What does climate change change?

Understanding climate change in the work of heritage government authorities in England and Sweden

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Thesis submitted for the degree of Doctor of Philosophy

24th March 2022

I, Janneke Jeannette oud Ammerveld confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This thesis critically examines the impact of climate change on the heritage work of Historic England (HE) and the Riksantikvarieämbetet ('Swedish National Heritage Board' – RAÄ). The research is based on the understanding of climate change as a *hyperobject* (Morton, 2013), a term coined to describe the ways in which climate change does not only operate through its physical impact but also shifts social and material relations between humans, nonhumans and inanimate agents.

By applying an ethnographic methodology, this thesis critically reflects on the responses of HE and the RAÄ to the climate crisis by questioning what understandings of climate change and heritage inform these and, subsequently, what this means for climate action and the creation of (alternative) futures.

The research develops around three themes representing both organisations' primary climate change engagements: adaptation, mitigation, and participation.

The thesis argues that the first two responses are informed by understanding climate change as an environmental impact and a carbon problem. The third theme considers how both organisations aim to be included in the climate change discourse as it takes place in other sectors, particularly in the natural environment sector and how they attempt to challenge these existing nature/culture dichotomies. However, I will argue that they do not overcome this dualism on the ontological level.

Throughout, it argues that both organisations uphold an anthropocentric approach that aims to demonstrate heritage's relevance and positive impact by emphasising the benefits of its conservation to its human custodians, while climate change remains framed as an external impact. The latter prevents a critical reflection of the existing heritage discourse, the socio-environmental and political drivers of the climate crisis and the role heritage plays in these. Therefore, in conclusion, this thesis briefly reflects on what role heritage could play in futures that challenge the current status quo.

Impact statement

The public and political engagement with climate change continues to grow in response to its more imminent impact and the uncertain futures it heralds. This thesis builds on work taking place in critical heritage studies that engages with the climate crisis as a multi-factor phenomenon (see e.g. R. Harrison et al., 2020).

This project makes an original contribution to the field of critical heritage studies, and heritage studies more generally, in its methodology and in its approach. The project aims to go beyond the popular assumption of simple cause-and-effect relationships related to climate change and heritage preservation. Instead, via the application of the hyperobject (Morton, 2013) as central concept, it explores the other social and material changes which climate change may produce within networks. It will do so through multi-sited ethnography (Marcus, 1995, 2011) with relevant national government authorities in England and Sweden. The aim is to explore how climate change influences the operations and objectives of these organisations and how such organisations might intentionally seek to become agents in acting against climate change themselves.

Through its approach, this thesis contributes to the critical understanding of the relationship between the climate crisis and heritage as well as to discussions on what alternative futures may be created and what role heritage can play in these scenarios.

Contents

List of figures and tables

Acknowledgements

> "If you are a poet, you will see clearly that there is a cloud floating in this sheet of paper. Without a cloud, there will be no rain; without rain, the trees cannot grow: and without trees, we cannot make paper."
>
> Thich Nhat Hanh (1926-2022), on 'interbeing'.

Here are the few pages in this thesis truly dedicated to gratitude. The most important ones, and the only ones I always read.

There is much gratitude to be gifted to many people and nonhuman friends, some I have known for long, some I crossed paths with in the past four years. Some of them I want to name here specifically, while many more are present in the spaces in between the words. Each of you is an essential part of this thesis.

First of all, of course, Rodney and Dean. Thank you for guiding me through this experience and long (seemingly endless) journey. Your continued and stable confidence and presence offered me a strong backbone to lean against while finding my way through the research.

This thesis heavily relies on the open arms of staff at Historic England and the Riksantikvarieämbetet. A big thank you to all who participated in interviews and let me sit in their meetings. I hope you will be able to recognize your work in the chapters, knowing that it has moved forward since and surely will go into many exciting directions in the future.

The funding connected to the CHEurope project provided the freedom to focus on the content of the work. It also allowed me to experience a series of European cities with a group of colourful minds, whose company I have enjoyed enormously.

New friends, old friends, you all made my life in London a joy. Noor en Krista, jullie maken mijn hart altijd groter, telkens als ik jullie zie zijn jullie nog mooiere vrouwen geworden. Sophia, om elkaar in Londen weer te mogen ontmoeten is zo'n cadeau geweest, een kleine Nederlandse oase van warmte en gelach. Paris, our laughs got me through so much. I miss your presence in this city, it is not the same. To my sweet gals with drums, Alice, Helene, Jamie, Katja (check p. 38) – you are central to my London life. You can't know

how much you have taught me about … well, anything. You lot make my world grow bigger every time we meet. I am truly in awe of you all, powerful women.

Lisa, Isa, Jilke, Moniek, Craig, Hannah, Colin, TopShop Samba, the Hackney Marshes, and the odd bunch of people at 27b Belfast Road, you all made my life feel lighter when needed and supported me from close by and afar through these strange years.

