# Introduction

# The direction and purpose: New Materialities

This book is about how water becomes people – or put another way, how people and water flow together and shape each other. While the focus of the book is on the relationships held between water and people, it also has a broader message about human relationships with the environment generally – a message that illustrates not only that people are existentially entangled with the material world, but that the materials of the world shape, determine and enable humans to be ‘humans’ in the ways that they are. Therefore, this book is first and foremost about relationships. It focuses specifically on water and in doing so draws attention to the liquid gossamer filaments that run through and physically join bodies and other matters together, thereby foregrounding the part water plays in shaping human lives. Through the adoption of what is broadly termed a New Materialities (forthwith: NM) perspective (following: Bennett 2010; Coole and Frost 2010; Drazin and Küchler 2015) the inextricable links between the worlds of materials that people (as bodies) are part of are demonstrated.

An NM perspective is an inclusive approach to seeing the world (an ontology) that looks at how materials behave together so as to consider life both from the perspective of material interactions. It intends to look past the boundaries that seemingly contain entities to focus instead on how entities influence each other through their materiality. As with other approaches, an inclusive approach recognizes that all situations are complex, contingent, contextual and comprised of multiple impacting influences (Urry 2005), however, by using a NM perspective these complexities are seen to occur *within* the restrictions of being physical, rather than at other scales (for example: political or economic). It shies away from suggesting that just one aspect, method or manner has precedence over another, and in so doing it supports a move toward the appreciation of the co-generative aspects of relationships (or ‘being-together) to explores how relationships produce variable outcomes depending on the physics of all of the engaging materials. In short, inclusivity *includes,* and by including or attending to how more-than-the-human makes *the human what it is* the NM avoids human exclusivity and discrimination against other aspects of the material world. In consequence, an NM perspective attends specifically to relationships (and almost the molecularity of relationships) rather than noting how singular items or individuals behave – that is: it explores (or brings to the light for inspection) the ways that things relate to each other. Thus, it holds that it is the relationship (the manner by which things can relate) rather than the things *per se* (or exclusively) that is of interest.

The NM maintains that all behaviour and any possibility emerges from a material terrain, because there is no other ‘place’ where it can come from. Therefore to grasp the principles and influences that sustain and generate activities at any scale one must almost dissolve entities into their underpinning materiality to get to the core of how materials function and thereby realize our fundamental dependency on the substances that form and constantly recycle themselves through us. By understanding the elemental bonds of existence people blend into the world and any previously imagined separation is smoothed away. To grasp our unbreakable reliance and connectivity to everything else is the beginning of reshaping how we imagine ourselves, our actions and the vast material event we are part of symbiotically and with respect. Consequently, chiming with Ingold’s notion of ‘dwelling’ (2000) that asks to rematerialize people into the world, NM helps us to make sense of human life by directly challenging perspectives that rely on an ontological separation of people, things and stuff, which creates a perspective or way of thinking that disembodies people and presents them as if detached from the world through ideation. Where past methods have called for proximity and bindings to be realized, the NM goes further to strip away overlays of meanings that present humans as anything but embedded in the material fabric where all substances act as influencing co-shapers. In this almost ‘jelly’ of shifting materials there is no space or distance between things because all substances are in touch with each other as a result of existing. Therefore, not only does the NM overcome the troubles of inaccuracies generated by the Enlightenment ideas that produced the categories, typologies and material difference that articulate current thought today (Attala 2017), but it also attends to the Cartesian notion that exclusively attributes agency to people through the privilege of spirit and removes the tendency of modernist ontologies to favour the human above other sets of materials. Moreover, by logical extension it forces the realization that we are all ‘in this together’ as a shifting set of materials without privilege over each other and that ecological justice relies on a future that recognizes our inherently shared materiality. How we design homes, use resources, produce goods, what we eat and how we engage with the materials that live with us needs to be approached using this lens without which the calls for sustainable activities will be difficult to generate.

