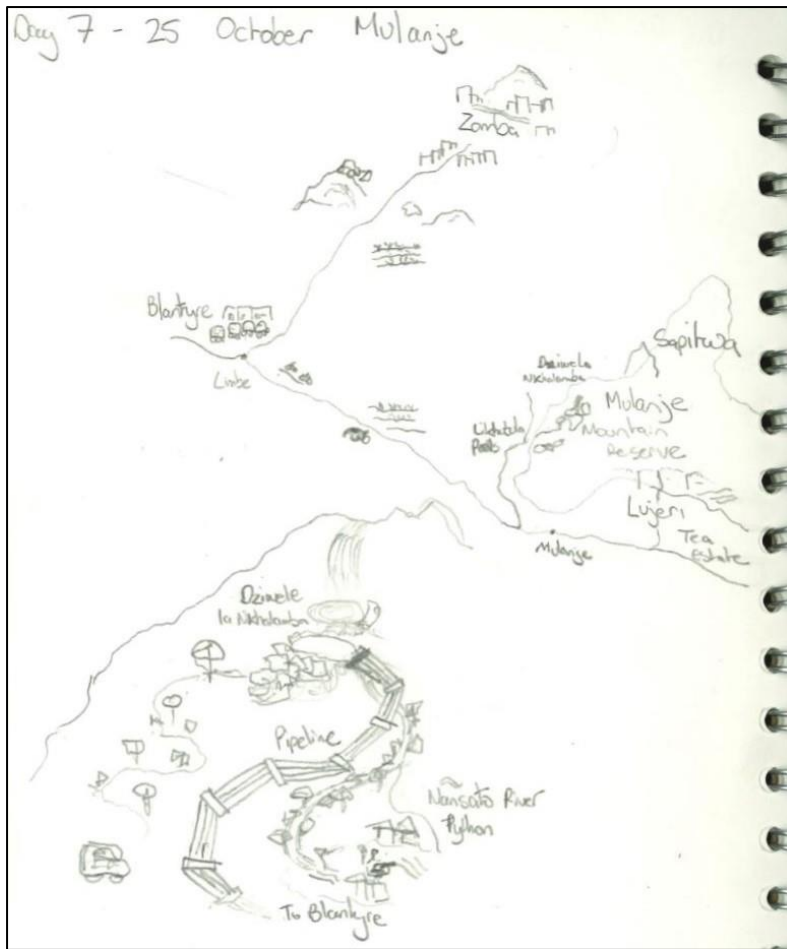
Figure 5.45: Hand drawn map of water walk 5 around Mount Mulanje.

Water Walk 6 — A return to Mulanje: everyday water in villages

Kalozera arrives at my lodgings in Blantyre very early, and we drive to the centre of the city to pick up RC who is joining us for these water walks. We meet at a petrol station, filling our vehicle with diesel — **and also stocking up with our own vital fuel, bottles of water**. As we do each day (my 'everyday' is clearly different to the everyday that I am seeking to represent — see **water walk 1** for reflections on the privilege of drinking bottled water). Today we are heading back to Mulanje to visit some rural villages and learn about their water relations in an everyday context (see back to **Figure 5.34** for a digital map of area, and **Figure 5.46** for my hand drawn representation).
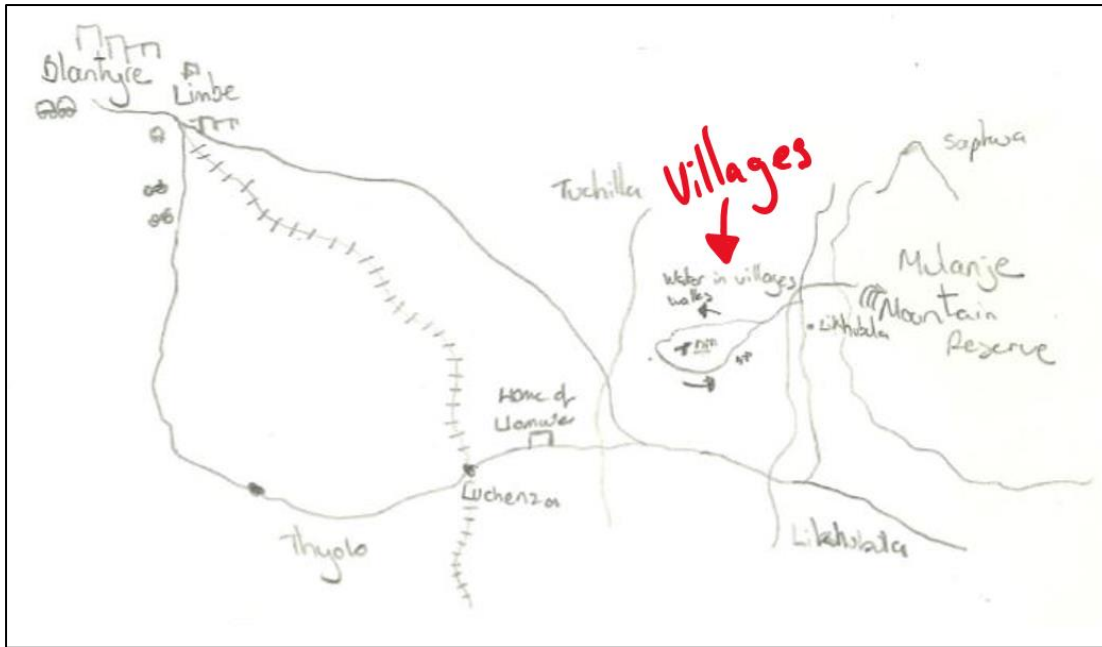
Figure 5.46: Extract from hand drawn map from my fieldwork journal with digital annotations —
Mulanje region and villages.[186]

We take an alternative route to Mulanje via the town of Thyolo, passing the Chinese funded Malawi
University of Science and Technology, and represented on the 2000 MK note — see **water walk 4**. The
university is one example of significant Chinese investment in Malawi, and which is visibly present
around the country (recalling a water bottle I collect in **water walk 4**). This part of southern Malawi
contains several huge tea plantations, and we pass several cyclists laden with huge bundles of tea plants on
our route along the main road. It is another observation of the role bicycles play as a means of transport to
support local everyday needs and economic activity.

It is Sunday morning, and we briefly stop at a market site close to the township of Thyolo for RC to buy a
cap — I know it is going to be hot when the Malawians prepare for the day ahead in such a way! Sunday
mornings are for attending church and the market in much of rural Malawi — and the atmosphere in the
market is one of celebration and relaxation. I take some audio recording of the general atmosphere —
including some typically Sunday joyful music. There is, quite literally, a soundtrack to everyday
Malawian life — particularly in the market villages/trading centres.

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[186] This map represents the road route we took from Blantyre to the villages west of Mulanje. It furthermore depicts the railway route, and the
location of the site of the 'home of the Lhomwe' (see Appendix C).

We leave the market and drive east to Mulanje, and the trading centre of Likhubula. We again pick up the same local guide from the previous day[187], travel a short distance north, before turning off the main road to the west — away from the massif on this occasion. After a short drive we come to a school, with a distinctive mural painted on the side with the writing *'Classrooms for Malawi Project, renovations in 2016 funded in partnership with Dunblane Boys' Brigade, Scotland'* — and a hybrid Malawian/ Scottish flag. It is a reminder of Scotland's political and cultural links to the country (see **Chapter 4**). Here *Kalozera* and our local guide have arranged for us to visit some villages to observe everyday water engagements and challenges. As follows, is a presentation of a series of encounters with people and place as I learn about their everyday water relations.

Visiting waterpoints — assembling a visual narrative of water relations

Our local guide, recognised by many community members, provides directions and advice as we drive between villages in the area, stopping at notable waterpoints. Following protocol and cultural practices they introduce us to the community when we arrive. Throughout this process we have conversations with villagers, interacting with locals, collect notes, take photographs, and engage with the water infrastructure. Though I had collectively discussed with my guides how we might approach these village engagements, the fluid and dynamic nature of the visits would dictate how I would be able to record information. This included information I collected at the time of the visits (notes and records of informal discussions with people, particularly helped by RC to conduct and translate questions; handwritten notes that I undertook detailing my observations; photographic images of infrastructure and their spatial surroundings; some self-recorded audio clips)— combined with several reflective pieces I develop after the visits.[188]

As on previous occasions, I use my GPS device to map the route we follow by car and walking (see **Figure 5.47**), and which I layer onto a map of the local topography and watercourses. This digital mapping compares and contrasts to my hand drawn map of our time visiting the villages (**Figure 5.48**).

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[187] Our visit to the mountain the day before (**water walk 5**) has performed an additional purpose by allowing me to get to know our local guide prior to today's visit to villages.
[188] Specifically, in the morning following our visit to the villages, I sat down with RC and recorded a long and fluid discursive conversation reflecting on our experiences the day before, intertwining our perspectives, engagements, and thoughts from what happened.

Figure 5.47: Water walk and drive between villages in Mulanje area. Topography and water courses (using Google Earth) layered with GPS recording of movements (red line).
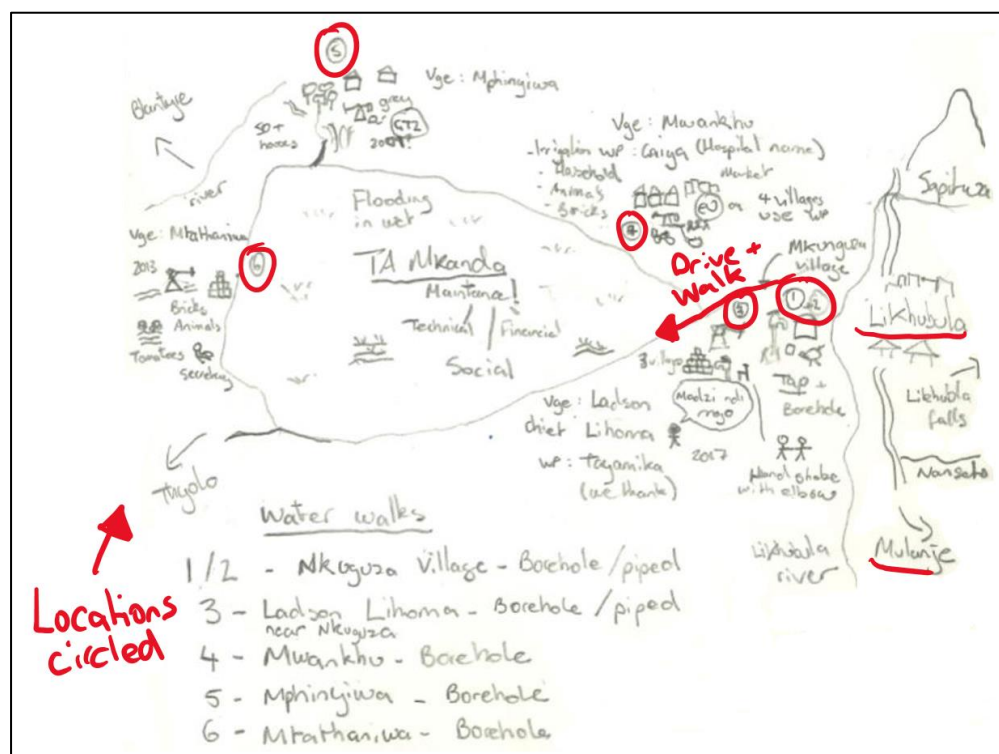
Figure 5.48: Extract from journal hand drawn map in with digital annotations — Mulanje villages.[189]

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[189] This map is a detailed sketch of the circular drive we take in the area, stopping at various waterpoints and villages to walk around, meet people, and interact with the water infrastructure. To the east, Mulanje massif is represented, and some of the locations in **water walk 5**. Village names and water supply source are numbered and listed as reference (there is some incorrect spellings of village names).

Accounts of water relations

The following are a series of annotated collages representing my visits[190]. This visual guide to the six locations/villages in this area (see **Figure 5.49 to 5.54**) draws on the multiplicitous forms of evidence I had collected. Each annotated collage includes photographic images I took at the time, combined with specific information garnered from conversations with villagers, interactions with the water infrastructure, as well as our own observational notes.

Each collage can be considered as a visual representation of an assemblage in itself — drawing on the multi-media format of assemblage art to incorporate text, numerical information, and photographs. I, once again, seek to experiment in another presentational practice, and give representation to my research in a way that honours my adoption of the theoretical ideas of assemblage.

Figure 5.49: Tapped water supply at a waterpoint, and water collecting vessels.

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[190] Date: Sunday 27th October 2019 — 11am. Geographic location: Group of villages west of Likhubula, southeast of Chambe — west of Mulanje Mountain, southeast Malawi. (Traditional Authority Mkanda). Geographic description: Rural, flat, arid land at the foot of Mulanje Mountain. Visit details: Between 1 and 1.5 hours. 4 visitors, all males. 3 Malawians, 1 Scot. Driver/tour guide (i.e., Kalozera — social anthropologist), local guide (with local knowledge and community trust), Malawian academic (RC — hydrologist), doctoral researcher (i.e., me — Scottish researcher).

Figure 5.50: Handpump at a waterpoint, with degraded infrastructure.

Figure 5.51: Village waterpoint with both a handpump and tapped water supply.

Figure 5.52: Waterpoint with evidence of polluted runoff pool, and degraded infrastructure.

Figure 5.53: Village waterpoint with handpump.

Waterpoint 6- *Tangwiya village*

Water quality a little salty, but generally good. Used for household, irrigation, brick making, animals, and tomato growing.

Borehole with inscription dating 28 July 2013. Used by 58 households. Borehole sealed to prevent theft.

Well maintained permaculture garden- maize, sweet potatoes, and other vegetables.

Waterpoint Committee of 10 members plus chief. Challenges are that there are sometimes too many users, with nearby villagers come when their own borehole is broken- though conflicts are rare. Spare parts are expensive, especially for the borehole. Households pay 200 300Kw per year.

Figure 5.54: Village with handpump water point and permaculture garden.
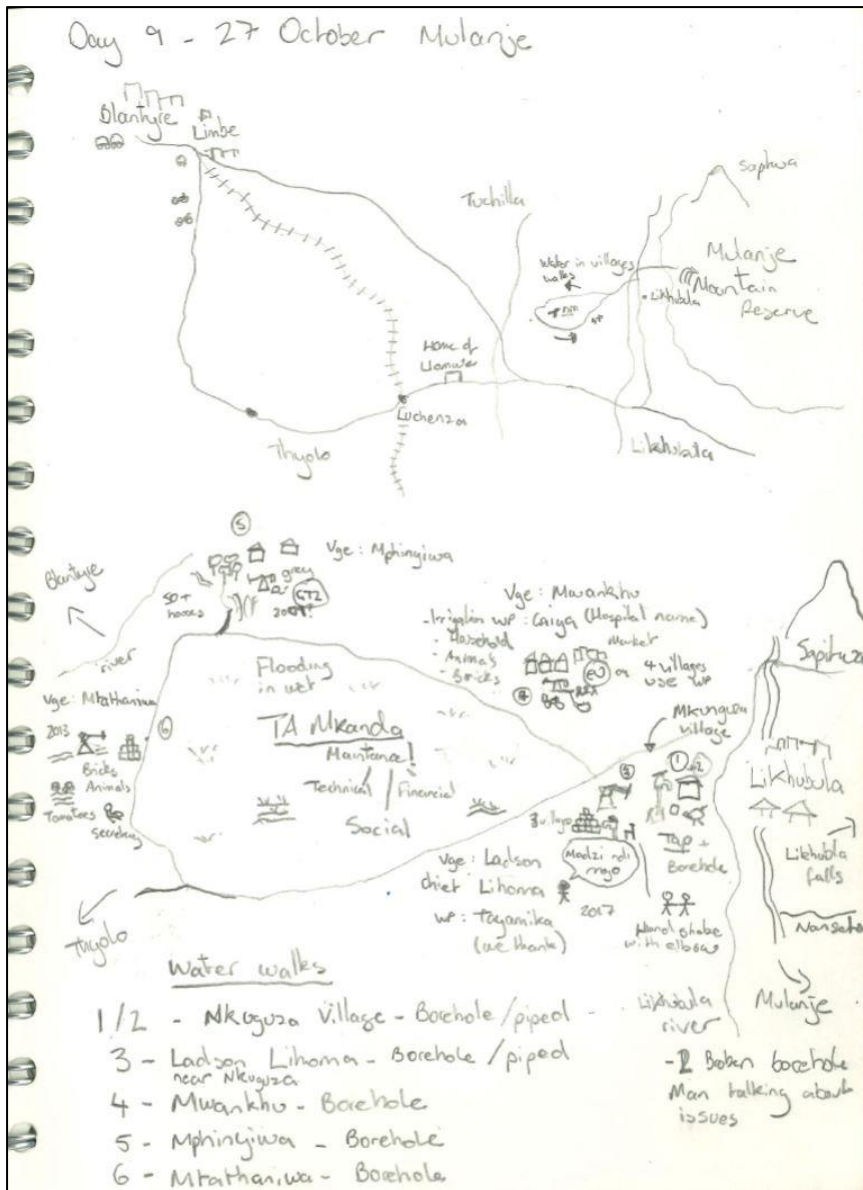
Figure 5.55: Hand drawn map of Mulanje village visits.