JW, bedankt voor de stille kracht in de achtergrond, ik weet dat je er altijd bent. Pap, mam, jullie steun en bemoediging is telkens nog groter dan ik denk dat mogelijk is. Bedankt om me telkens op te vangen als ik omkiepte. De vrijheid die jullie meegeven door altijd een terugval basis te verschaffen is van onschatbare waarde.

This research has been funded by the European Union through the Marie Skłodowska-Curie Innovative Training Network 'CHEurope Critical Heritage Studies and the Future of Europe' H2020 Marie Skłodowska-Curie Actions 722416.

Introduction

> The past isn't a point on a line. It's happening "now". That's why history is important, isn't it? Otherwise what happened would not be available at all. No one would ever suffer from it, because no matter how "close" to the "present" the past is, it would always be separated from it by some infinitesimal amount. And if this were in fact the case, nothing could happen, because nothing could be the cause of anything. Because they refer to deep terrestrial time, geology, ecology, and biology give us some potent examples. For example, as you read this, you and what you are reading represent the current state of the Big Bang. The Big Bang is happening "now", and the current Universe is simply the way the wavefront looks for the moment […] Moreover, you and what you are reading represent the current state of the Anthropocene.
>
> (Morton, 2021, pp. 385–386)

In living at the wavefront of the Anthropocene, we are locked in between the past and the future while acting as the essential link between them. There are all sorts of things and beings that come into existence in this thesis that are captured for a moment in their becoming, representing a past as well as a future: the organisations at the centre of this study, ideas regarding heritage and climate change, my own position towards what it means to engage with climate change in meaningful ways. All the while, we[1] create the 'future fossils' for our human and nonhuman descendants (Farrier, 2020). To describe this sense of 'becoming' in relation to the climate crisis, Morton[2] (2013) coined the term 'hyperobject' in 2013, a term they introduced to describe the current climatic state of the world and our relation as humans to it.

The hyperobject concept is central to the approach of this thesis. In short, it implies that climate change does not only manifest physically, as the weather, nor as a set of statistical data, or as records of climate shifts, but simultaneously as a discursive, affective and social agent within networks. It represents the vastness and complexity of the climate

[1] Whenever I refer to 'we' or 'us' in this thesis, I refer to people like me: who contribute the most and profit the most from a highly industrialized and consumer-based society, while experiencing the least direct negative effects of climate change.

[2] Timothy Morton uses the pronouns they/them

crisis: in terms of its spatial and temporal scales, and the complexity of the network of relations between humans, nonhumans and inanimate agents that create and sustain it. It is a concept that describes the 'stickiness' of the situation, meaning we cannot make a decision to be part of it or not; we are 'caught' in it. In Morton's (2013, p. 20) words: "For one thing, we are inside them, like Jonah and the Whale. This means that every decision we make is in some sense related to hyperobjects". As a consequence, living with hyperobjects means to "abolish the idea of the possibility of a metalanguage that could account for things while remaining uncontaminated by them" (ibid., p. 2).

It is against the background of these implications of living "in the time of hyperobjects" (ibid. p. 6) that this research is set. In doing so, it considers how authorities charged with advising their governments on heritage-related issues engage with the concept of climate change and the uncertain futures it heralds. Here, the project engages new understandings of heritage as future-making practices emerging from the Heritage Futures research programme (R. Harrison et al., 2020).

Framing climate change: a 'dissensus' over a consensus

However, while the hyperobject may be my chosen reality, this does not mean that climate change is universally accepted to act like a hyperobject. In fact, there are many different ways of understanding or trying to understand, what a phenomenon like climate change exactly is. Even when looking at it as an 'objective' set of scientific weather statistics, it is difficult to understand what actually is happening, what interlocked dynamics are driving it, and where responses should focus. This is one of the reasons why climate change has been so articulately described as a wicked problem, a term that refers to the complexity of the phenomenon and the possible manifold responses (Rittel & Webber, 1973). So, while the science of anthropocentric climate change and the urgency for action has now been well established and accepted by a high number of governments and people around the world, the pathways towards a post-climate crisis future, as well as visions of this future, are still point of discussion. Nancy Fraser (2021, p. 95) describes this as a 'dissensus' over a consensus:

> The result, beneath a superficial consensus, is a roiling dissensus. On the one hand, growing numbers of people now view global warming as a threat to life as we know it on Planet Earth. On the other hand, they do not share a common view of the societal forces that drive that process—nor of the societal changes required to

> stop it. They agree (more or less) on the science but disagree (more than less) on the politics.

In other words, it matters how climate change is understood and how this dictates responses. Goldman, Turner and Daly (2018, p. 2) describe how the way people understand climate change, access this knowledge and act upon it are closely associated with world-making practices:

> Different ways of knowing the world affects how one acts in the world, thus changing it in certain ways (world-making). Reciprocally, the way one acts in the world affects the way one knows the world.