Therefore NM is a relational ontology that by paying attention to the manner by which items relate and *can* relate to each other, illustrates that things can only be what they are because of the physics of any given situation. Wood, for example, cannot burn without oxygen to feed the flames, and people cannot live without water running through the cells of their flesh. How water becomes cells is determined by the behaviours of all the other materials or substances water must interact with to get into and flow in the body. This approach draws the life of materials to our attention, so as to demonstrate that items (things, or entities) do not exist in isolation or even separation but *are what they are because of the way they are able to relate* to other things (Cf. Barad 2007). In so doing, one must take an interdisciplinary leap so as to expose not only the physics[[1]](#footnote-1) of relationships but also into the wider ecological network of existence (Ingold and Palsson 2013; Morton 2010). Once this leap has been taken the shift in perspective allows the intrinsic material porosity of being alive to ‘materialize’, and it becomes possible to appreciate that items are not bounded or static but rather are fluid and in a constant state of flux, changing depending on what they are relating to (Capra 2002).

The overarching purpose of this approach is to encourage a fundamental reimagining of the world as one of materials in relationship with each other so that the illusion of people being separate from the material world is challenged. This intention is realized primarily through bringing materials clearly into focus as entities and not resources, but secondly by reminding the reader that people are utterly tangled with other materials because they are also simply an agglomeration of materials working together utterly tangled with other materials. This approach advocates the creation of novel interdisciplinary frameworks that promote a new analytic - one that encourages ethical, holistic and sustainable action (Bennett 2010; Coole and Frost 2010; Drazin and Küchler 2015 and, see Witmore 2014). This direction is therefore also designed to challenge representations that are blind to or repeatedly ignore (or sidestep) the fleshy materiality of being human in favour of remembering humanity is distinctly *active-with* and *part of* (rather than simply existing on) the fabric of the collection of materials we call planet Earth (Bennett 2010; Coole and Frost 2010; Ingold 2000; Iovino and Opperman 2014). Moreover, without considerate treatment of the physics of processes, the current dire forecasts of the unsustainability of human practises will be realised. Therefore, this highly political ontology advocates for a novel sensitivity to materiality that rejects the damaging illusion of separation that has paved the way for the recognition of differences and the discrimination that ideas of difference can promote and justify.

To see people as disassociated from and simply users of planetary items relies on a mental or thought rift between the way people are seen and the way land, seas, skies, plants and so on are understood. Concerns associated with the perpetuation of this kind of intellectual schism between subjects arises with a sense of urgency in the Age of the Anthropocene – a time when recognizing the constant unfolding of materiality and our part in it assumes great importance because of the predicted risks associated with our actions. The mindset that assumes people use the world fails to recognize that the world becomes people. Consequently, this book hopes to contribute to repairing any mental estrangement that permit people to continue to imagine they are distinct from the world that *they live with and are part of.*

These days it is increasingly common to hear how people are detrimentally disconnected from the natural world around them (Cohen and Duckert 2015; Keniger et al 2013) and how this separation of people from the material world[[2]](#footnote-2) is the cause for our thoughtless, selfish and destructive actions in the Age of the Anthropocene (Cohen and Duckert 2015; Iovino and Opperman 2014; Morton 2010). While I have heartfelt sympathy for assertions of this kind, and on some level agree that many people live their lives *as if* disconnected from the material world around them, I am also aware, of course, that such assertions are nonsense. None of us can be (even just in terms of attitude) separate from the materials that we use because they are fundamentally a part of us – both physically and imaginatively. It does not take a large intellectual leap to realise that the flesh one articulates is simply comprised of materials and that therefore it is utterly impossible to exist in any way other than ‘materially’. However much we might feel or think that we are apart or distant from the world of materials, we are without question profoundly a part of it, emerging constantly with it regardless of any technologies that manage to present an illusion of estrangement.