Some initial reflection of village visits, and some new connections in Blantyre

In the day after our visits the Mulanje villages RC and I attend a meeting at the Blantyre office of a local water Non-Governmental Organisation (NGO), a partner to my institution's work in the region. We talk over some of our experiences in and around Mulanje with MN**,** the NGO's director, including the need **for increased 'social maintenance' (i.e., regular engagement and support with local communities) at waterpoints, to go alongside more technical maintenance procedures (such as local mechanic**

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training, spare parts provision, and water quality testing). We are informed that while there are guidelines on installation and maintenance of boreholes, a lack of supervision means they are often poorly constructed and neglected. MN also refers to the challenges of Community Based Management (CBM) approaches[191], that leave communities without the long-term support — financial and otherwise — to maintain water points and infrastructure, referring to the views of Chowns (2014; 2015), as previously identified in **Chapter 4**.

Without enough consideration of various power structures, finance provision, and the availability of other resources, CBM approaches can fail to adequately provide the necessary support to communities to maintain their water infrastructure in the long-term (see Rusca *et al.*, 2017; Velzeboer, Hordijk and Schwartz, 2018; Coulson *et al.*, 2021). Furthermore, as **water walks 1-5** indicate, economic and infrastructural factors also entangle and intersect with a range of cultural, historical, social, and political issues in the relationships and interactions communities have with water. **These are factors that are embedded in long histories and ways of knowing; that are socially constructed according to individual and collective understandings, perceptions, norms and behaviours (see Strang, 2004); and which are relationally produced, locally embedded and legitimized through everyday water practices (see Rusca *et al.*, 2017).** Including, indeed 'accounting for', such factors alongside the material and physical aspects of water (i.e., as H_2O) clearly reflects that more plural values of water that I have incorporated into my conceptual framework — aspects of the hydrosocial cycle, the various dimensions of water as part of a cultural landscape, and where a dialogical approach is adopted to consider water in wider social-ecological terms. Before I reflect on, and analyse, my water walks through a more explicit reference to my conceptual framework in the next chapter, I will recount one more experience as my concluding water walk. Aligned with aspects of some of the preceding walks, it is an experience that is more focused on the act of sitting/pausing, as it is about moving.

Water Walk 7 — A water talk: attending a community water meeting

A short walk, and attending a meeting, at Jordan village
I learn that, during our meeting with MN, that the Blantyre based water NGO I visited in **water walk 6** has been undertaking a progressive approach to a community driven aquaculture project at *Jordan village*

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[191] CBM approaches, nonetheless, do reflect some of the features of a dialogical approach (see **Chapter 2**) in terms of water management, insofar they involve multiple stakeholders, and seek to invoke dialogue and discussion amongst these groups.

— a rural village north-east of Blantyre, near the Zomba massif (see **Figure 5.56** and **Figure 5.57**). As well as organising contractors to install the technical aspects of the project, the NGO has been seeking to redress some of the burden placed on communities to manage their own waterpoints, particularly focusing on social support and engagement as the new water related infrastructure is developed in the village.

Figure 5.56: Area of focus for water walk 7 (refer to **Figure 5.3** for wider context) — Jordan village situated north of Blantyre. (Source: Open Street Map).
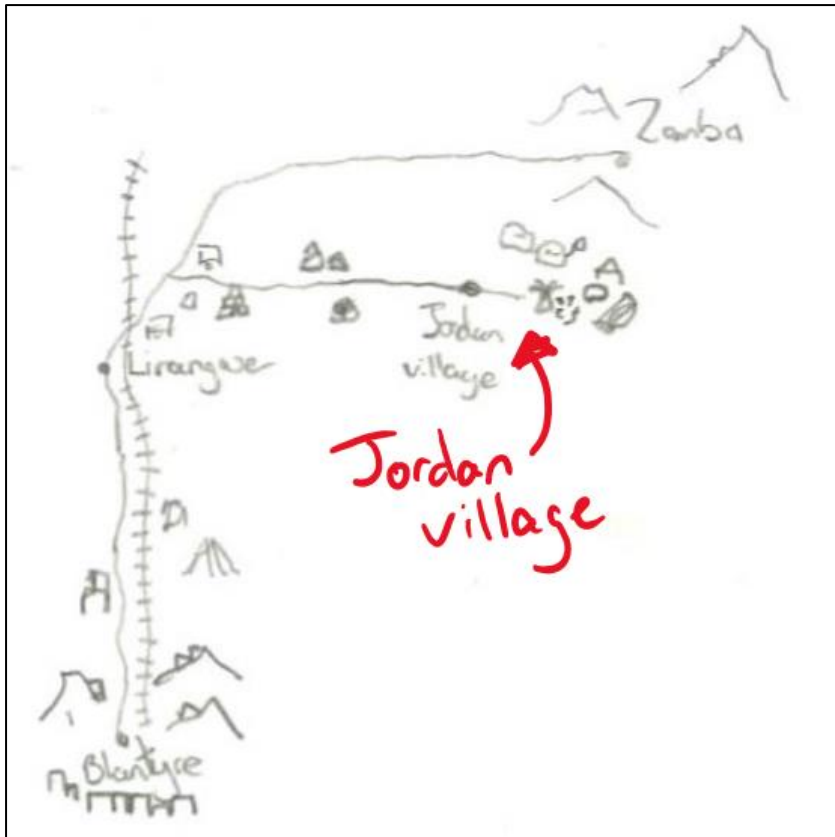
Figure 5.57: Extract from hand drawn map with digital annotations — Jordan village.[192]

I accompany ST, the NGO's community engagement manager, on a visit to Jordan village to attend a community engagement meeting. We drive northwards from Blantyre, leaving the heavy city traffic behind — here we are in the territory of the Nyanga and Yao people. We pick up two passengers on the way — GE and PA, representatives from the government — who will join ST in the meeting with local community members. **On the journey I am informed that the project seeks to adapt an 'artesian well'[193] in the village to manage local flooding impacts, as well as create an aquaculture project that will provide additional social-economic benefits to the local community.** The visit's purpose is to help organise and facilitate a discussion around the number of days villagers need to construct the second of two aquaculture ponds, and ascertain the level of support this will require from the NGO.

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[192] Map depicts road route north from Blantyre, following the railway line, and with Jordan village to the south-west of Zomba.
[193] A borehole which does not require physical pumping to bring water to the surface due to adequate natural pressure.

Turning off the main road from Blantyre, we drive along a dusty and bumpy road into a parched and dry landscape. As I have done more than once in preceding days, we cross the single-track railway, and eventually reach Jordan village. We park near the village's **artesian well, from which water is slowly flowing into the soil around it.** The village chief meets us at our vehicle and, as is customary, welcomes us to the village. I try and recall some of the Chichewa I had learnt in order to greet them, but in the moment, I forget some of the right phrases.

I am taken on a short walk around the site with ST and GE, including to the aquaculture ponds, led by the village chief (this is the walking element of this water walk). As depicted in **Figure 5.58**, one of the **two aquaculture ponds has been completed and filled with water, while the other is still being constructed. The land has been excavated, while blue pipes lie nearby, ready for installation**.

Figure 5.58: Jordan village. Images: top left and bottom left — aquaculture pond in process of construction, completed pond; centre — new pipes delivered for construction project; right — village tree under which our meeting took place.

A community meeting has been organised in order to discuss some issues related to the ongoing project, and as we walk back to the village centre, I can see the formation of an *'assembly'* of local villagers congregating under the large tree in the central meeting place of the village. I am welcomed to this scene

and encouraged to sit on the bench that has been provided for us, the visitors — while the rest of the villagers take their positions (see my hand drawn representation of the scene in **Figure 5.59**)[194].

Figure 5.59: Extract from hand drawn map in fieldwork journal — community meeting in Jordan village.[195]

Aside from learning about the technical and infrastructural aspects of this water project to incorporate wider social and economic co-benefits, I was particularly interested in the process the NGO undertook to engage with the community to resolve and progress social issues linked to water provision. This opportunity to attend, observe, and partake in such a meeting was a significant privilege — and one of the most impactful experiences during my fieldwork. In a further presentational practice, I

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[194] Here, through a pictorial representation, I seek to convey a visual account of the situation without the use of a camera — aligning with my research ethics.

[195] This sketch describes my participation in the community meeting in Jordan village to discuss the aquaculture project. It depicts the local villagers, chief and NGO and government representatives sitting in the central village space. A tree, livestock, other villagers (especially children) and the water, which is the subject of discussion, also feature and are depicted.

seek to foreground a representation of the *process* of this community meeting — and, in particular, give attention to the social-ecological characteristics of the *place* in which it occurs. During the meeting GE and ST occasionally provide me some quiet commentary on what was being talked about — generally a discussion about the length of time required to undertake the project's construction, as well as payment issues for the labour provided by locals. The following is a descriptive 'account' of the meeting as it unfolded, observed from my point of view- and which complements the visual representation of my hand drawn sketch presented in **Figure 5.59**.

A moment of sitting/pausing

> The villagers create a circle formation by sitting on the ground, while the chief sits with their back resting against the tree. Female and male villagers sit in two quite distinct groups, though next to one another, and a prayer is said to open the meeting. First by a female villager, then a male. Then follows a long silent pause (compare this to moments of silence in **water walks 1 and 5**) during which we sit for some time. This is followed by individual introductions from each villager, then by guests (including me — translated by ST)[196].

> A lengthy presentation is given from ST and then GE, speaking mostly in Chichewa, but with some English too (notably numbers are spoken in English). This is followed by community members speaking — men first, then the chief. A secretary takes handwritten notes, while some young children and babies are present too. Further statements and views are exchanged between ST and GE and some of the male villagers. Following this PA speaks, who encourages some female villagers to contribute their voice. During these exchanges notable long pauses, and moments of quiet, intersperse the meeting. These moments seem vital to the 'ebb and flow' of the conversation — and are respected by all in attendance, without interruption.

> In these moments of silence, I note the other-than-human involvement in the setting — at one point a cockerel wanders into the centre of the gathering, goats bleat while moving around the permitter of the human circle (at one stage a young goat is 'shooed away' by a villager who throws a small stone towards it), and a cow wanders by. The presence of the wind is apparent, especially in moments of silence, while the sun is omnipresent — its rays beating down in

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[196] I am not clear whether this has been undertaken for my benefit, or if it is common practice at each meeting.

temperatures of over 40 degrees Celsius. We are grateful for the presence of the village tree, whose thick leaves provide some shade.

After a lengthy discussion the congregation is disbanded, and the visitors (including me) are asked to leave the meeting place for the community to discuss issues amongst themselves. After some time, a messenger comes from the group to ask us to come back to the meeting space under the tree — and a 're-assembling' takes place. Villagers once again speak, followed by some words by the chief, before a response by the three guests — ST, GE, and PA. Throughout this process it seemed we were working towards a collective agreement, before the meeting was concluded with a prayer, and thanks were given to everyone in attendance. Finally, I was invited to speak, and GE translated some of my observations about how polite and respectful people were of each other during the meeting — which was welcomed by attendees. ST and GE once again walked with the chief to the aquaculture ponds, while PA separately spoke to some of the women villagers. After some time we got in our vehicle, and left the village — waved away by the chief.
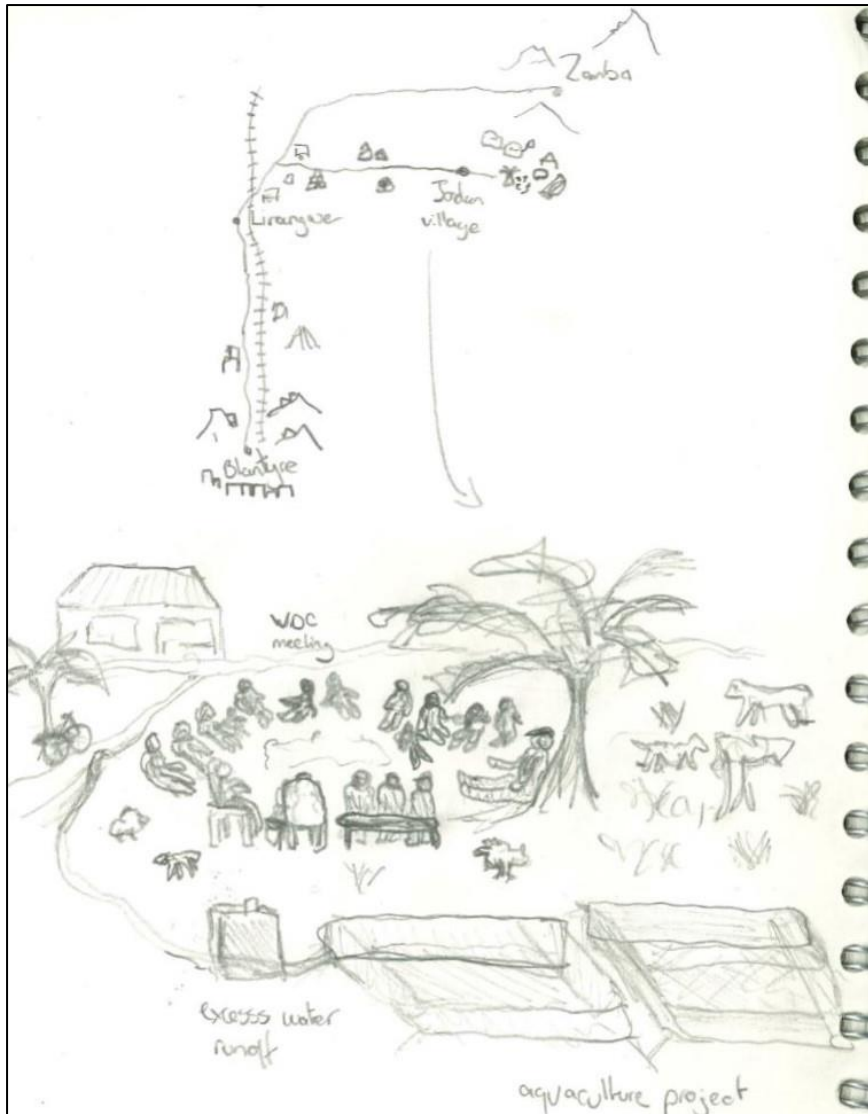
Figure 5.60: Full hand drawn map extracted from fieldwork journal of water walk 7 — Jordan village.

A recap and reflection of the 7 water walks as an assemblage

This extensive narrative and visual reflective assemblage has described my seven water walks in Malawi — and is the central empirical content of my social-ecological autoethnography. It intertwines contextual knowledge and information that I had gathered before my fieldwork — along with my personal experiences and observations of water relations during my time in Malawi. It is presented here both as a collection of seven distinct and autonomous experiences, that can be understood separately — and can be referred to in the plural (i.e., a number of *accounts* of water relations within Malawi) — *or* it can be

understood in its totality as a single body of encounters, and referred to in the singular (i.e., *an account* of water relations).

A summary of the 7 water walks

In 'Part 1' water walks 1 and 2 seek to introduce and illuminate some of the deep cultural narratives and symbolism that are present in this part of Malawi, including with specific links to water, that are deeply embedded in time and place. Though undertaken in short visits, my time at the cultural locations of Chongoni rock art site, and Kungoni Art and Cultural Centre, served as an important introduction to Malawian culture — clarifying, and adding to, some of the prior desk-based research I had undertaken. From those walks I have represented evidence of recurring symbolic references, including to water, that have carried across time. These represent water's role in a cultural landscape in the region (see Strang (2004)).

'Part 2' presents some more recent historical, social, political, and economic links to water in Malawi — including how they shape and determine its spatial and cultural identity as a modern nation. Walks 3 and 4 at Lake Malawi, and in the major cities of Lilongwe and Blantyre, provide evidence of different uses of water observed through an everyday lens, as well as examples of the spatial and social impact of water infrastructure and related development. Observations from the two urban centres demonstrate connections between water and a multiplicity of factors — with water linked to, for example, mobile phone technology, local economic activity, and culinary traditions — while its symbolic imprint can be seen in consumer products and banknotes. These aspects of water relations link to the hydrosocial cycle analytical framework (see Linton and Budds (2014)), and furthermore reinforce water's role as part of a cultural landscape.

Water walk 5 in Mulanje provided an insight into an interconnection between local cultural mythologies and oral narratives, social associations with place, ecological and spatial factors, technology and infrastructure, and economic pressures — all through the lens of water relations in a specific place. This is then contextualised by water walk 6, close to the site of water walk 5, which gives an insight to some of the interactions and issues related to water in an everyday context by local communities — whereby social, economic, infrastructural, (local) political and hydrological issues intersect and interrelate to affect water provision and accessibility. Water walk 7 represents, in SEA terms, something of an enacting of a social-ecological dialogical process through the involvement of a local community in discussions around

the creation of water infrastructure. It differs from 'conventional' stakeholder engagements insofar it adheres to a 'place-based' focus — meeting villagers in their community and adhering to local customs and practices. Notably the water, which is the topic of discussion, is present in the spatial context of the meeting place — indirectly including it in the discussive process.

Summary of this chapter

This chapter has presented an account of the series of water walks that I undertook during my fieldwork in Malawi, adopting my methodological approach of a social-ecological autoethnography. These have provided a rich description (in narrative and visual forms) of the water relations I observed and encountered, intertwined with a reflexive analysis that links back to some of the literature, and theoretical insights, I have presented in preceding chapters.

Chapter 6: Discursive reflections — a process and representation of water relations in a place

What does this chapter seek to explore?

This chapter presents an analysis of the water walks using my conceptual framework to identify some of different values of water that can be identified from them. I reflect on the process of undertaking this research, and open up some recommendations and contributions that stem from it (see **Figure 6.1** for thesis flow chart).

C1	• Chapter 1: An introduction ─ navigating a shapeshifting flow • Thesis structure; situating of research; overview of literature, theory, and methodology; introducing central research question
C2	• Chapter 2: A basis in literature ─ social-ecological interdisciplinarity • Social Environmenal Accounting (SEA) literature review; dialogics in SEA; *conceptual framework stage 1;* first part of research question
C3	• Chapter 3: Methodology and theoretical insights ─ water as plural • An onto-epistemology of water; *conceptual framework stage 2;* theoretical insights from assemblage thinking; second part of research question; interdisciplinary influences; *conceptual framework stage 3*
C4	• Chapter 4**:** Research methods ─ attending to a social-ecological autoethnography • A social-ecological autoethnography; water walks as a research method; contextual information on Malawi and the empirical site
C5	• Chapter 5: Results as an assemblage ─ curating some accounts of life with(in) water in Malawi • Undertaking a travelogue; narrative and visual accounts of water walks in Malawi; reflective summary of water walks
C6	• **Chapter 6: Discursive reflections ─ a process and representation of water relations in a place** • **Analysis of water walks using conceptual framework; reflections on research process; opening up contributions from the research**
C7	• Chapter 7: Conclusions ─ giving attention to other ways of SEAing water • Overview of thesis; future areas of research; final thoughts
App	• Appendices

Figure 6.1: Chapter 6 in thesis flow chart.

Before I develop this penultimate chapter, I return to the visual metaphor of the 'tree of life' to reflect on the journey that I, and this writing, has taken thus far. **Figure 6.2** depicts this in terms of the process of developing an assemblage — from the initial chapters in which I described the interconnected theoretical 'roots' of literature, theory and methodology; through the process of a social-ecological autoethnography drawing on theoretical insights from dialogics and assemblage (the 'agencer' of an assemblage); and finally, to the emergent findings described in my water walks in the previous chapter (the 'ensemble' of this assemblage).

Branches:
Representations of water relations (the 'ensemble')

Water is life:
Madzi ndi Moyo

Currating a
social-ecological
assemblage

Trunk: Process of
encountering ways of knowing
water (the 'agencer')

Empirical site: Place, people and water
in Central and Southern Malawi

Roots: Disciplinary and
academic grounding

Literature:
SES and SEA

Theory: Dialogics
and assemblage

Methodology:
Social-ecological
Autoethnography

Figure 6.2: Developing a social-ecological assemblage represented in the 'tree of life'.

Summary findings and analysis using the conceptual framework

The narrative account of my water walks presented in **Chapter 5** integrate references to the social-ecological dialogical approach — as well as references to a hydrosocial cycle and 'water in a cultural landscape' — as I have developed in my conceptual framework in previous chapters. However, the following is a representation — an alternative assemblage — of these aspects of my conceptual framework in a more analytical format. In doing so it seeks to draw attention to the different relationships to, and within, water that are threaded through the water walks, and which form the branches and leaves in **Figure 6.2**.

A process of engagement — adhering to social-ecological dialogics

The following suggests how the water related engagements from the water walks in **Chapter 5** link to, and associate with, the features of a social-ecological dialogical approach as developed in the conceptual framework (see **Chapter 3, Table 3.2**).

Research Style

The research approach has focused on interdisciplinary knowledge and context that draws on anthropological, archaeological, historical, and arts-based insights including from local guides, museum curators, writers, local academics, and other embedded cultural perspectives. Its overarching purpose has been to enact a reflexive process that opens-up insight to different water relations through dialogue with others, as well as consideration of non-humans as part of place.

Epistemology and ways of seeing

The research epistemologically recognises that knowledge of, and relations to, water are situated in place and value-laden. It is inclusive of geo-political and social histories that are intertwined with water, including references to water in nomenclature of place, and in material culture. Information has been drawn from cultural and historical contexts and has included insight from technical experts such as local guides, government representatives, local community members and other water users as well as interdisciplinary knowledge and context from political, historical, and geographic sources. Herein it aligns with the hallmarks of an autoethnographic approach — combining wider social, cultural, and political knowledge with first-hand observations and experiences. It recognises people and society in a political ecology framing, whereby they are in relation to water and place.

Analysis and representation

The research adopts an 'open-ended analysis' approach that seeks to present 'unanswered questions' rather than specific outcomes through its insights. It is a level of analysis that focuses on giving representation, and which seeks to open up questions and discussive spaces, rather than seeking answers, or solutions, to specific issues. Evidence is recorded and represented in narrative reflections, photographic imagery, deep mapping as well as object collection. Forms of representation encompass a multiplicity of media formats, and means of recording, to represent complex place-based water engagements and relations.

Water walks in terms of water as a hydrosocial cycle and within a cultural landscape

Table 6.1 analytically considers the water related engagements contained in each water walk detailed in **Chapter 5.** It lists the specific water engagements identified in each walk (as highlighted in bold text throughout the narrative accounts of the water walks), and suggests how these link to, and associate with, the characteristics of water as the outcome of a hydrosocial cycle, and where water emerges from a cultural landscape (see **Figure 6.3**). Aligned with the open-ended approach to analysis of a social-ecological dialogical approach, I simply use these frameworks to present the various social-ecological dimensions of these encounters.

Water is a process of becoming and revealing itself in a **hydrosocial cycle** through interactions of:	**Water emerges from a cultural landscape** that is the product of interactions and arrangements that are:
•H_2O, •Social power/structure, •Technology/Infrastructure	•Social, •Spatial, •Economic, •Political, •Cosmological/religious, •Material Culture, •Ecological constraints/opportunities

Figure 6.3: Revisiting the hydrosocial cycle and 'water in a cultural landscape' frameworks.

Table 6.1: Summary of water walks in terms of hydrosocial cycle, and water in a cultural landscape.

	Water related encounter during water walk	Aspect of water as part of a hydrosocial cycle	Aspect of water in a cultural landscape
Water walk 1	Rain/water rituals associated with rock art symbolic depictions	H$_2$0, Social structure	Social, Cosmological, Knowledges
	Purchasing and carrying bottled water to undertake research in extreme heat	H$_2$0, Social Power, Technology	Social, Economic
	Water based animals (e.g., duck, crocodile, millipede), as well as human figures, depicted in rock art representations	Social Structure	Cosmological, Knowledges, Ecological
	Rain/water symbolically associated with the colour black, including in rain rituals	H$_2$0	Social, Knowledges, Ecological
	Possible symbolic representations of rainfall represented in rock art	H$_2$0	Knowledges, Ecological
	Depictions of material culture related to water (cooking pot with steam) represented in rock art	H$_2$0, Technology	Material culture
	Knowledge of a traditional god (*Chiuta*) associated with rain, and who is furthermore represented in rainbow symbolism	H$_2$0, Social structure	Cosmological/religious, Knowledges, Ecological
Water Walk 2	Observations of different uses of water for domestic purposes derived from local water sources (villagers at river in Mua mission)	H$_2$0, Social structure	Social, Economic, Material culture, Ecological
	Presence of local animal life as a guide to water's temporal and spatial availability (frogs at Mua mission)	H$_2$0	Knowledges, Ecological
	Animal symbolism (the serpent) and cultural mythologies (*Makewana*) linked to water and rains, including reinforcing colour symbolism	H$_2$0, Social structure,	Cosmological/religious, Knowledges, Material culture, Ecological
	Cultural narratives and symbolic representations of water embedded in cultural objects (such as *Gule Wamkulu* masks).	Social structures	Cosmological, Material culture
	Cultural and religious rituals in which water is used to carry symbolic meaning (such as birth and funerary practices)	H$_2$0, Social structures,	Social, Cosmological/ religious, Knowledges, Material culture
	Conflicts and impacts of water development projects on cultural associations to water in places (see Claude Boucher discussion)	H$_2$0, Social power, Technology/ infrastructure	Social, Spatial, Economic, Political, Knowledges, Material culture, Ecological

Water Walk 3	Role of Lake Malawi as a source of freshwater, as well as a site for other activities (such as fishing and tourism)	H_2O, Social structure	Social, Spatial, Economic, Ecological
	Lake Malawi linked to national identity, and which is embedded in the national flag and country's name	Social structure	Social, Political
	Water use evident at places of worship, with common and differentiated uses and demands according to religious practices	Social structure, Technology/infrastructure	Social, Religious, Material culture
	Evidence of local water transportation, particularly by bicycle	H_2O, Technology	Material culture
	Lake Malawi's significant geo-political role in defining national borders	H_2O, Social structure	Social, spatial, economic, political, ecological
	Colonial histories and associated nomenclature of places associated with water (Lake Malawi)	H_2O, Social structure/ power	Social, Spatial, Political, Ecological
	Different everyday water demands and uses linked to wealth (Lake Malawi shore)	H_2O, Social structure/ power, Infrastructure	Social, Economic, Ecological
Water walk 4	Water/rain rituals and pilgrimage linked to geographic locations (Bunda Hill)	H_2O, Social structure	Social, Spatial, Cosmological, Knowledges
	Interactions of large-scale water infrastructure on everyday water engagements (Kamuzu Dams)	H_2O, Social structure, Technology/ infrastructure	Social, Spatial, Economic, Material culture
	Water as a repository and site for waste and pollution (Mudi River)	H_2O, Infrastructure	Social, Spatial, Ecological
	Symbolic water associations depicted in material culture (bottled water)	H_2O, Social power Technology	Economic, Material culture, Ecological
	Symbolic links between water and money embedded in coins and banknote imagery	H_2O, social structure/ power, Technology	Social, Economic, Political, Material culture
	Evidence of digital payments and financial technology associated with water provision	H_2O, Social structure/ power, Technology	Social, Economic, Knowledges
	Material and symbolic links between food and water, including in country's staple food (*nsima*)	H_2O, Social structure, Technology	Social, Economic, Knowledges, Material culture, Ecological
Water walk 5	Water as a carrier of pollution and waste including in industrial practices (resource mining)	H_2O, Social structure/ power, Technology	Social, Economic, Ecological
	Cultural mythologies linked to a specific geographic location and water feature (*Dziwe la Nkhalamba* waterfall and pool)	H_2O, Social structure	Social, Spatial, Cosmological/religious, Knowledges, Ecological

	Symbolic references included in nomenclature of water features (rivers in Mulanje region, including which reinforce symbolic water/serpent link)	H_2O	Spatial, Knowledges, Ecological
	Water infrastructure affecting and redefining the spatial landscape of a place (water pipes as part of Mulanje-Likhubula water project)	H_2O, Social structure/ power, Technology/infrastructure	Social, Spatial, Economic, Political, Ecological
	Water infrastructure potentially affecting the availability of water for local social, spiritual, and recreational purposes	H_2O, Social structure/ power, Infrastructure	Social, Spatial, Knowledges, Ecological
	Conflict between social and economic demands for water in areas of water stress (Lujeri tea estate)	H_2O, Social structure/ power, Technology/ infrastructure	Social, Spatial, Economic, Political, Ecological
Water walk 6	Evidence of different uses of water at a local level for domestic purposes in rural communities	H_2O, Social structure/ power, Technology/ infrastructure	Social, Spatial, Economic, Political, Knowledges, Ecological
	Different means and approaches to financing water supply at a local level (payments for water point installation and maintenance in villages)	H_2O, social structure/ power, technology	Social, Economic
	Some evidence of local conflict and issues of water theft between local communities	H_2O, Social structure, Infrastructure	Social, Spatial, Material culture
	Use of 'micro' mobility to transport water for everyday needs, reinforcing the role of the bicycle	H_2O, Technology/ infrastructure	Material Culture
	Evidence of degraded, neglected and potentially hazardous water supplies and infrastructure, intersecting with issues of waste and pollution	H_2O, Technology/ infrastructure	Social, Spatial, Economic, Material culture
	Evidence of international funding used to develop water infrastructure, but which has degraded and been neglected over time	H_2O, Social structure/ power, Technology/ infrastructure	Social, Economic, Political, Material culture
	Difficulties in sourcing/financing of parts for ongoing maintenance and upkeep of water points at a local level	H_2O, Social structure, Technology/ infrastructure	Social, Economic, Knowledges, Material culture
Water walk 7	Rural water infrastructure designed with wider social-economic provisions (such as aquaculture) alongside conventional consumptive uses	H_2O, Social structure, Technology/ infrastructure	Social, Spatial, Economic, Political, Material culture, Ecological
	Observing social engagement and conflict resolution practices as part of water infrastructure project development (community meeting)	H_2O, Social structure/ power, Technology/ infrastructure	Social, Spatial, Economic, Political, Knowledges, Material culture, Ecological

A visual representation of the social-ecological values of water in the empirical site

I present a final version (or assemblage) of the 'tree of life' incorporating some of these different values of water (detailed in **Table 6.1**), representing these as leaves on the tree (**Figure 6.4**). This figure furthermore encapsulates the journey that I have undertaken in this research, and represents, in a visual format, some of the different relations to water that I have encountered. In this sense it provides an 'answer' to the central research question of this thesis: '*What are different values of water in Malawi, and how can they be represented?*'.
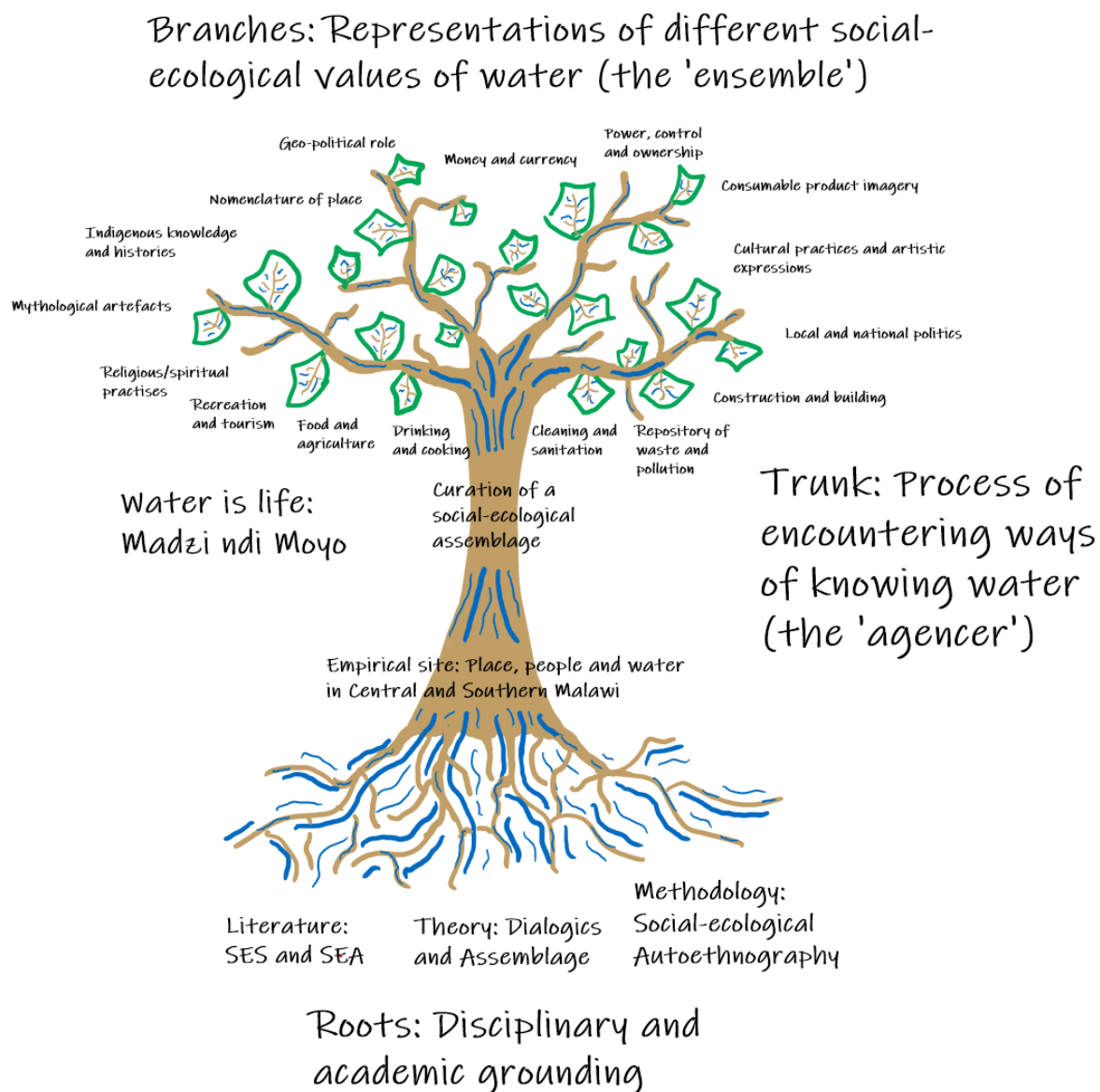
Figure 6.4: Visually representing water's different values in the 'tree of life'.