Some proclaim the importance of behaviour changes that reconnect people with the environment (Capra and Luisi 2014). Typically these assertions state that humans must alter their activities so as to remodel their relationships with the natural world because current methods of engagement with the world are considered abusive, and consequently a more sensitive and constructive attitude and model is called for. Again, I wholeheartedly agree, but that is not the primary focus of this book. Equally, it is not concerned with persuading you to act differently. Indeed, in some ways, this book turns the typically broadcast environmental message on its head to show not how people should *use* water but how water is making you who you are. Consequently, by looking at what water does, I will demonstrate the part the materials themselves have in shaping you physically, socially and culturally. Thus, the book adopts a perspective that foregrounds how water behaves to reveal just what water does, how it acts and how it is physically available, and therefore is dynamically responsible for the way that you can be human.

The purpose of this direction is twofold. Firstly, I aim to repair the intellectual estrangement between people and the world they are part of and secondly, by foregrounding water throughout the text I hope to illustrate how human lives do not simply need and use water, but are inextricably shaped by their relationship with it. I believe this offers the chance for people to recognise just how dependent their lives are with other entities. Understanding that the different aspects of the planet are not here for our convenience to (ab)use, we begin to see our relationship as parts of a bigger whole, and that the whole is using the parts (us) as much as the other way around.

## Materiality/Material Culture/New Materialities

The term ‘materiality’ should not to be confused with a focus on objects or ‘material culture’ (Cf. Miller 2005). Rather, the term ‘materiality’, in this case, is used to remind the reader of how objects/entities/bodies are comprised of a series of simultaneously interacting substances bound in relationship by physical laws (Barad 2003, 2007). The way the term ‘materiality’ is being used here, to some extent, chimes with Kohn’s use of the term ‘form’ (2013, see chapter 5), which he uses as a baseline ‘beyond the human’ (2013: 159). He presents ‘form’ as ‘a sort of general real…[in the]…self organizing emergent phenomena’ (Kohn 2013: 159) of everything and despite any ambiguity considers it useful as a tool to conceptualise the material ‘logics and properties’ (Kohn 2013:160) that shape us.

The foundation of this book uses a similar notion, but one that delves deeper into the very materiality of the shapes around us so as to elucidate how the substances that comprise and govern forms’ patterns are tangled with humanity. Using this springboard, being human, arises not as a state divorced from material conditions (despite any depictions to the contrary), but rather emerges-with and is informed-by being integral to the behaviours of interacting ecologies (Capra 2002). Thus, as expressions of humanness are fundamentally predicated on the physicality of materiality, for accuracy, they should not be – and actually cannot successfully be - conceived of as separate or independent (Ingold 2000). Barad terms this error ‘the Cartesian Cut’ (2003: 815) in view of its perspectival, or intellectual origins in the work of Enlightenment philosopher Rene Descartes’ whose machinist approach asserted there to be a distinction or a separation between materials and the thinker (mind/body dualism) (Descartes 1985). In calling for a reconsideration of the roles materials play in making our shared worlds, it is necessary to illuminate the co-dependent relationships that construct and comprise the material world. This not only encourages a fresh, new outlook of what it means to be human (Bennett 2010; Coole and Frost 2010) but also forces one to realize that there is no separation between human actions, flesh, thought and the rest of the worldly substances that are in a constant state of flowing through us. In short, NM illustrates how humanity relies utterly on, and is inextricably in, multiple concurrent partnerships with all aspects of materiality however distinct they appear to be.

## Why water?

As global agencies recognise the universal need to reconsider human-environmental engagement (Friends of the Earth International n.d.; Greenpeace International 2016; UNSDG n.d.), further information about water use and the meanings it holds is considered to of particular, contemporary significance (Fontein 2008). It is my belief that research concerning water that adopts a NM focus is better placed to contribute to current demands for the formulation of sustainable relationships with planetary resources than more traditional methods that depict water as a resource for human consumption without reference to the wider influence it exerts. This is because depictions that explicitly realize the inextricably tangled chemistry of being human offer a clearer picture of the foundation of practices and thereby supports alternative methods and solutions to be sought.

Currently, academic scholarship and global debates circling water typically focus attention on how humanity can most effectively use this common pool resource (Gliek 2014 a and b). Thus, it is topics such as: water usage, sanitation, hygiene, health and security rather than ecological and symbiotic relationships that characteristically frame discussions of water (Gliek 2014a and b). Viewed using a NM perspective, these traditional approaches to water can be accused of mandating (and perpetuating) a human exceptionalist outlook – a focus that the NM challenges. Even studies that offer more nuanced understandings of water through documenting culturally contingent meanings of water, and give consideration to the socially generative potential of materials as they move into human lives (see Blatter and Ingram 2001; Wagner 2015), may not be enough. To simply demonstrate that cultures have different beliefs and behaviours around water is undoubtedly helpful and interesting, but at this time in global history, I suggest, a more profound approach is what is required – one that moves away from seeking methods to improve human lives to one that seeks to improve the existence of all materials equally and together. In a time when information suggests that resources are stretched and physical forces are said to be dramatically transforming as a result of human activity, a fundamental shift in behaviours is cited as the only hope to maintain the balance that supports life as it has come to be known (Morton 2010, 2013). As is probably clear now, this book aims to contribute in some small way to that shift. By using an alternative approach that explores and elucidates the relationships people have with the materials that co-productively form them, I hope to draw out and highlight the material collisions and interdependencies that underpin sustainable existence. This book focuses on the activities of water and humans specifically, and with a pointed material focus should also manage to move towards presenting the co-generative realities that human-materials have with *other* materials and beings. But this book could just as easily focus on people and other materials (Cf. Attala and Steel 2018) as every material is in a profoundly physical relationship with us. In addition, because of our habit of reductionist thinking and the lexical support of that project, I am in some senses forced to present people and water as distinct before I can then successfully draw them together.

## People: bodies and water

The theoretical perspective adopted here is grounded into a series of short ethnographic examples. This structure is designed to demonstrate how these ideas work and can be employed in different contexts. The methods help one reflect on how people are in-formed by (or materialized through) relationships with materials (in this case: water) and do not exist in isolation of without reference to a broader set of material influences. In just the same way that human behaviour influences water this framework illustrates how water shapes humanity. The focus on water could be seen simply as a representational mechanism that blots and blurs the edges between human bodies and the material world in the text, but the intention concerns much more than simple representation. By highlighting existential corporealities with water specifically, it is possible to directly attend to the physical (or material) realities of human existence and thereby avoid the usual intellectual distance placed between bodies and the rest of the material world. Consequently, only through recognition of the very physicality of water and how it relates to people, can the abilities of water to flow through and shape the contours of bodies, lives and cultures be explicitly and undeniably recognized and appreciated. Therefore, to avoid simply nodding towards water as an item necessary for existence, I hope to show not only that it is necessary, but also that we are the very water that we so regularly claim to ‘need’. In addition, as the fundamental truth that our bodies are primarily water-y moves away from being an abstract idea and towards being a material realization, there is value in asking where does water stop being water and where does it become a body or person (Neimanis 2017)? Consequently, if embodiment (that is: people being bodies) irrefutably relies on water being with us (or perhaps it might be helpful to state that we are water walking around as bodies) ‘a radical question about what we mean when we call ourselves “bodies”’ (Neimanis 2012:83) emerges. Using a NM analytic framework that focuses directly on materials and their materiality allows one to approach this question head on. Thus it is not just that water flows through us, or even that we need water to live but that there is no clear distinction between when water is us or something else that needs to be attended to.