Research that recognises that water IS life

As I have referred to in this writing, there is a well-known phrase in Chichewa language— *'madzi ndi moyo'* — which translates as 'water is life'. It is a phrase that I encounter before, throughout, and after I visit Malawi — and that I come across in a multiplicity of representations — literature, conversations, objects, and signage (see **Figure 6.5**).
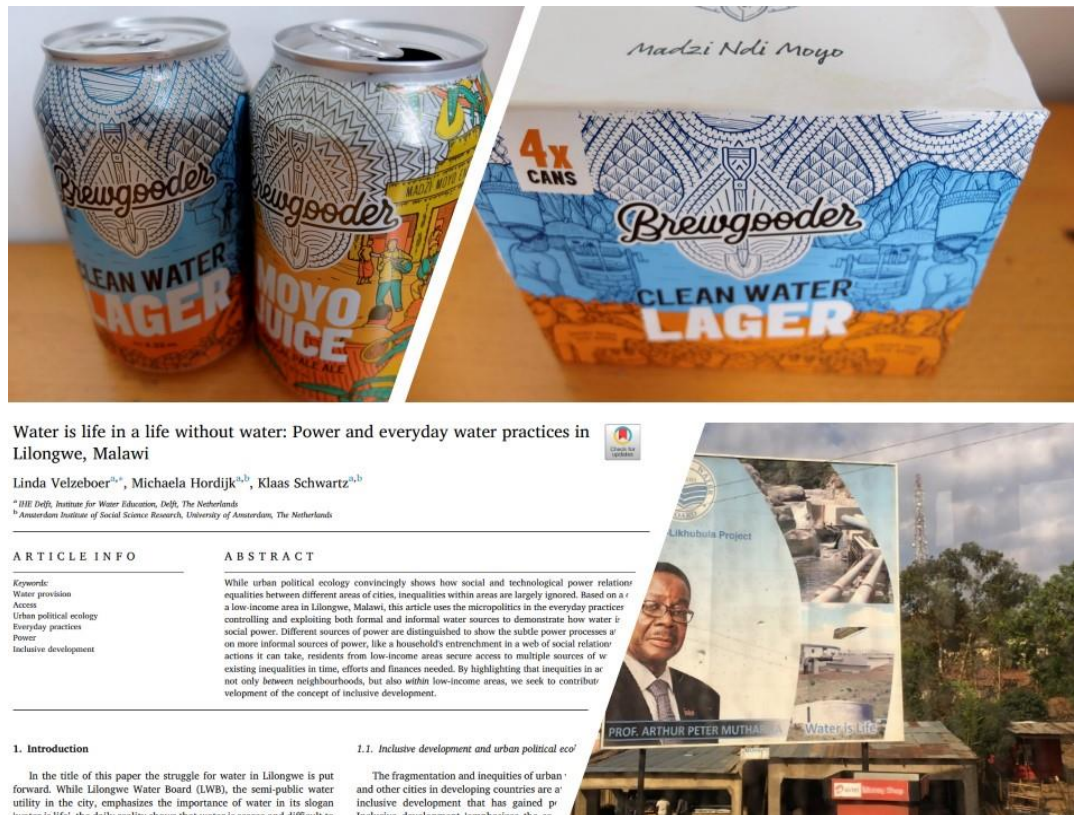
Figure 6.5: Representations of *'Madzi ndi Moyo'* ('water is life') as a recurring phrase. Images top left and top right: beer cans produced in Scotland; bottom left: academic journal paper referring to the phrase; bottom right: road signage for water infrastructure projects in Malawi.

The phrase intertwines water and life in a mutual interrelationship, though it is not a connection that is exclusive to Malawi — water and life are universally deeply intertwined across many cultures (see **Chapter 3**). The United Nations and Scottish Water, for example, refer to the concept of water 'for' life[197],

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[197] The UN, *'International Decade for Action 'WATER FOR LIFE' 2005-2015'*, (see online at: [https://www.un.org/waterforlifedecade/])and Scottish Water, *'Water For Life'*, (see online at: [https://www.scottishwater.co.uk/help-and-resources/education/all-about-water/water-for-life]).

while terms for distilled alcohol link water and life in various cultures[198]. Neimanis (2017, p. 175) repeatedly refers to the entangled link of water and life, and expresses this in their exclamation that *"water is life, water is life, water is life"*.

If water *is* life, is the reverse true? Whereby life *is* water? Indeed, Emoto (2004, p. xix) claims *"To understand water is to understand the cosmos, the marvels of nature, and life itself."*. This suggest that if you are to study water, then you must study life. Properly undertaking a study 'of life' is a significant undertaking — and is, of course, beyond the scope and boundaries of this thesis! However, it does point towards the type of literature, theory, and methodologies that this research has sought to encounter and engage with — an ethnographically inspired study of the relationship between water and life in a place. However, aside from providing a framing for the academic themes of my research, expressing the link between water and life offered a very practical purpose when undertaking my research. I find that during my time in Malawi (such as when chatting to taxi drivers on my way to water walk sites, or with guests in my accommodation) it is the simplest explanation I can give for my studies. If *'madzi ndi moyo'* — water is life — we therefore should study life when studying water. It is a simple explanation, but one I found to be very effective, and disarming means, to open up conversations and build trust with those I met while undertaking my fieldwork.

Water is also a 'third thing'

> *"Water is H₂O, Hydrogen two parts, oxygen one,*
> *But there is also a third thing, that makes water*
> *And nobody knows what that is."*
> Lawrence, D.H. (in Deakin (1999, p. 5))

It is worth reminding ourselves of something when we partake in research about water. That in a very material sense we, as human beings (and all living organisms), *are water.* Emoto (2004) notes that our physical bodies are mostly comprised of the substance — 75% of children, decreasing to 50% in the elderly[199], and many of our vital organs such as our brain, heart, lungs and skin, are significantly composed

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[198] See terms Uisge Betha (Scottish Gaelic), Aqua Vitae (Latin), Eau de vie (French), Akvavit (Scandinavia).
[199] It seems that as we drain of water, we drain of life. This is reflected in the words of Bachelard (1983, p. 6) whereby *"daily death is the death of water"*.

of the fluid[200]. Neimanis (2017) metaphorically describes us as 'carrier bags of water'. This is not to reductively define us by the water, and its processes, that underpins our chemical and biological make up — but rather serves as a reminder that we are fundamentally linked to, and connected by, our physical and material relationship to the substance. Water is very much 'real', with a physicality and materiality that underpins our existence. Its movement in a hydrological cycle through a planetary biogeochemical cycle includes all humans, and the water that is contained in us as individuals is part of that ongoing cycle. Water is finite, and the water in us makes us part of that whole.

However, while recognising the centrality of water to our physical existence, as I have progressed in my research, I have been increasingly drawn to give attention to the other dimensions and values of water beyond its material and physical qualities used for utilitarian purposes. Values which cannot be expressed by only considering it in terms of its chemical representation as 'H_2O', its dictionary definition as a *"colourless, transparent, odourless liquid"*. In the excerpt from the poem '*The Third Thing'* that I quote above, D.H. Lawrence declares that, aside from the two chemical elements that make up H_2O, there is a 'third thing' to water — and *"nobody knows what that is"*. While I appreciate Lawrence's rejection of water's reduction to its chemical representation, I feel there is significant value and insight to be gained by seeking to give representation to some of those 'third things' about water. Not in an attempt to 'capture' them, but to give them some *attention*. Indeed, that is what I have tried to do in this research.

Water as social-ecological assemblages

Water is this 'thing' that universally binds and connects us — as humans and non-humans — but is also unique and individual down to each droplet. It seems that through an exploration of different *methods* that we may find ways of opening up, and discovering, new lines of investigation and insight in contemporary water studies. Methods drawn from the social sciences, humanities, and the arts which allow us to (re)engage with water in relational terms, and where we recognise that we are human beings *within* a more than human world.

In doing this, I find that there is something useful in 'playing' with the methodological process of research. This takes me back to the perspectives of Haider *et al.* (2017, p. 1) who state that *"the undisciplinary journey is an iterative and reflexive process of balancing methodological groundedness*

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[200] USGS, (22/06/21), *'The Water in You: Water and the Human Body'.* Available online at: [https://www.usgs.gov/special-topic/water-science-school/science/water-you-water-and-human-body?qt-science_center_objects=0#qt-science_center_objects].

and epistemological agility to engage in rigorous sustainability science". The key notions of being iterative and reflexive are implicit to the emergent inquiry that I have attempted to pursue. I feel, it is this approach, and particularly the use of the methods that I have employed in my social-ecological autoethnographic inquiry, is what has allowed for a widening of the onto-epistemological lens in which to study, and consider, water.

As researchers we need other methodologies that complement and interweave with those that we use in 'normal science'. Ones that recognise, and can represent, the social-ecological depth of relations to water in places, giving attention to ways they extend over temporal and spatial scales. These different approaches to water research can interweave to create a richer picture — not a 'clearer' one — that recognises, and honours, water's complexity. As Neimanis (2017, p. 154) observes *"water is not quite clear but nonetheless iridescent"*[201] **— it is complex, multiple, and plural. And when we view water from different angles, we can begin to see that richness and multiplicity.**

This research has sought to give attention to, and represent, the many ways of considering water — from *'H₂O'* through to it being a 'third thing' — in a variety of assemblages. I have enacted the process of curating such assemblages in the context of my empirical site, but also sought to create and enact a process in which this could be done in any place.

We must be more respectful, attentive, and prepared to 'give account' of the water that is 'beyond the pail' — thinking in terms, and enacting practices, of social-ecological assemblages might be a way to help us do this in new ways.

Reflecting on an interdisciplinary journey — on coming to know water in a place

Undertaking this research journey has altered and affected how I think, and my ways of seeing; my approach to undertaking research; and how I want to represent the process and outcomes of my future research outputs. It has involved both a process of learning, but also of 'unlearning'. My investigations have taken me into many different fields of knowledge, in a journey whereby I have been 'led by the water' — almost swept along in its flow.

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[201] The word 'iridescent' comes from the Latin 'iris/irid', and has associations with prisms, spectrum, and the rainbow (see **Chapter 4**).

To try and give attention to some of these feelings and thoughts, I have written a series of reflections during my research journey. These standalone short (or longer) pieces seek to give expression to some of these doubts and tensions as I encountered them. They form an important part of the process of problematising and sorting my thoughts as I have undertaken my research, but also provide a record and representation of my own shifting and evolving position as a researcher. In this sense they serve a useful intellectual purpose — and are part of the development of my methodological orientation. However, and perhaps more pertinently, they have been an emotional outlet for me — allowing me to cathartically express some of these thoughts and concerns. I provide a few of these pieces here as a contribution to this discussion chapter on the process I have embarked on undertaking this research.

Reflection — telling of a 'care-ful' story

My assemblage representation of water relations in Malawi developed through my social-ecological autoethnography is unavoidably curated in my terms — my ways of seeing. It is an assemblage which is limited and affected by my outlook on life, and the experiences I have had — with all the attendant ontological assumptions and epistemological limitations that come with that. I choose what goes in the assemblage and make decisions on what is left out. I give representation to one thing, but not to another. I *create* the picture, the account, that I then present here[202].

This connects to a critique of the concept of 'sustainable development', whereby, often well-meaning, efforts to develop or provide aid to places like Malawi are framed in, and shaped by, the values and ways of seeing of those who manage/undertake the development work. Intentionally or not, and to different degrees, this can often lead to a neglection of the perspectives and practices of the people and place in which such work is undertaken. Herein, such development work can continue to impose practices and values that reinforce old, and introduce new, means of dependency and control over people and place. This includes in terms of water studies and its management.

Thinking about these issues I often reflect that an alternative theoretical lens, and attendant methodological approach, could have been adopted to tell this story — perhaps one from a neo-colonialism or eco-feminism perspective (though, these are areas I feel I have touched on, and included, in my research). Would these have made this story a 'better' one? A more 'valuable' one? One that would

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[202] This recalls Hines (1998).

have been more critical, or more 'scientific'? Maybe it could have had a more in-depth application of theory, or possibly have been more coherently structured?

Reflecting on positionality within an autoethnography

Reflecting again on the perspectives of Heddon and Turner (2012), furthermore explored by Elkin (2016), there is a tradition of 'epic' and individualistic masculine walking predominant in the canon of walking related literature[203]. Rather — and nonetheless emphasising they want to avoid an essentialism in dividing male and female walking — Heddon and Turner highlight examples of various female walkers who adopt more 'relational walking' approaches compared to the general canon of masculine walking styles. They discuss the potential for these approaches to bring social and place relationships to the fore as part of walking methodologies. While I cannot escape the privileges and underlying aspects of my position, including being male, I feel I have sought to give attention to some of the more relational aspects of the water landscapes I have encountered in my research, and which I feel is aligned with some of these approaches to walking methodologies. Indeed, as Heddon and Turner propose, it is a type of walking that orientates towards a consideration of relations and dialogical approaches, and which does not need to be exclusive to women. Rather it can be a means to consider what is meant by, and underpins, these concepts.

I have experimented in writing this research using different personal pronouns — writing in the third person ('the researcher'), sometimes using the collective first person ('we'), and also, as here, in the first person ('I'). My decision to use the first person in this writing has come about over time, through recognising its use by some of the literature I have found most engaging, both from academic and other writing. It also aligns with the methodological approaches that I have increasingly moved towards, and in particular autoethnography, that require a self-referential term. But also, directly from listening to those I have come to trust most during my writing process, pointing out that I best express myself when I speak 'in person' about my research. I also find it easier to write this way, and it is type of researcher I want to develop into. One that speaks from their perspective, and the encounters they have with people and place.

However, I also recognise the self-referential, inward-looking, privileging of my own viewpoint when using 'I', and the limitations it has to 'give' voice to others. As such, it is necessary to emphasise that I see my research simply as a 'starting point', or an 'opening up' of wider social-ecological representations of

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[203] Citing the likes of Guy Debord, and other 'pyschogeographers' — see **Chapter 3.**

water in the context of my research. It does not seek to be conclusive or complete, but rather open the opportunity for more participatory approaches to add to the insight that I develop. Rather my research might be a means to add to, and help facilitate, (including specifically by Malawian researchers from interdisciplinary, social science and cultural studies disciplines) to further engage and reflect on water studies in these terms.

Fundamentally this research is *by no means* the only way of representing relationships to water in this context. It is simply '*a way*' — it is my curation. It is not definitive or objective (though it does include historical, geographic, and hydrological facts), but is a subjective account from my (considered) perspective. Nonetheless, it is one that seeks to incorporate and include a range of other views, adhering to the social-ecological dialogic process I have developed in my conceptual framework. Fundamentally, this has been the telling of a story — my way of telling that story — of some engagements with water in a place. It is a story that seeks to honour the specific place-based qualities of the empirical site, but that also demonstrates an interdisciplinary approach to undertaking a study of water relations in any place. A process that has been reflexive, '*care*-ful' and sensitive.

Reflection — water gets everywhere — materially and symbolically

If you have ever had a leak or a flood in your house, or even spilt a glass on your desk, you know that when water escapes its 'rational container' (be it pipes, or a beaker) then it simply gets everywhere. And, once this has happened, it cannot be put back. The water spreads and shapeshifts, filling every nook and cranny — imbuing materials to form soggy versions of themselves, causing havoc with electrics and other technology, and generally taking over the entire space.[204] Nothing escapes from its reach. The water affects and imbues everything in its path.