Consequently, the ethnographic examples in this book are intended to support the aims above by encouraging the reader to reconsider their own relationships with water and in extension the wider environment and our collective places ‘as’ the material world. In addition, by looking at how piped and climatic water are variously understood, interacted with and used, this book offers an innovative perspective that recognises a link, and levels the ground, between the shared human and non-human worlds – a position that is of critical importance at this point in global history (van Dooren 2016; Morton 2016; Tsing 2015; Witmore 2015). By centering on water in this way, this book will challenge the analytical distinction and ontological habit that situates water as separate from the (in this case, human) bodies that are primarily composed of it or that it becomes when in relationship with us. Moreover, it dissolves the notion that people use the materials of the world in favour of seeing people *as* the materials they relate to and have been presented as appearing to use. Theorising water, as I intend to, elucidates water’s ubiquity and reveals that distinctions made between matters are unclear and inaccurate. In acknowledgement of this ‘messiness’, I intend to focus on fluidity of processes, avoid the ‘cut and dried’ and recognise the ‘muddy’ realities (Cf. Appadurai and Breckenridge 2009; Lahiri-Dutt 2014 (Wet Theory); Mathur and Da Cunha 2014) implicit in relationships with water. In adopting this approach I look to move away from categorical and taxonomic models and oppositionals (such as wet/dry) to highlight how the relational performances of materials constitute processes and being, and simultaneously legitimise and validate situated knowledges.

There is an extensive body of literature that documents and recognizes both the significance of water as a ‘conceptual lubricant’ (Fontein 2008: 755) and the socio-political importance of water management and control (for recent examples, see: Chen et al 2013; Fishman 2011; Gandy 2014; Gleik 2014a and b; Helmreich 2009; Palmer 2015; Strang 2004, 2009, 2015; Swyngedouw 2015; Wagner 2014). I intend to push past the work that demonstrates the role water plays in human cultural lives so as to draw water in as a participant and generative agent. Much as non-human animals are considered to enable humans to grasp their humanity (Cassidy 2012; Haraway 2008; Hurn 2012), I maintain so too should materials (like water) be recognized for the part they play in crafting what it means to be human. Furthermore, following the animal or multispecies turn, that acknowledges other living beings are significant social actors (and not just as objects) through which we can better understand ourselves, it is possible for water to be recognized and acknowledged as an active subject who becomes (with) us.

## Agency

This perspective is one that advocates a wider definition of agency. New Materialists, using Latour’s actors and actants in Actor Network Theory (1993a), recognize the inherent abilities of items to influence, provoke, incite, induce and determine behaviour as a result of what they are *made of* – not just as a result of their existence within a network (Bennett 2010; Coole and Frost 2010; Drazin and Küchler 2015; Witmore 2014). This definition of agency draws the material capabilities of substances to the foreground. Using this to explore water, its ability to flow, evaporate, stagnate etc., reveals how watery behavioural mechanisms predicate the way that bodies and water can interact. While it might be helpful to assert that an item has agency simply because its capacities or affordances inspire or provoke one to act (following Gell 2013 and Gibson 1977), this definition tends to leave one playing ‘agency table tennis’, desperately attempting to locate agency within the human and then the object without success. Taking stimulus from the mechanics of theoretical quantum physics agency is better understood as the intra-relational process whereby phenomena are produced from the field of possibilities that gel into matter when quantum forces engage (Barad 2003, 2007). Agency using this lens, therefore, is not a cognitive capability limited to certain species, but concerns the mechanisms of quantum processes that produce the materials of the world. From the perspective of quantum mechanics everything becomes as it does because of the mannerisms inherent and prescribed by the methodologies enacted at the quantum level (Marletto and Vedral 2017). Quantum mechanics are not divorced from material realities. On the contrary, they form them (Marletto and Vedral 2017). Approached in this way, macro matters arise from the way micro particles can engage with each other, and the molecules formed from these relationships in turn produce objects and entities. Agency, therefore, cannot be embedded into only select items or conceived as a propelling thought process but rather is more accurately conceptualized as a distributed mechanism that produces all things. Consequently, the methods of engagement that manifest at a quantum level are the shared agential forces that become material forms. Form therefore is representative of, and constitutes, the manner by which substances (or materials) are able to engage with each other (Barad 2007; Vedral 2015).

Thus, I am adopting a eco-pluralist, hybrid theoretical framework that recognizes complexities (Urry 2005) and in some ways coheres the intentions of the animal or multispecies move (Kirksey and Helmreich 2010), the more-than-human turn (Bear 2011; Bear and Eden 2011; Kohn 2013, 2015; Whatmore 2002) and to some extent the ideas of posthumanism more generally, to highlight that existence and practice are fundamentally and materially relational and emerge because of the material capabilities and potentialities of relating agents (Cf. Barad 2003; Bennett 2010; Latour 1993a). Hybridity rejects any focus on singularity in favour of the recognition of the complex ‘messiness’ of the relational multiplicity of engagements – in this case, the perspective is focused on the material agency of different types of water and the roles they play in regulating cultural practices and the social relationships both between humans, and between humans and the rest of the material world. Consequently, the purpose of this cohered framework is to contribute to the leveling of the representational playing field following Latour (1993a) and Witmore (2014) so as to:

1. reject human exceptionalism as inaccurate and a problematic perspective that perpetuates an illusory separation between materials

and thereby,

1. re-present the importance of re-membering the existential entanglements and blurred boundaries between engaging material entities in the Age of the Anthropocene.

As already noted, the theoretical purpose of this book hinges on the rejection of human exceptionalism in favour of a ‘multi-material’ plural perspective in which water and bodies are recognized as interacting materials shaping each other. Thus, through recognition of the co-productive relationship between water and people, I aim to demonstrate how water compellingly draws people to it and that, as a result of its vital material fundamentality and the concomitant biological insistence of regular engagement, water emerges as a formative, shaping component of cultural ideas and being human. Thus, using ethnographic examples, the multiple materio-cultural entanglements are explicitly and prominently –even blatantly- illustrated. Moreover, the examples clearly demonstrate not only the multiple existential dependencies with water that animate our lives, but also how materials engage together to become what they are, and how those methods of engagement are predicated as much by how water behaves as by the way bodies do.

Through the priortising of materiality you should be able to grasp a sense of your own physicality and the material influences that form what you are. In doing this the world is reimagined into a new shape, where what constitutes ‘a person’ is shown to be a shifting field of materials formed by the constant flows of the materials they engage with. This perspective softens the rigid illusory barriers metaphorically incasing the human that erroneously presents people as distinct and in need of protection from the rest of the material world (Douglas 1966), to reveal people emerge with the wider field of materials that they are irrefutably and undeniably a part of.

This book is structured in two parts. The first part outlines the theoretical direction and purpose of the book, and offers the reader an ethnography of water: the second details water relationships in three different geographical locations. The structure of the book is designed to allow the reader to engage with the theory and then get to know ‘who’ water is, after which water relationships in different landscapes are used to illustrate how to use the NM perspective.. Thus, because the way water behaves molecularly, its particularities and predilections is briefly considered in the first part of the book I have chosen to call this section an ethnography of water, but I might also have called it a hydro-graphy. I chose not to, because the primary objective of the book is to demonstrate how water and people are inextricably interwoven and significantly co-generative, consequently, the title is designed to encourage the reader to see water and people as merged together and realise the right of water to environmental personhood[[3]](#footnote-3).