My research on water in Malawi has felt a little like this. As I have progressed in my research journey, I have felt like I have been pricking and poking at a huge conceptual container of water. This has involved me considering water from a social and environmental accounting perspective; from a hydrology point of view; in the context of earth systems science; in policy and legal framings; in cultural and anthropological

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[204] On visiting the exhibition, *'In Real Life'*, by the Danish-Icelandic instillation artist Olafur Eliasson at the Tate Modern in London in 2019 I found that a specific water related installation was malfunctioning. Apparently, water had leaked from the installation into the concrete floor, and the exhibit had to be closed to the public. Eliasson is known for using water in their work (see, for example, [https://www.artlyst.com/news/olafur-eliasson-launches-new-earth-day-serpentine-project]). But then, even an expert water manipulator is sometimes at the mercy of the substance's unpredictability.

terms; its presence in symbolic discourses; in art and aesthetics; mythology and religion; everyday practices; in power and politics; within our very bodies. And what is more, considering these different perspectives on water in universal, as well as in specifically Malawian, contexts.

These conceptions of water have been merging and mixing with one another — and sometimes conflicting and resisting. I feel I have been constantly adjusting and reconsidering how I have been thinking and feeling about water, and there has been a significant change within me as I have undertaken this research journey. This constant churn of thinking about, and reflecting on, different ways of considering water has been unsettling and confusing at times. But the process has also been very exciting. I have encountered many new perspectives, gained insight in how they interconnect, unlearned others, begun to see more clearly what it is that I might offer. This also feels like what *has to* happen if I am undertaking reflexive interdisciplinary research 'right' — or, at least, honouring it as best I can. Others who have written about water have recognised this tension and turbulence. Gaston Bachelard (1983, p. 6) states that *"a being dedicated to water is a being in flux"*, while Neimanis (2017, p. 142) claims that *"no body can ever fully know water".*[205]

Opening up contributions and recommendations from my research

As I move towards the concluding chapter of this thesis, in this section I open up some of the broad areas of contribution of my research, and some recommendations that come from that, before I summarise these as part of the conclusion chapter that follows this.

It seems that there are some broad areas of contribution from research — an academic/theoretical contribution, and then a social/practical contribution. These areas are, of course, not mutually exclusive — an academic contribution can clearly have a social impact if its ideas are adopted in social or policy contexts. Furthermore, as researchers, we are part of society — and changes or growth in the ways we undertake and share our research will 'leak out' to affect others. Similarly, those personal changes will filter and determine any academic contribution we have — how we act, tutor, teach, write, communicate as researchers — both now and in the future. There is, for me, an important a personal dimension to undertaking research, especially in the social-ecological areas studies that I am involved, and also inherent in the methodological practices I adopt. It is research that is lived and personally experienced, and the

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[205] In this sense, becoming almost confused — perhaps overwhelmed — by water means I am pursuing my research in a manner that honours water in its complexity.

personal/internal contributions it has, intersect with, and affect, the external contributions. Once again, this is at the essence of intersubjective, or interobjective, research — always acknowledging, indeed celebrating, the role of the researcher as being within the research.

A methodologically orientated academic contribution — Ways of undertaking research

Introducing the collection of essays, photographs, and poetry *'Antlers of Water: Writing on the Nature and Environment of Scotland',* Jamie (2020, p. xvi) quite simply states that *"Out of our noticing comes our art and our writing"*. It is Malachy Tallack's contribution to this text, in their short piece on 'engagement to place', that I see specific links between the practices of noticing, and ideas of 'giving an account', that underpin this body of work. Reflecting on their engagement with coming to know local nature in a place they have moved to live, Tallack (p. 149) observes that, *"this acknowledgement, this taking account of what belonged, was an act of care, and also of commitment. Over days, over weeks, over seasons, it was a process of coming-to-know. As the names we gathered for the things around us grew, our sense of where we were in turn expanded. An enrichment took place, and accumulation of knowledge and affection."*. My days and weeks (and maybe months in the future) in Malawi similarly felt like a process of 'coming-to-know' — observing and learning names and associations, histories and practices, objects, and symbolic links to water — and a similar *"taking account of what belonged"* as Tallack expresses.

This thesis is a heartfelt and impassioned representation of an alternative way of looking at water in a social-ecological framing. In undertaking the observational, explorative, and investigative process of my autoethnographic 'looking' (in a wider sense — in that it incorporates talking to people, and using multiple senses — hearing, feeling, smelling, embodied engagement) I have sought to open up spaces that are otherwise neglected or excluded. This, in turn, can inform, complement, and sometimes help critically examine other means of social-cultural data collection related to water (such as surveys, questionnaires and interviews) as well as more participatory methodologies

Ecological and social concerns in dialogic accounting using autoethnography compared to participatory methodologies

As articulated in **Chapter 3**, a key aspect of my adoption of dialogics in accounting, and the conceptual framework I develop, is its inclusion and foregrounding of ecological concerns. This builds on dialogic approaches that have arguably focused on the inclusion of social issues, emerging from theoretical perspectives with a predominantly social concern. My research seeks to contribute to dialogic accounting

approaches by extending this through its inherent social-ecological interdisciplinarity — with an epistemological orientation towards the inclusion of information and knowledge that is both social and ecological, giving representation to the interconnection of social and ecological issues that are often deeply linked and entwined (see **Table 3.2**). This aligns with the social-ecological ontological basis of this research, its consideration of interobjective ideas and concerns, and the resultant adoption of autoethnographic research methods.

While dialogical approaches conventionally focus on more participatory methodologies to include individuals or social groups — or wider 'stakeholders' — the objective of my application of dialogics with a focus on ecological concerns is to give greater attention, and 'voice', to non-human actors — and in particular water. While participatory methodologies are able to help open up human and social inclusion and concerns, my social-ecological autoethnography seeks to compliment such approaches by considering wider ecological issues that affect people and places (in terms of water issues in this context), and by extending the timeframes beyond those limited to human timescales. An autoethnographic approach allows for greater attention to gather knowledge pertaining to the wider context that affects water in a place, including social, cultural, political, historical, and spatial influences on the water environment and that can complement, inform, and provide additional insight to more conventionally participatory methodologies. Herein the application of an autoethnography with a concern for social-ecological issues can allow for a deeper consideration of the different possibilities and ways in which water is represented and accounted for in particular settings.

As I have articulated earlier, my adoption of autoethnography makes this a curation from my perspective as an individual researcher undertaking their doctorate fieldwork, experimenting with novel and innovative ways of representing evidence of water relations in a place. While it has perhaps not achieved the benefits of more participatory approaches and methodologies, its contribution through its interdisciplinary approach has developed and enacted an alternative approach to collating knowledge and insight into water relations in a place. Herein, its focus and ambition has been to draw attention to the *context* of water relations in a place, social and ecological, material, and symbolic, and ways these interrelate and connect spatially and temporally in a place. What is more, it has been a significant learning process for me, the researcher, and which hopefully develops a foundation for undertaking culturally aware participatory methodological approaches in the future, adopting creative practices for gathering and representing such perspectives. These could be in further collaboration with others, including in Malawi.

As articulated in the methodology chapter of this thesis, this work has been an attempt to seek alternative epistemological entanglements with water, and which can potentially be used in combination with more participatory methodologies.

A recommendation — Getting outside and enacting art-science collaborations using assemblage art
This research aligns with the recommendation from Russell, Milne and Dey (2017) that SEA research should consider 'getting outside more' to develop greater ecological sensitivity in its methodological approaches, and to look to ways in which art-science collaborations can help understand and present other ways of seeing social-ecological relations. The theoretical and methodological links I have made in this research, and how I have connected these to SEA literature, is my central academic contribution. I have then gone onto enact those conceptual ideas through the empirical work I have undertaken.

To do this the research has drawn on the application of ideas of autoethnography with a concern for the social-ecological, and the concept of assemblage in the context of water relations in Malawi. It has looked to several disciplinary approaches including political ecology, and cultural and ecological anthropology, for ways they use ideas of assemblage and applied in terms of water relations. It has specifically drawn on techniques and approaches linked to assemblage art — collage, montage, found-object — to bring together and represent some of these entangled relations to water in place.

The main contribution of adopting ideas of assemblage as art is that it offers potential for insight into, and possibilities for representing, multiple forms of, and relationships to, water. The process and practices of assemblage as art — getting outside, observing, collecting, recording, organising, and representing — and the adoption and inclusion of multiple forms of evidence and mediums for representing knowledge — narrative, photography, video, sketching, object collection and mapping — opens up and widens ways water can be represented, and the ways people and place relate to water. Herein the process of creating and representing such assemblages can open up ontological and epistemological understandings of water, and how knowledge of water is formed in a place. The inclusion of visual information and sources that emerge from, and are represented through, creative practices further builds on the ideas of 'giving voice' to water rather than 'speaking for it', and whereby arts based representations have the capacity to illustrate the ecological in non-textual forms. As well as opening up the possibility for alternative expressions of water relations, visual based representations as a communicative device can enhance inclusion, with the

capacity to be interpreted across different languages and demographics (which is particularly apposite given the context of this research).

The adoption of the ideas and techniques of assemblage as art allows for the interweaving of visual, textual, and physical representations of water together, at the same time, in the same representation. By placing different relationships to water together (such as in a visual montage or collage, forms of assemblage art) these representations are able to highlight, and open up, the multiple way different aspects of water interrelate and interconnect, including sometimes in conflicting and contradictory ways. Assemblage art techniques can help represent the relationship between the social and cultural, and the physical and natural, aspects of water relations in a place that are dynamic and shifting — providing an alternative way for expressing, representing, and disseminating the complex assemblages of water relations, as well as that can be reproduced for dissemination via modern forms of communication (such as digital multimedia and through social media platforms).

Furthermore, reflecting on issues around inclusion and physical privileges that are often assumed in walking methodologies (as raised in **Chapter 4**) there are potentially creative ways in which assemblage art can be adopted to allow for practices such as imaginative walking journeys. The collection and collation of representations of multi-media that captures different forms, uses and relations with water within a place could then be utilised in participatory methodological practices (such as focus groups or workshops) to allow those unable to participate in physical walks to be involved in imaginations and conversations around water environments in a place.

While existing dialogical accounting literature has discussed approaches to open up representations of social-ecological interactions and values — I have sought to take this further by demonstrating an approach to undertaking such a process whereby water walks are represented in assemblage art forms. Herein I foreground my personal experience and account. Recalling the words of Russell, Milne and Dey (2017, p. 1436) I have sought to go beyond, or develop an alternative to, some other social and environmental accounting frameworks where *"*[nature and society is] *framed as a series of inert, lifeless, fragmented inputs and outputs".* And, rather, to create and curate a sensitive representation that honours the deeply complex, fluid, and active relationship between people and water in a place — a picture of water and life.

Implications and contributions of assemblages from water walks on water governance and water access

Returning to the discussion at the beginning of **Chapter 2,** recognising that the centrality of water governance processes for the management and sustainability of water, there are a number of possible contributions that the creation of assemblages from water walks could have. Recalling the OECD's definition of water governance as 'a means rather than an end', whereby decisions are taken and implemented, stakeholders have their views considered and enacted, and decision makers are held accountable for water management resolutions, the curation of arts based assemblages from undertaking water walks can help enact such processes. Water walks are a method, or a 'prompt', to encounter and elucidate insight into these intersecting issues affecting water governance, in which local water users and water experts can be joined by external researchers[206] interested in learning about the interrelationship between people and place, in a collaborative encounter with water in particular locations. Herein assemblages from water walks are ways to consider alternative ontological and epistemological understandings of water, and how knowledge of it is formed.

In this way water walks both serve as a way of including the voice of local communities and their knowledge of water, but are also, crucially, a means for external researchers to learn and appreciate the social-ecological context of water environments and the water itself. The representations created through assemblages from water walks can draw attention to both formal and informal practices, process and norms that affect water relations in a place and draw attention to multiple forms, uses and relations to water. Furthermore, the assemblages can be an alternative, and more inclusive, means of undertaking and representing insight from stakeholder engagement exercises, bringing attention to factors and issues that are otherwise excluded. In doing so they can help hold dominant orders to account (see (Davison and Warren, 2017)), including in terms of decision-makers in water management.

Reflecting on aspects of recent accounting literature perspectives from Ang and Wickramasinghe (2022) and Passetti and Rinaldi (2020), who identify and explore issues of competing values of water in specific cases, the creation of assemblages developed from water walks can help contribute to dealing with such challenges. They can help represent and bring attention to the factors which contribute to conflicts and controversies (as well as alignments) related to water governance and management within, and between, various stakeholder groups. Assemblages can depict and give representation to examples where different

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[206] Such as social and ecological accounting researchers interested in water relations, or any number of different water scholars — such as engineers, hydrologists, social scientists, artists, community engagement researchers, development workers, etc.

perspectives on, and uses of, water potentially conflict or align, and the various factors which influence these relations[207]. As expressed previously, the creation of assemblages through water walks using diverse forms of media has the potential for then providing information and material as creative prompts when undertaking stakeholder engagement activities, including as a way to increase inclusion and involvement.

By including knowledge of social-cultual factors such as historically embedded structures of power and cultural associations to water, along with technological changes, such as new forms of water infrastructure, multifaceted assemblages are able to help give greater insight to, and accountability for, water related decisions that occur in places. In this way they provide alternative approaches to some of the more 'conventional' qualitative research techniques to research used in the social sciences — such as interviews or focus groups — and can contribute to increasing accountability and transparency in ways water is accessed, controlled, managed through structures and processes of power, as well as factors such as physical water infrastructure. In doing so they depart from, and potentially challenge, approaches and frameworks in accounting that tend to distinguish and separate social and ecological issues, and between processes and outcomes. Ultimately assemblages seek to 'honour' some of the fluidity and complexity of water relations that underpin water governance and, in a sense, recognise the "*messy institutions, norms and processes that underlie our relationship, as individuals and as a society, with water in the first place.*" (Nature Sustainability, 2021) — as quoted in Chapter 1.

Reflection — Interdisciplinary methods and being 'an outsider'

Ideas of interdisciplinarity, and within the areas of academia and policy, tend to infer a drawing on different intellectual conceptions and approaches to knowledge — which I have sought to do. However, a significant aspect of the interdisciplinarity of this research is more about the *process* of my methodological engagements. It is about *how* I have undertaken my research, including physically and emotionally. I am continually drawn to being outside in my research — not only to engage with water and the social-ecological environment to observe (using all my senses) and study it, but also as a means for me to read, think, contemplate, converse, write, and sketch as part of the process of creating my research. In this sense the intellectual aspects of the *process* of producing this research are fundamentally linked to a physical orientation. Practices and approaches from geography are significantly influential in how I

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[207] See, for example, water walk 5 in **Chapter 5,** for an example in Malawi of competing uses and values of water.

undertake my research — where I seek to move and record my engagements with the world, but also with those I meet along the way.

This strongly influences my methods of investigation — but, significantly, also the emerging epistemological approach of my research philosophy. I learn and create by being and doing, by noticing and reflecting, and by representing all of that process. In this sense my research seeks to be interdisciplinary in terms of the academic disciplines it engages with, but also in a physical or spatial sense. It has sought to engage in practices that allow for an intellectual *and* corporal expression of ways of knowing the world — it is research I have been involved in physically, mentally, emotionally, and perhaps even spiritually[208].

Social/practical contributions and recommendations

The aim, and indeed spirit, of this research has been to open up insight and possibilities for ways of knowing water in a place. It seeks to have a social contribution by paying attention to the different ways people (and non-humans) engage with and relate to water in the empirical site it studies, ways that other methodological approaches might miss out on. Recalling, specifically, the views of Mathur and Mulwafu (2018, p. 7) that there has been a lack of attention to historical context and local knowledge related to environmental problems, this research seeks to open up some of the historical, cultural and ecological factors in the context of water.

I have identified some practical steps and recommendations that could be incorporated into current, and future, water work in the country. These, in particular, reflect the two other aspects of the hydrosocial cycle concept aside from H_2O and ways they intersect — namely infrastructure and politics/society. I describe these here.

A recommendation — the need for infrastructural and 'social maintenance' of water points
There is a need for an ongoing 'social maintenance' of waterpoints to be considered alongside physical maintenance efforts — proactive and recurring, recognising the interdependency between the social and natural/technological aspects of water relations. A specific issue identified in my fieldwork, and then discussed with project members on my return from Malawi, was the availability and role of 'area

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[208] This recalls the words from Muir (1938), previously quoted in **Chapter 4,** that "*I only went out for a walk, and finally concluded to stay out till sundown, for going out, I found, was really going in.*".

mechanics' — individuals with the skills, capacity, and access to necessary resources to maintain the functionality of waterpoints in communities. The degradation of waterpoints was a key issue that I encountered, in particular, during my water walk to the rural villages in the Mulanje district. Though policy often recommends the core role of such individuals to support communities, they were not mentioned by community members in my investigations. This seems like a neglected issue which could help improve maintenance and the longer-term functionality of infrastructure.

This requires a way in which local issues and problems, as articulated by villagers, can be taken into account in the design, maintenance, and longer-term management of water points within the fluid assemblage of social-cultural-spatial issues they exist within. Whether this is something that could be part of an area mechanic's role (should they exist), or part of a collaborative visiting team (mechanic plus a social anthropologist, for example), that would report and manage both the natural and social — together as intertwined issues — clearly a role which aligns with the wider argument of this research — would be another specific recommendation of this thesis.

A recommendation — widening the type and source of knowledge, not just the amount of it
Water projects in Malawi should incorporate the perspectives and skills of individuals in social/cultural disciplines, and crucially from Malawian intuitions such as its universities, in the design and carrying out of associated research. Furthermore, local people should be included as much as possible, and in a manner and setting which is culturally and socially sensitive and effective. However, financial, administrative, and technological support needs to be sustained through state or development funding.

Opportunities for collaborative partnerships should be developed — e.g., engineers and area mechanics visiting water projects and water points along with cultural anthropologists, or those from community engagement backgrounds (which may also make better use of resources such as transport). Reflexive discussions should be informed by local people, decision making on water relations made on this basis, and with this process recorded and developed in future engagements.

This complexity often requires more interpretive qualitative methods and processes, and which, if carried out appropriately, can widen understanding of local issues — but also help mitigate challenges of mistrust (the ignoring of the voice of local people/users may manifest in issues such as disenfranchised communities, lack of ownership and care, and evidence of vandalism and misuse of water infrastructure).

The Malawian government or other local water projects, and in their partnerships with international funders, should seek to provide specific guidelines and advice on this. A critique of conventional stakeholder engagement processes is that they are undertaken in a format, and approach, that is not inclusive, and disenfranchises those it should serve.

A recommendation — Give more attention to cultural and place-based knowledge and research
Research of water relations in Malawi should include a wider investigation of the social-ecological context — the cultural and spatial landscape of both national and local water histories which water relations affect and are affected by. Long standing and dynamically shifting cultural practices, historical community relationships, power and social structures, political perspectives of local people linked to water should be recognised — and ways these intersect with issues such as technology, economic changes, and local ecological shifts.

At a logistical and practical level, international partnerships can be more considerate and informed in Malawian cultural practices — consider how these are present in small, but important, situations like the organising of meetings (e.g., by arranging them at appropriate times of the day, adhering to cultural rituals and symbolic gestures, etc.). These can help build trust and respect between different groups involved in decision making related to water.

There should be a more considered perspective on the everyday, that recognises the day to day water practices in Malawi — with a specific wider consideration to ask (and observe) people about the different uses of water (to counter the primacy given to supply of water). It should be recognised that these might be regionally and temporally specific and may shift depending on changes in the cultural and spatial water landscape.

A personal contribution

As I referred to earlier, a significant part of this research includes *me* — as a researcher, and as a person, with a care and passion for social and ecological issues. My background in interdisciplinary research and practices, plus a creative and inquisitive spirit, is something that I have sought to bring to my research. As I have reflected on, there has been a significant growth or contribution to me as part of this, and one I should also recognise.

Emerging over time, undertaking this research a change has occurred in how I have approached the wider field of social-ecological studies — work, learning and research that I have been variously involved in for nearly 20 years, and a significant proportion of my life. Indeed, it feels as much of a re-emergence of ways and ideas in which I have considered the intersection of the social-ecological — incorporating a more emotive and sensory engagement, linking to disciplines and areas of study in the arts and humanities — that have been 'of' me, but that I have not fully explored in my life.

Water has come to define me during this research journey, and I have sought to share my experiences and research with others — through personal interactions, my academic outputs, and the way I try and participate in the world. Significantly, and perhaps one of the things that brings me most joy, is often impromptu feedback I get from friends, family, contacts, colleagues — some I have known for a long time, others I have met during my doctorate journey — about their engagements with water. Pictures and videos they take, thoughts they have, moments of reflection and relooking at the social-ecological settings they find themselves in — and which they share with me at the time, or in later discussions[209].

These, I feel, are some of the most important social contributions I have had from my research — 'ripples' that I hope that go out into the world, become part of people's lives and practices, and their relationships with others and place. I do not — indeed cannot — know where these ripples have gone, where they will go, or what 'impact' they will have. But I am glad they have emerged from my efforts in this process, this 'thing' I have been doing. They also represent how I seek to approach ongoing and future research or work beyond my doctorate, and into my life as an active participant in relation to the rest of the world — a relationship that is *with(in)* water. In a way I feel I have come to think like water, identify with it, almost become it.

Fundamentally there is an underlying theme that has emerged from my research. That in seeking 'sustainability', however we define that in terms of water, or our wider engagement within our social-ecological world, requires a collective reconsideration of how we see our 'place in place'. And, to do this, we need to question, reflect on, and practice ways of how we intellectually, emotionally, and physically

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[209] I have received thoroughly heart-warming comments from friends over my research journey, such as *"when I see water, I think of you"*, or *"I think about water much more now"*. While other water researchers whom I have met from natural science and engineering disciplines, have commented that "*much of the challenges of [managing and supplying water] is about human and social issues*" after we have spent time discussing our research.

interact with the ecological world — in our research, work, politics, everyday lives, and relations to each other.

In their semi-autobiographic (indeed, what could be described as autoethnographic) text, '*On Time and Water'*, Andri Snær-Magnason recounts a meeting with the Dalai Lama, and where they talk of human relationships to the wider ecological world. Magnuson (2021, p. 277) notes a simple statement and question posed by the Dalai Lama during their conversation — *"It's easy to teach two plus two… [but] how do you teach compassion?"*. This is a thesis with its roots in accounting scholarship. An assumption I initially encounter from others — before I explain my research — is that it must, therefore, be 'about numbers', 'money'… and, in 'tongue-in-cheek' remarks, 'teaching two plus two' in terms of a study of water. However, instead, I feel it is much more about the second part of the Dalai Lama's provocation. Whereby, I have sought to interject values of compassion, and a keen attention to place, into my research — and through the methodological process and methods I have employed, enacted a way to practice such values in terms of a study of water relations. That, perhaps, is the most important contribution I seek from this research.

Summary of this chapter

This penultimate chapter has reviewed my findings using the conceptual framework that I have developed, reflected on the journey of undertaking my research, and discursively opened up some contributions and recommendations that emerge from it.

Chapter 7: Conclusions — giving attention to other ways of 'SEAing' water

What does this chapter seek to explore?

This final chapter (see **Figure 7.1** in thesis flow chart) concludes the thesis by providing an overview of the research, summarising its contributions, and discusses some areas for future research and work.

C1
- Chapter 1: An introduction — navigating a shapeshifting flow
- Thesis structure; situating of research; overview of literature, theory, and methodology; introducing central research question

C2
- Chapter 2: A basis in literature — social-ecological interdisciplinarity
- Social Environmenal Accounting (SEA) literature review; dialogics in SEA; *conceptual framework stage 1;* first part of research question

C3
- Chapter 3: Methodology and theoretical insights — water as plural
- An onto-epistemology of water; *conceptual framework stage 2;* theoretical insights from assemblage thinking; second part of research question; interdisciplinary influences; *conceptual framework stage 3*

C4
- Chapter 4: Research methods — attending to a social-ecological autoethnography
- A social-ecological autoethnography; water walks as a research method; contextual information on Malawi and the empirical site

C5
- Chapter 5: Results as an assemblage — curating some accounts of life with(in) water in Malawi
- Undertaking a travelogue; narrative and visual accounts of water walks in Malawi; reflective summary of water walks

C6
- Chapter 6: Discussive reflections — a process and representation of water relations in a place
- Analysis of water walks using conceptual framework; reflections on research process; opening up contributions from the research

C7
- **Chapter 7: Conclusions — giving attention to other ways of SEAing water**
- **Overview of thesis; future areas of research; final thoughts**
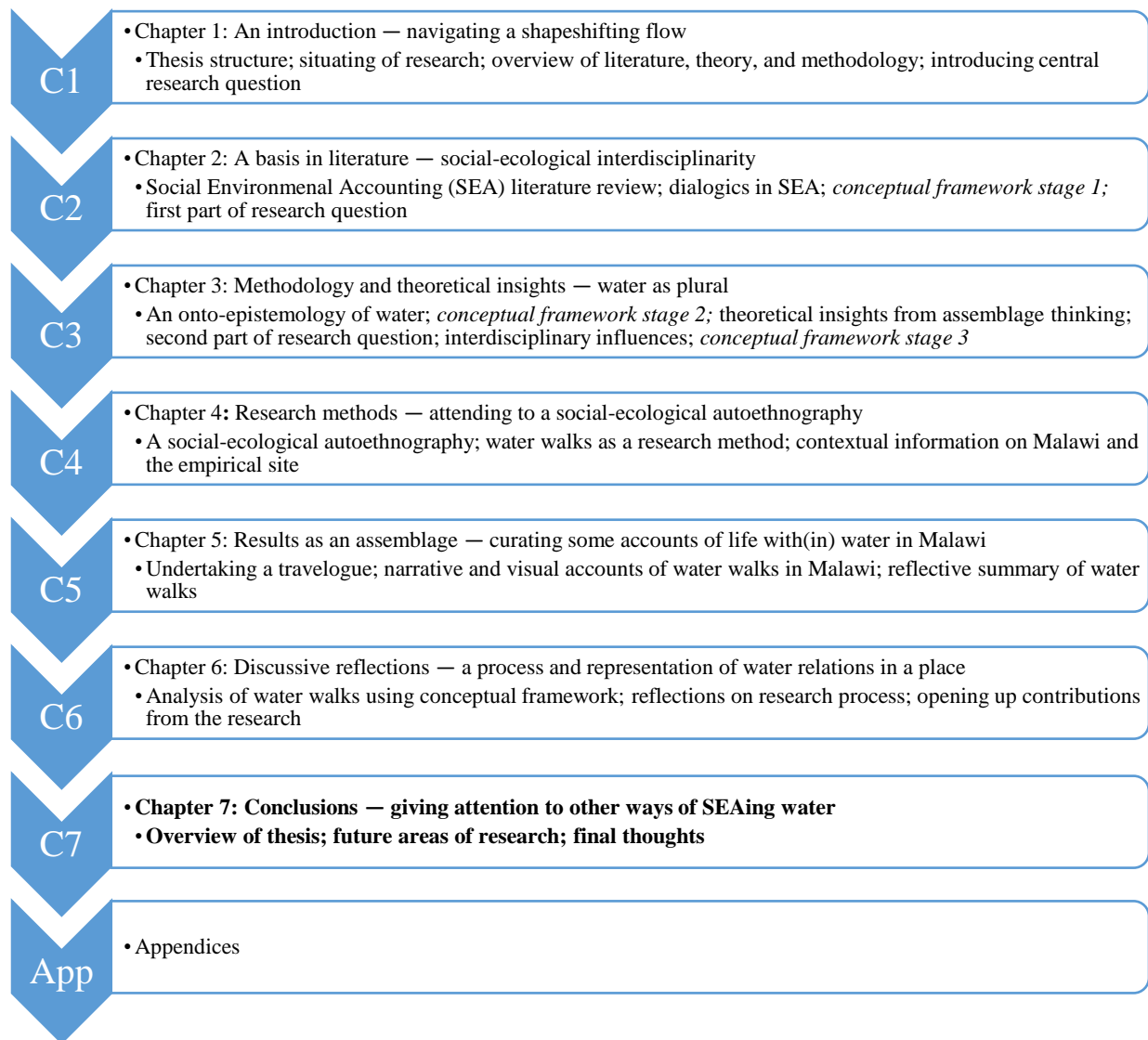
App
- Appendices

Figure 7.1: Chapter 7 in thesis flow chart.

An overview of this thesis

Research question and content of thesis — the undertaking of a journey

This thesis, underpinned by a spirit and ethos of interdisciplinarity (see **Chapter 1**), set out to explore the central research question: *"What are different values of water in Malawi, and how can they be represented?".* While this research has been about a specific location (the empirical site of my research), it has also been about exploring ways of knowing water in any place. Emerging initially from a review of scholarship in Social and Environmental Accounting (SEA), and its links to Social Ecological Systems (SES) studies (see **Chapter 2**), this body of work has sought to integrate theoretical approaches and knowledge from other disciplines — particularly cultural and ecological anthropology, political ecology, and the visual arts (see **Chapter 3**) — to do this.

This thesis has sought to 'give account' of some of the different values of water by investigating and representing water relations in a variety of expressions. It has done this both in terms of some of the insights it has developed, but also by demonstrating practices in how research can be done in a way that allows for such insights to emerge. Through the methodologically orientated process it has adopted, it seeks to demonstrate what can emerge when you 'come from afar' to knowledge — seeking to 'absorb' and 'assemble' fragments of information as you progress (see **Chapters 3 and 4**). In a way, this thesis has been a guide through the process that I have undertaken to do this. It has been about *how* I have gone about giving a representation of water's different values, as much as the representation itself; research as a verb as much as a noun, a representation of the *practice* of giving an interdisciplinary social-ecological account of water in a place. **The curation of a social-ecological assemblage of water relations.**

Findings — what I encountered on the journey

This research has shown that water relations in Malawi are multiplicitous and varied (see **Chapters 5 and 6**). They include water's role in fulfilling basic human (and non-human) consumptive needs, through to its use in a variety of non-consumptive roles. Herein, they are apparent in the activities and practices of the ways people relate to water as a material and physical substance — water for drinking, cleaning, agriculture, construction, recreation, and spiritual practices. But, further to, and often overlapping with these material uses, water is present and embedded in symbolic forms and expressions that convey its wider value and meanings — in language, art, cultural practices, place nomenclature, knowledge systems,

cosmological narratives, mythologies, and geo-politics. They are relations that are personal, social, cultural, spiritual, technological, political, economic, and ecological — with each of these intersecting and overlapping with one another. These relations to water permeate just about all aspects of everyday life, and often have specifically place-based dimensions — while, more fundamentally, they give an indication about how people see their relationship with(in) the world that they are part of.

Reflecting on water in terms of the conceptual framework

The conceptual framework developed through the initial chapters of this thesis builds on principles of a dialogical approach to social and environmental accounting (see Brown, 2009) as a means to gather, open up, and represent knowledge about social-ecological relations, and in this case water. This thesis recognises and provides evidence that water, and relations to it, emerge from a spatially and temporally dynamic *hydrosocial cycle* (see Linton and Budds, 2014) while water furthermore emerges from the ways people interact with it as part of a cultural landscape (see Strang, 2004).

This thesis has described the ways in which water (in its material form as H_2O) and people interact in a place, but also whereby technology, material culture, spatial landscapes, non-human life, and cultural and cosmological narratives all play a part too. The challenges related to water involve, and touch on, all of these in their complex interrelationship — in Malawi, and in other places too . Herein social, cultural, and behavioural issues related to water are not simply the *result* of shifts in the material/ecological and technical components of a water landscape. Nor can they be fully attributed as the *determinant* or *source* of them. Rather, they are part of the dynamic process of an iterative and reflexive relationship between the social/cultural and material/ecological in social-ecological systems.

Seeing water in terms of our relationship to, and within, a 'watery world' shifts the framing from one that seek to solve or eliminate these issues — many are unresolvable — but rather to recognise them and give them due *attention*. Although they might seem alien or novel to conventional approaches to valuation that are based on commodification and exchange, **water walks, as my central method, are a holistic way of valuing water** that is an alternative to material, and economic, framings of water relations in a place. Furthermore, the adoption of water walks is not simply about the inclusion of more human representations (voices, or indeed 'accounts') of such relations if those are only heard in the context of limited understandings of water. Instead, it is about opening up insight into ways people relate to water in place,

ones which might be downplayed, or ignored, by other research approaches. Relationship that are *'beyond the pail'*.

This research recognises that perceiving water as a material and physical substance — the 'H$_2$O' that can be contained in a pail or bucket to be used for utilitarian purposes — only represents some of its many different values. Water imbues, indeed underpins, livelihoods and places in a rich, complex *assemblage* of interrelationships in social-ecological terms. Research and praxis in water studies needs to adjust, and widen, their methodological orientation and practices to recognise those. Water walks, as part of a social-ecological autoethnography, are one way in which I propose this can be enacted in practice. Including in social-ecological accounting studies.

Contributions — what I have added by taking this journey?

This thesis is fundamentally an interdisciplinary body of work that seeks to contribute to social-ecological water studies in the context of social-ecological accounting, opening up knowledge, as well as ways of undertaking and representing research, of water relations. As discursively presented in **Chapter 6**, it primarily has a methodological contribution — seeking to develop and enact a social-ecological onto-epistemology that gives attention to the plurality of ways people and place interact in terms of water relations. This methodological process is one I have enacted, specifically through the interdisciplinary *social-ecological autoethnography* I have pursued, and from which an empirical and social contribution emerges through the insights it generates about water relations in the empirical site. This methodological process has drawn on, and sought to creatively adopt, insight from two broad theoretical concepts. Ideas of *dialogics* as it has been applied in Social and Environmental Accounting (SEA) scholarship, and its application in a social-ecological context; and the adoption of theoretical insights from *assemblage* in interdisciplinary water studies to open up and represent different social-ecological values of water.