Using the basic tenets of applied anthropology, alongside notions of environmental personhood, this book could act as a document that, in part, could be seen to advocate for water because the ethnography of water illustrates how water behaves and might be interpreted as something of a short introduction to the culture of water as a roving, transforming, shifting, mobile subject. I am not advocating for water exclusively. On the contrary, NM focuses on connectivity and relationships. Therefore I do this with a view to help the reader realise how our relationships with water are fundamentally important to being material and therefore, to being human. To this end, the book reveal the diversity and complexities of (what might be called) the different cultures of water and therefore elucidates concerns of conceiving of water as singular (despite the term) – and suggests that water should be recognised perhaps as a collective noun, or an entity with multiple characters (just like people). Water’s overarching aspiration to keep moving is a key recurring theme that is regularly revisited because it is a fundamental, physical fact that water urges to move on. In association, it is the different ways that it ensures it can mobilise in various contexts that forces our hand and demands we shape our lives around its activities. Furthermore, I show that it is because water must move that many of the biological processes of our bodies have been shaped. In other words, it is not inaccurate to state that people exist at the behest of water. But, of course, this is not simply a one-way street. Human bodies – as much as other materials such as the land, plants or air - are instrumental players or agents that impinge and impact on water’s ambition to circulate. Bodies transport and relocate water in ways that other methods of passage cannot. Thus, bodies take water to places it might otherwise not reach. Equally, the different ways that water manages to move are instrumental in the different ways that people have devised to be human. Looked at this way, it is possible to problematise the artificial lines drawn between the dichotomous oppositional notions of nature and culture, between what is deemed to be a body and what is a material, and between the idea of a subject and an object (Descola 2013).

The second part of the book illustrates the role water plays in shaping various aspects of the landscape including those individuals living within it by exploring three different examples. These chapters explicitly illustrate how water’s capacities, affordances and behaviours co-generatively shape human bodies and people’s social lives.

The examples used here engage with water in contrasting environments and are designed to begin to illustrate the multiple manifestations of relationships people have with water. The first chapter in this part of the book deals with drought conditions in rural Kenya and explores the social, physical and economic consequences of water insecurity in locations where water supplies are irregular, inconsistent and sparse where people are forced to perform regular, arduous daily activities in a bid to draw only very small amounts of water into their lives. Consequently, alongside its vitality, water can also be considered fickle as it constantly hides, which forces people to seek and find it.

The following chapter considers the role snowmelt plays on water systems in southern Spain. Through examination of another of water’s capabilities, specifically its ability to solidify in low temperatures, this section offers another example of the way water’s materiality shapes lives. Being able to freeze is not exclusive to water but it ability to freeze and avoid an increase in density whilst doing so is particularly significant. This section considers the role ‘slow’ water plays in shaping people that live below the icy ridges of the Alpujarras in Southern Spain.

Finally our attentions turn towards a country renown for its copious amounts of water – Wales. The last chapter explores water’s ability to threaten, to deluge and to submerge, and considers the symbolic and political consequences of these abilities. This chapter shows how the ability of water to flood geographies has been used as a political weapon allowing those able to dam, hold and redirect water to retain power over those living on it. This chapter draws together water’s materiality with national identities and demonstrates how the quiet drowning of a peoples’ land transformed into a thunderous outraged roar that changed the course of history.

1. Following the definition of the word, the use of the term ‘physics’ here concerns the *physical properties of matter* and does not refer to the scientific discipline. [↑](#footnote-ref-1)
2. I use the phrase ‘material world’ to describe everything, and not to make a distinction between materials and other worldly aspects. Lexical restrictions mean that there is no term that satisfactorily represents ‘everything’. [↑](#footnote-ref-2)
3. The notion of environmental personhood is not one that transforms the environment into people or agents *per se*, but, rather, is one that recognises the wider value of the planet. Used in this way, personhood is attributed to aspects of the landscape that people feel an inalienable cultural connection to. A recent example of this is the declaration in 2014 that the Whanganui river in New Zealand (*Te Awa Tupua*) has personhood. The attribution of personhood was established in association with the knowledge that local Maori ancestors exist as part of the river’s water system. Consequently, the river now has rights, as do a number of other areas of cultural significance such as the River Ganges in India. In 2010, and in some ways acting as inspiration for the above attributions of personhood to rivers, The Morales administration in Bolivia passed a law that determines ‘mother earth’ in its entirety to be a person with rights (*Ley de Derechos de la Madre Tierra,* see Rightsofnature.org 2010), with varying degrees of success. [↑](#footnote-ref-3)