It is the representation of the process and production of these assemblages that becomes the overarching and binding contribution of the intersecting theoretical, methodological, and empirical dimensions of my research — the *practice* of curating and creating social-ecological assemblages of water.

Implications — where might this journey now go?

> "*...water studies needs to confront the reality that it may be pursuing too many publications and not enough ideas; this is an untenable model for the field and a potential danger to society.*"
>
> (Nature Sustainability, 2021)

The natural areas I see further work centred around an adoption of assemblage in social-ecological research, including water. In particular, I am drawn to practices in the arts as a specific area in which to now develop my research — noting the recommendations of Russell, Milne and Dey (2017) who propose that SEA should look to develop art science collaborations, engaging with the environmental humanities, to 'get outside' as part of their research. As such, I find particular inspiration in the views of Krogh (2020, p. 16) who argues that, *"We need to cultivate a different language than the one that has led us astray. In order to speak about the future, we need to examine the past; to speak about science, we need to embrace the perspective of mythology; and to be able to be analytical and holistic at once, we may need to employ the dual perspective of art: zooming in to grasp the big picture and zooming out to grasp the detail."*. I seek to explore new and different languages in which to discuss and represent social-ecological issues such as water availability, drawing on visual (and other sensory) forms of communication and representation to do this. Most importantly, I want to explore and develop creative practices that involve 'getting outside' to directly engage with places and seek approaches from the arts for ways to represent those engagements.

Of specific interest, identified throughout the water walks I undertook, is the intertwined aesthetic-symbolic serpent/water (*njoka/madzi*) link, and which is present in Malawian cultural narratives, art, literature, and cosmologies. Developing some of this insight further could contribute to natural-cultural studies and knowledge about water symbolism — specifically in terms of this specific aesthetic-symbolic link — providing empirical evidence that aligns with other studies that have made this connection more widely (e.g. Strang, 2015; Sullivan and Low, 2014) and specifically in Malawi (e.g. Mulwafu, 2011). This, and associated cultural and mythological narratives that I have only touched on in my water walks, deserve further attention. It is research that I would like to open up further beyond this thesis.

Other outputs and representations of my work

Aside from this thesis, there are other places in which I have begun to form outputs of my research. While some of this is directly related to my research and fieldwork in Malawi, it has also begun to manifest, and develop, in some other forms — both related to water in wider contexts, and in other explorations of the methodological practices I have been developing throughout my doctorate journey.

- A contribution to political ecology network Pollen's 2020 '*Troubling Waterscapes*' online exhibition[210].

- Contributing to a podcast reflection for the SGSSS event '*Designing Rigorous and Reflexive Research — A Participatory Workshop*'[211] (see **Chapter 3**).

- The development of numerous arts and place-based projects on my personal website — such as '*Connecting through water from afar*'[212] — as emergent outputs from my research.

Final thoughts — a need to curate art-science assemblages that go beyond the pail

"Duncan shut his mouth. After a few minutes Mr. Thaw said on a note of pleading,

"Tell me the matter, Duncan."

*"I had a wish to be an artist. Was that not mad of me? I had this work of art I wanted to make, don't ask me what it was, I don't know; something epic, mibby, with the variety of facts and the clarity of fancies and all of it seen in pictures with a queer morbid intense colour of their own, mibby a gigantic mural or illustrated book or even a film. I didn't know **what**[213] it would have been, but I knew how to get ready to make it. I had to read poetry and hear music and study philosophy and write and draw and paint. I had to learn how things and people felt and behaved and how the human body worked and its appearance and proportions in different situations. In fact, I had to eat the bloody moon[214]!"* (Gray, 2008, p. 210)

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[210] Pollen20: Contested Natures, (2021), *'Troubling Waterscapes'.* Available online at: [https://pollen2020.wordpress.com/2020/09/14/troubling-waterscapes-goes-live-and-invites-contributions].

[211] SGSSS, (31/01/2020), *'Podcast: Designing rigorous and reflexive research with Ann Cunliffe and Barbara Simpson'.* Available online at: [https://www.sgsss.ac.uk/news/podcast-designing-rigorous-and-reflexive-research-with-ann-cunliffe-and-barbara-simpson].

[212] Personal website. Bonner, J., (2021), *'Connecting through water from afar'.* Available online at: [https://www.couchtocairn.com/connecting-through-water-from-afar].

[213] The word 'what' is italicised in the original text.

[214] The moon is materially, as well as symbolically, closely linked to water — its gravitational pull controls the Earth's tides, while it is often embedded in mythologies, stories, and figurative expressions associated with water.

I read the novel '*Lanark: A Life in Four Books'* by the late Scottish artist and writer Alasdair Gray in the first months of my doctorate journey. Not as literature to review for this research, but just as a book for some escapism and enjoyment. Recognised as something of a classic in modern Scottish literature, it intertwines autobiography (Gray as the central character Duncan/Lanark in the text), science fiction, and a descriptive account of place (Glasgow, the home city of both Gray, and me) — mixing reality with fantastical and dystopian interpretations from the narrator's imagination. The above quote from the text resonated when I first read it — and then would resurface in my mind at various points during my doctorate journey[215]. On reflection, at the end of the writing of my thesis, I feel it describes something about my research journey very powerfully — and where it might now go in the future.

Like Duncan, I feel I have wished to be an artist for most of my life. I still do. As is apparent in the ways I have presented this thesis, using visual forms to represent ideas, knowledge and my encounters within the world has been something that I have always been 'drawn' to most of my life. I write with a pencil, not a pen. I doodle maps to plan future cycle journeys, and sketch images of places I have visited. I feel like the expression of the knowledge and ideas I have encountered throughout this doctorate research, combined with the experiences of my fieldwork, similarly *needed* some kind of artistic expression. Perhaps this body of work is a curation with the "*variety of facts and the clarity of fancies"* that Duncan wanted to make.

Also, like Duncan, I felt it needed to embark on a process where *"I had to read poetry and hear music and study philosophy and write and draw and paint. I had to learn how things and people felt and behaved and how the human body worked and its appearance and proportions in different situations."*. I have, in a way, tried to do all of those things in the process of putting together this body of work. This thesis, however, only feels like one part of a bigger art-science project that I want to go onto make. While there is a tangible outcome to my research (this gathering of words and images which you have read), I should recognise that everything that it draws on, and has generated, has been a *process* whereby I have been getting ready to make that 'thing', that assemblage about social-ecological relations in places. I am not quite sure what that might be, but similar to what Duncan envisages, "*mibby a gigantic mural or illustrated book or even a film"*?

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[215] Thank-you to JT for specially pointing to the importance, and relevance, of this quote.

Doing research that is of both the head and the heart

> *"...a shift towards more sustainable lifestyles needs more than a utilitarian debate over economic policies, or a struggle to solve a practical problem with new technologies and more efficient management. **It requires a move away from reductive views on water as mere H_2O, or just as an economic asset. And for this we need our hearts as well as our heads, the arts as well as the sciences.**[216]"* (Strang, 2015, p. 172)

As I conclude this body of work, I am reminded of the words of Ivan Illich (1985, p. 4) whom I quoted to open **Chapter 1** of this thesis, who declared that *"...from the start I shall refuse to assume that all water may be reduced to H_2O"*. I compare this to the above words of Strang, who articulates an idea that resonates with the research approach that I have taken, and the output of that endeavour — that we need to recognise that water is more than a chemical compound, or an economic asset, to be managed through technology and infrastructure or economic policies. I feel, my research — this curated assemblage — is essentially an *enacted* representation that honours the interdisciplinarity Strang calls for. This representation of water in Malawi seeks to intertwine ideas and approaches from the sciences and the arts — an effort which draws upon, and I have fully engaged, with my heart and my head. Not as binary opposites, or as different ways of approaching research — but intertwined and interconnected.

This might include seeking to present some 'sense-making' and understanding of these different ways in which water relations are represented, but not with the objective (to objectify) or untangle its interwoven complexity to be lain out on a two-dimensional map or model. Rather to be comfortable with this richness and complexity, and to live within that. This story of water is only part of a much bigger one that I have become immersed in about how we speak of our relationship to the rest of the world, and that I hope to keep mutually creating and recounting in a multiplicity of ways in the future. In the concluding words of Russell, Milne and Dey (2017, p. 22), I have sought to contribute to their call for *"a wider, wilder, more vivid interdisciplinary mosaic"*[217] in social and environmental accounting, as well as in water and social-ecological studies more generally. It is a picture I will keep trying to contribute to, drawing on what I notice and encounter from the places and people I engage with in the world.

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[216] Amended in bold text for emphasis.
[217] A mosaic is, appropriately, a form typical of assemblage art.

It is in this *spirit* that I have sought to present this thesis — this curated *assemblage with(in) water* — inspired by and aligning with some of the theoretical insights and voices I have threaded throughout this research. Not to simply describe water, standing apart and looking at it, but to somehow embody its inherent and intrinsic values, both physical and symbolic, through the undertaking of my research. An enacting and conducting of some of the literature, theory, and methodological insight and practices I have engaged with from a wide corpus of interdisciplinary academic literature, through an emergent, reflexive, and personal account of my experiences over the course of my research journey. Yes — as I somewhat anxiously describe in some of the reflective moments in this thesis — the escaping of water can be stressful and difficult; I, now, feel I am more comfortable with that discomfort. This feels the *spirit* in which we need to approach complex, situated, emergent, social-ecologies — and water as that most dynamic social-ecology that touches on all aspects of life. **That *is* life**.

Further to what has I have represented in this thesis, undertaking this research (and very personal) journey has been about an emerging process of me seeing and thinking differently, absorbing new knowledge and perspectives, having experiences in places, and meeting many new people. All of this has contributed to the emergence of a methodological orientation that is a significant shift in my approach to research. It has done this in the context of a study of water in Malawi, but it has also been a development of creative practices that seeks to open-up and explore ways that we can understand and represent our interaction with the ecological world in general. It has often orientated itself, theoretically and methodologically, towards the arts, recognising its capacity to do this in ways the sciences, natural or social, can have difficulty with — the ability to tell *stories* allowing us to see, and *feel*, the ways we are in a deep relationship *with(in)* the world around us, and the ecological fabric of this *place,* this planet, that is our collective home. **It is a thesis that I have written with a spirit of attention, care, and a passion to convey all of this in the context of a story about water.**

It is a story that does not know how to finish[218]. But I am, at least, leaving it unfinished here.

And talking of spirits, I'll drink to that. Perhaps even some '*uisge beatha'*[219].

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[218] This refers, as I have previously, to Haraway (2016, p. 125) statement that *"I am committed to the finicky, disruptive details of good stories that don't know how to finish. Good stories reach into rich pasts to sustain thick presents to keep the story going for those who come after."*.
[219] This is the Scottish Gaelic term for whisky — literally translating as *'water of life'*.

Appendices

Appendix A: Social-Ecological Systems (SES) Literature

A key theory that underpins SES thinking is 'resilience theory'. As described by Folke *et al.* (2011), resilience theory considers the biosphere as the focal point to which all activity on the planet is mutually dependent, interconnected and in relation to an integrated system. Resilience theory has prompted re-conceptualisations in the way in which we understand the links between the environment, humans/society, and the economy. Thus, it can be represented in a shift from the overlapping circles of sustainable development to an integrated representation in which the economy and society are embedded within an environmental 'shell' (see **Figure A1**). Herein, this represents a conceptualisation whereby all economic and social activity is dependent on, and contained within, defined ecological 'boundaries'.[220]

Figure A1: Reconnecting human development to the biosphere[221].

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[220] However, it should be noted, that this conceptualisation could be misinterpreted — does it convey a system in which our economy is contained within society, and it in 'nature'; or could this represent a system in which our economy is at its 'core', and with ecological issues pushed to the periphery?

[221] Stockholm Resilience Centre, (2016). Previously available online at: [http://www.stockholmresilience.org/research/research-videos/2016-05-22-reconnecting-human-development-to-the-biosphere.html] [archived]

Planetary Boundaries

Linked to resilience theory, the 'Planetary Boundaries' concept has emerged from the disciplinary field of Earth System Science (ESS) and seeks to be a holistic and multi-disciplinary approach to earth sciences. It is a discipline that employs system thinking to understand the earth as a single, integrated entity comprising of the living and non-living elements of our planet as an interconnected system in which the atmosphere, hydrosphere, geosphere, and biosphere interact at multiple scales. Initially introduced in Rockström *et al*. (2009), and then updated by Steffen *et al.* (2015), the planetary boundaries framework identifies nine key biophysical processes that underpin the earth system, and which are being undermined by human activity (such as climate and biodiversity).

The 'Doughnut'

The 'Doughnut', an 'alternative economics' model developed by Raworth (2012; 2017a; 2017b), adds a 'social foundation' to the planetary boundaries framework (see **Figure A2**). By introducing a more explicit social dimension in addition to the ecological focus of the original framework, it seeks to conceptually define *"an ecologically safe and socially just space in which all of humanity has the chance to thrive"* (Raworth, 2017a, p. 48), as well as previously in (Dearing *et al.*, 2014). These social foundations are derived from the UN's Sustainable Development Goals (see in the next section).
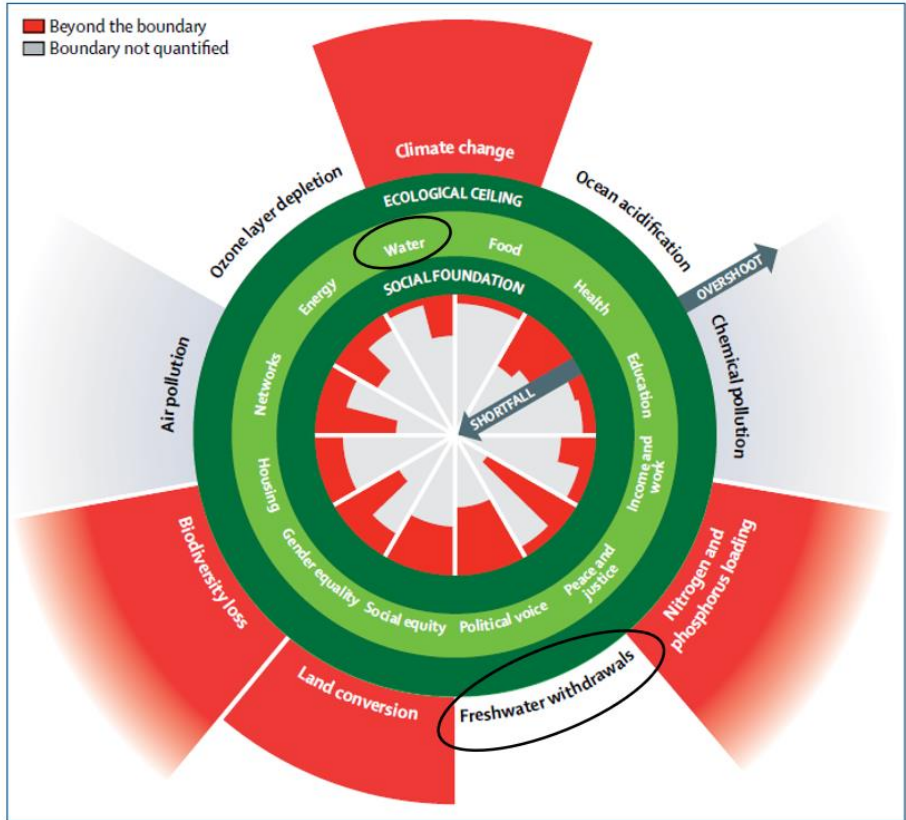
Figure: Shortfalls and overshoot in the Doughnut
Dark green circles show the social foundation and ecological ceiling, encompassing a safe and just space for humanity. Red wedges show shortfalls in the social foundation or overshoot of the ecological ceiling. The extent of pressure on planetary boundaries that are not currently being overshot is not shown here (see appendix for all graphics).

Figure A2: The Planetary Boundaries combined with the Doughnut model (Raworth, 2017a, p. 48).[222]

The Sustainable Development Goals

The social foundations of the Doughnut model are explicitly derived from the 'Sustainable Development Goals' (SDGs) — 17 globally agreed ambitions and targets related to sustainable development. Agreed by UN member states in 2015, with a target date of achievement in 2030, they replaced the Millennium Development Goals (MDGs) that ran to 2015, and seek to address some of the most pervasive social and ecological problems at a global scale (United Nations General Assembly, 2015). While they are separated into distinctive goals (including a specific goal, SDG6, focused on water and sanitation) they are interconnected and interrelated within local and global social-ecological systems, and must be considered

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[222] Amended by adding black circles to highlight water's inclusion as both a social foundation and ecological ceiling.

collectively. The aforementioned Doughnut model can be considered as an attempt to integrate and interconnect the SDGs as part of a wider social-ecological system, aligned with SES thinking.

Some criticism of recent SES approaches

These various high-level policy approaches, while based on contemporary understanding of earth system science, are nonetheless developed, and set by, small groups in positions of power and knowledge. The Planetary Boundaries are devised mostly by earth system scientists[223], while the SDGs have been developed through the UN's political mechanisms and structures. The Doughnut model, created by economist Kate Raworth is emergent from both of these. Other nascent concepts and discourse in the wider sustainability field, such as the *Anthropocene* concept (our planet's current geological age, in which human activity is the dominant force in driving the earth's biogeochemical processes (see Crutzen, 2006)), have furthermore been criticised for their anthropocentric focus (see Haraway, 2016)[224], and their tendency to ignore social inequalities (Lorimer, 2017).

Appendix B: Some specific journal papers noting assemblage in SEA

To gauge the use of *assemblage*, as a general idea and/or in its use as a theory, I returned to the key peer-reviewed accounting journals that I focused on in my literature review (AAAJ, AOS, CPA, and MAR[225]), as well as some other notable accounting journals, and performed a key word search on assemblage[226] (some notable results from this search are summarised in **Table B1**).

Notably there is some application of assemblage contained within research I encountered in my primary literature review from **Chapter 2** (Ezzamel, 2005; 2009; Contrafatto, Thomson and Monk, 2015). Other general observations from the review include identifying established SEA scholars Thompson and Cooper having both written several papers with references to assemblage. While, notably Uddin, Gumb and Kasumba (2011) discuss conceptual links between assemblage thinking and Guy Debord's theoretical ideas of the 'spectacle' (see **Chapter 3).**

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[223] Specifically associated with the Stockholm Resilience Centre at Stockholm University, Sweden.

[224] Haraway's ideas of being 'in kin' with other nature is central to what they refer to as the 'Chthulucene', a social-ecological ontology of a deep relationship between humans and non-humans, and one that seeks to counter the more reductive Anthropocene/ Capitalocene framings.

[225] AAAJ- Accounting, Auditing and Accountability Journal, AOS- Accounting, Organizations and Society, CPA- Critical Perspectives on Accounting, MAR- Management Accounting Review.

[226] Review undertaken in June 2019.

Table B1: Summary table of papers related to assemblage from a review of selected accounting journals.

Author(s)	Year	Title	Journal	Notable quote on assemblage (bold added)
Miller, P., Hopper, T., Laughlin, R.	1991	*The new accounting history: An introduction*	Accounting, Organizations and Society, 16 (5-6), pp. 395-403.	*'The new accounting history that has merged in part out of this context does not represent a unitary research programme with definite theoretical boundaries. It can be seen instead as a loose **assemblage** of often quite disparate research questions and issues."* (1991, p. 396)
Miller, P.	1998	*The margins of accounting*	European Accounting Review, 7 (4), pp. 605-621.	*"Instead, the transformation of accounting as a body of expertise takes place within and through an historically specific ensemble of relations formed between a complex of actors and agencies, arguments and ideals, calculative devices and mechanisms. It is such ensembles or **assemblages** that need to be addressed."* (p. 618)
Ezzamel, M.	2005	*Accounting for the activities of funerary temples: The intertwining of the sacred and the profane*	Accounting and Business Research, 35 (1), pp. 29-51.	*"...accounting practices were part of an intertwined sacred/profane **assemblage** that did not recognise either dimension as discrete."* (p. 29)
Ezzamel, M.	2009	*Order and accounting as a performative ritual: Evidence from ancient Egypt*	Accounting, Organizations and Society, 34 (3-4), pp. 348-380.	*"Accounting is conceptualized as an integral part of the **assemblage** that formed the heavenly order deemed by the ancient Egyptians to underpin their world."* (p. 348)
Neu, D., Everett, J., Rahaman, A.S	2009	*Accounting assemblages, desire, and the body without organs: A case study of international development lending in Latin America*	Accounting, Auditing and Accountability Journal, 22 (3), pp. 319-350.	*"...complex **assemblages** of people, technologies such as accounting, and discourses such as accountability come to claim or "territorialize" particular physical and discursive spaces."* (p. 319)
Uddin, S., Gumb, B., Kasumba, S	2011	*Trying to operationalise typologies of the spectacle: A literature review and a case study*	Accounting, Auditing and Accountability Journal, 24, (3), pp.288-314	*"The integrated form was not just an **assemblage** of symbols and signs, but an industrial and systematic sign production process. Ceremonies and rituals, even those in everyday life situations may be seen as spectacles, but a distinction must be made between spectacles as commodities and the spectacular mode of production."* (p. 291)

Contrafatto, M., Thomson, I., Monk, E.A.	2015	*Peru, mountains and los niños: Dialogic action, accounting and sustainable transformation*	Critical Perspectives on Accounting, 33, pp. 117-136.	*"This paper presents our justification for including these children's accounts in the **assemblage** of practices that make up the social accounting project."* (p. 117)
Martinez, D.E., Cooper, D.J.	2017	*Assembling international development: Accountability and the disarticulation of a social movement*	Accounting, Organizations and Society, 63, pp. 6-20.	*"To help us think about this we enlist Deleuze and Guattari's notion of "**assemblage**" and their processes of territorialization, coding, and overcoding."* (p. 8)
Martinez, D.E., Cooper, D.J.	2019	*Assembling performance measurement through engagement*	Accounting, Organizations and Society, Volume 78, 2019, Article 101055	*"To conclude, we provide a device-oriented view into the study of accounting **assemblages** (Deleuze & Guattari, 1987) in international development. Our study focuses on how accounting and accountability are themselves assembled as a workspace for users to perform."* (p. 18)

Appendix C: Mlakho wa Alhomwe — The home of the Lhomwe tribe

This first-person account is an extract from my fieldwork, while visiting the southeast of Malawi.

I join my guides in an impromptu stop at '*Mlakho wa Alhomwe'* (see **Figure C1**)*,* the site of the annual festival of the *Lhomwe* tribe, a gathering that takes place in October each year (we are a couple of weeks late — the 2019 festivities taking place over three days from 11th-13th October) to celebrate and mark local cultural traditions. The space is a huge walled off section of land, but *Kalozera* (my main guide), speaks with the security officer looking after the site, and we are given a tour around the space by a local guide.

Figure C1: *Mlakho wa Alhomwe* site. Left — welcome sign; right — water tower.

The shadows of this year's festival are still apparent — a large podium space notes the centre point. We also note evidence of water provision — an Afridev handpump to the edge of the site, as well as a water tower for storage (see **Figure C1**). I ask about the numbers that attend, and the kind of pressures it might put on local water supplies — this is evidence of material culture that has a relationship to water (see (Strang, 2004)), and which points to a very specific social and cultural event, linked to local and regional politics, that affects water demands within the local spatial context.

Our guide describes the cultural links and practices that the festival focuses on — from traditional dances to cultural rites and rituals — and that year has been attended by a number of dignitaries, including President Peter Mutharika, and the main chiefs from across the region. Herein, the festival points to the continuing interlink and intertwining of tribal identity and politics in Malawi, and associations which cross modern national boundaries, extending into neighbouring countries (see **Chapter 4, Figure 4.6**)[227].

Kalozera, part of their work with African Heritage, later provides me with some library images from a past *Mlakho wa Alhomwe* festival, explaining some of the symbolic representations of dress and rituals — and specifically noting recurring links to water and rain (see **Figure C2**). What is more, other recurring symbolic links are apparent from my research — the flywhisk (as always seen held by Malawi's first President, Hastings Banda), and notably, the representation of the wooden snake figure held by one of the

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[227] (Looking at this in an alternative framing — it has been the imposition of defined political borders, often defined as part of colonial histories, across these more traditional tribal jurisdictions which have much more fluid, porous and dynamic arrangements.)

performers (see various references to the serpent and python linked to water in this body of work). October, as my visit to Malawi purposely coincided, is nearing the end of the long, hot dry season — and marks an awaiting of the rains. It is evident that the festival links to such rain calling traditions as represented in Nyau society rituals (see **Chapter 4**).

Figure C2: Images from a *Mlakho wa Alhomwe* festival (source: African Heritage). Images: top left — crowds await to represent their communities, holding signs that show a strong place identity, and with material culture evident — women wearing colourful *chitenjes* (with a recurring swirl image which may represent water). *Mtondos* — mortar object used as a drum and for *nsima* making; other images — male performers in ceremonial dress (*Kalozera* notes significant water symbolic links of their attire — pots on their head, cup for drinking, beads representing rain, water associated animals incorporated into the attire.)

Appendix D: Details of fieldwork autoethnography

Table D1: Details of water walks.

Water Walk	Reason for walk destination and focus
Water Walk 1 — A step back in time: Chongoni UNESCO rock art site	Chongoni rock art site, over 100 sites of rock art spread across an area of 127km^2 within the mountains of Central Malawi, is one of the countries two UNESCO World Heritage sites, is recognised for its significant natural-cultural significance and its *"outstanding universal value"* with the *"richest concentration of rock art in central Africa"*[228]. My desk-based research indicates that the rock art includes symbolic representations of water.[229]
Water Walk 2 — A Cultural Insight: KuNgoni Art and Cultural Centre	KuNgoni Art and Cultural Centre is a place of significant insight into Malawian culture and traditional knowledge[230]. Near Lake Malawi it also allows good access to this major source of freshwater. I undertake a 'water walk' in an alternative, and slightly more abstract sense, undertaken in an indoor setting in a tour of the *Chamare Museum*. I seek to observe and inquire about links to water in Malawian culture, knowledge systems and cosmology. The circular brick buildings of the museum are richly adorned inside and out with art, objects and symbolic narratives related to Malawian culture, traditions, theology, and archaeology.
Water Walk 3 — Lake Malawi: water of material and symbolic significance	Lake Malawi National Park is the county's other UNESCO World Heritage Site, with significant ecological and cultural significance. The Lake is clearly the dominant body of water in the country, a significant source of freshwater, and an important influence on Malawian national identity.
Water Walk 4 — Blantyre and Lilongwe: walks in cultural, economic, and political urban centres	Blantyre is the economic and social hub of the southern region of the country, and my base for conducting some rural visits to communities and waterpoints in the Mulanje region. Lilongwe is the political capital of Malawi, and the gateway to the country (and my point of entrance and departure).
Water Walk 5 — Mulanje mountain: competing values of water?	Situated in the Mulanje massif are *Dziwe la Nkhalamba* (Old Man's Pools) — sacred water pools with significant cultural value. (They have been the subject to some local conflict about the installation of a pipeline project at the pools. Nearby is the Lujeri tea estate, a commercial enterprise of one of the region's main exports, and which heavily relies on water.
Water Walk 6 — A return to Mulanje:	I am keen to seek some insight of water relations in an everyday context, and particularly from communities in rural locations. Close to the site of Mulanje mountain, this is an opportunity to observe

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[228] UNESCO, *'Chongoni Rock-Art Area'*. Available online at: [https://whc.unesco.org/en/list/476].

[229] It is notable that art practice and theory — specifically place based and landscape art — often refers to rock art. An article in the Guardian in December 2019 (see online at: https://www.theguardian.com/artanddesign/2019/dec/12/humans-were-not-centre-stage-ancient-cave-art-painting-lascaux-chauvet-altamira) discusses the 'value' of looking to rock art, including for its capacity to represent the porous boundary between human and non-humans.

[230] This visit is unrivalled during the rest of my fieldwork for its insight into cultural knowledge in Malawi. Blantyre's small museum (which I visit) has some displays on cultural artefacts, while Lilongwe has no notable public museum.

everyday water in villages	and ask people about rural household water use, water relations and specific challenges they encounter in an everyday context.			
Water Walk 7 — A water talk: attending a community water meeting	This is an opportunity to join a local water NGO on a site visit, and to attend a community meeting, to a village in which they are undertaking the progressive adoption of social-ecological principles in terms of water relations.			

Table D2: Daily diary of events during fieldwork.

When	Where	Who/ What	How	Notes
20 October	Kamuzu Dam, near Lilongwe	Visit to and walk around Kamuzu Dam and nearby lake. Interpretation of guide, who occasionally spoke with local people.	Diary, mapping, photographs, self-recorded audio reflections.	With Kalozera*
21 October	Chongoni UNESCO rock art site and Dedza	Mountain hike to rock art sites, symbolic representations of water and cultural practices, zoomorphic representations, historical 'account keeping'. Interpretations of primary guide and also local aide/guide.	Diary, mapping, sketches, photographs, self-recorded audio reflections.	With Kalozera and local guide. Visit intention communicated through Kalozera.
22 October	Kungoni Cultural centre and Senga Bay	Museum tour, introduction to traditional Malawian cultural and cosmological practices, information on Nyau secret society, water material and symbolic practices and rituals. Interpretations of museum guide, informal interview with Father Claude Boucher.	Diary, mapping, photographs, sketches, self-recorded audio. Notes on informal discussion with Boucher. Locally produced crafts, literature.	With Kalozera and local museum curator. Visit intention communicated through Kalozera. Discussion with Claude Boucher.
23 October	Zomba	Day off spent at African Heritage, and some time visiting places in the Zomba centre such as the local market.	Diary, self-recorded audio.	With Kalozera.
24 October	Zomba to Lake Chilwa and Chisi Island	Mulunguzi dam on Zomba mountain, Lake Chilwa boat journey to Chisi Island, village water walk, daily and economic water practices. Interpretations of primary guide and of local aide/ boatman. Indirect engagements with local people.	Diary, mapping, photographs, sketches, self-recorded audio reflections, GPS route record.	With Kalozera and local guide. Visit intent communicated through Kalozera.
25 October	Mulanje and Lujeri tea estate	Mulanje mountain visit, hike and exploration of Dziwe la Nkhalamba ('Old Man's pools') — site of cultural and spiritual significance, Likhubula-	Diary, mapping, photographs, videography, sketches,	With Kalozera and local guide/aide. Visit intention

		Mulanje pipeline project, Likhubula pools. Lujeri tea estate, meeting with estate manager. Interpretations of primary guide and of local guide.	self-recorded audio reflections, water audio recording, GPS route record, some artefact collection.	communicated through Kalozera.
26 October	Blantyre Museum	Visit to main national museum to view local artefacts and cultural history. Evidence of water related material culture, including links to water symbolism. Museum provided interpretations.	Diary, photographs, videography, self-recorded audio reflections.	With RC* who helped with interpretations.
27 October	Mulanje and local village walks	Return visit to Mulanje. Focused visits to villages west of the mountain with varying water provisions. Water walks and interviews around everyday water practices and experiences. Interpretations of Kalozera, RC, and furthermore access facilitated by local aide/guide.	Diary, mapping, photographs, self-recorded audio reflections, reflective audio interview.	With Kalozera, RC and local guide. Village chiefs/locals give vocal permission.
28 October	Blantyre general	Reflective discussion with RC on village visits. Visit to local water NGO. Kwa Haraba visit.	Diary, sketches, self-recorded audio reflections.	With RC. Record reflective discussion with RC after visit.
29 October	Jordan village near Zomba	Visit to aquaculture project managed by local water NGO with local government facilitators, attendance at community meeting, observations of meeting process and practices.	Diary, photographs, self-recorded audio reflections.	Primary guide ST.
30-31 October	Blantyre in city	Writing days, and time in Blantyre. Visits to Kwa Haraba and meeting with locals. Other visits to local cultural sites.	Diary, photographs, drawings, audio-reflections.	On my own and some general meetings.
1 November	Blantyre in city	Meeting and conversation with individual engaged with the Jordan village project to observe and gathering information on social issues, insight on issues encountered, engagement as practice, etc.	Diary, self-recorded audio reflections, interview audio recording, interview notes.	Discussions and informal interview.
2 November	Blantyre city	Writing and city visits to cultural and social sites	Diary and audio recordings.	On my own.
3 November	Chikwawa visit	Short contextual visit to Chikwawa region from Blantyre. No specific village engagements. Some insight from local taxi driver.	Diary, mapping, photographs, self-recorded audio reflections.	Accompanied by taxi driver.

4 November	Blantyre to Lilongwe coach	Coach ride from Blantyre. On board observations of roadside water uses. Arrival in Lilongwe and taxi journeys.	Diary, mapping, photography.	On my own.
5/6 November	Lilongwe tour	Cultural sites in Lilongwe, President Banda's Mausoleum, government offices, new capital city, national stadium. Visit to Bunda Hill, south of the city, a significant spatial landmark and a site of spiritual significance and water pilgrimage. Interpretations assisted through local taxi driver.	Diary, mapping, photographs, self-recorded audio reflections.	Accompanied by taxi driver.

*Note — *Kalozera,* a Malawian social and cultural anthropologist, led the majority of my engagements in the first period of my time in Malawi. Prior to visiting, I had various communications with them to discuss what I hoped to achieve, and furthermore we conducted a face-to-face briefing meeting on the 21st of October on my first day in Malawi. RC, a lecturer in hydrological practices at Mzuzu University in Malawi, whom I had met when they had visited my institution, joined me for a three-day period during my time in Malawi to provide significant additional insight, translation, and guidance. I am grateful for their knowledge, guidance, and energy to assist me to undertake my fieldwork.

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