Hence, how we understand climate change influences our response to it and the accompanying visions of the future. Similarly, Mike Hulme (as quoted in Goldman et al., 2018, p. 10) writes:

> The world possesses a multiplicity of climates and a multiplicity of cultures, values and ways of life. There are no global pathways to the future because the world does not walk together; we walk along different paths towards different destinations.

This recognition of both epistemological and ontological pluralisms while facing a wicked problem like climate change is what Tim Morgan (2020, p. 84) calls "the wickedest problem of them all".

While this thesis is set within the field of critical heritage studies, it is climate change that takes centre stage throughout. It is the 'framing' of climate change that is of interest here and its relation to future-making practices, as "framing is perhaps the most foundational moment of inadvertent concealment within climate change science as it allows some questions to be asked and others to be edited out" (Nightingale et al., 2020, p. 346). So, while I choose the hyperobject as a representation of what the climate crisis entails, meaning that all action that is taken, but also all action that is not taken, takes place against the same background of the hyperobject's presence, in this thesis, it is the framing of climate change by the organisations that will be questioned. I do so to explore how this framing impacts the understanding of the climate change-heritage relationship and what sort of futures heritage and heritage work are employed in producing.

Research aim and questions

This research project explores the influence of ideas regarding climate change and of climate change itself on the work and rationale of heritage government authorities in England and Sweden. In order to study the complexity of climate change as a multidimensional phenomenon in this context, climate change will be understood as a hyperobject (after Morton 2013) and the organisations as networks. In this research, these networks are considered as assemblages: groupings of heterogeneous components – consisting of human, nonhuman and inanimate agents.

The research aims *to understand the actions, engagements and reflections of heritage government authorities as a response to climate change, and the ideas regarding climate change and heritage that underpin these engagements.* Throughout the thesis, this aim is addressed through the engagement with a set of interrelated questions: (1) What activities and actions are initiated in response to climate change? (2) How do organisations regard their own position and the position of heritage in relation to climate change? (3) What are the underlying assumptions in regards to climate change on which actions and activities are undertaken, and how do these affect responses? And (4) What sorts of imagined futures are connected with climate change, and on what scales do these futures take place?

The main aim could be summarised as 'What does climate change change?'. The sub-questions are meant to cover the ways in which this change might take place and what it may lead to. The sub-questions question both the actions that may be connected to this change and the way climate change may affect how heritage organisations think and communicate about the work they are doing or how it may affect the way they think about heritage more generally. These questions combined are relevant to paint a complete picture of what it is that climate change and its designation and recognition as a factor in shaping planetary futures does in the present.

This thesis focuses on the work of the *Riksantikvarieämbetet* (the 'Swedish National Heritage Board', from here on referred to by its Swedish abbreviation 'RAÄ') and Historic England (from here on referred to as HE) in response to climate change. Both the RAÄ and HE act as the national heritage authorities in their respective countries (Historic England, n.d.-d; Riksantikvarieämbetet, 2021j). The main task of both organisations is to promote the historic environment and its conservation; to support this cause, they provide

guidance and perform research that is publicly available and aimed at heritage practitioners, managers and owners of historic places (Historic England, n.d.-a; Riksantikvarieämbetet, 2021d). In addition, they both have the authority to grant official heritage status to sites and places. They receive financial support from their government and, although working independently, their work is influenced by their government's agendas (Historic England, 2019c; Riksantikvarieämbetet, 2021j).

A multi-sited ethnography shapes the basis of this thesis (Falzon, 2009; Hannerz, 2003; Marcus, 1995, 2011) undertaken primarily through work placements within both case study organisations and through exploring their influence in a range of adjacent places and contexts. However, the research is not strictly comparative in its approach. Instead, the experiences of working with and researching both case study organisations will be used as a reflective comparison, where both sets of experiences are used to develop a better understanding of the climate change-heritage relationship as it appears at the level of government authorities in a European context.

From heritage studies to critical heritage studies

This thesis is set in the field of critical heritage studies, an emerging field within heritage studies that has developed over the past two decades. The development of heritage studies and critical heritage studies as an academic discipline has been elaborately discussed by a variety of scholars over the last decade. I do not aim to repeat their work of summarising or agenda-setting here (see Gentry & Smith, 2019 for a systematic overview of literature citations in heritage studies since the 1980s; and e.g. R. Harrison, 2013; Smith, 2006; Sørensen & Carman, 2009; Waterton & Watson, 2013, 2018). Instead, before moving forward to see how heritage studies have engaged thus far with climate change in the following chapters, I want to give a short overview of the background to which this relationship has been built within academic heritage thinking.

The idea of heritage has evolved significantly over the past few decades, slowly finding its way from being mainly grounded on a conservation-based interest to a complex phenomenon embedded in more extensive social networks as well as an active agent in the shaping of society and futures (R. Harrison et al., 2016; Sørensen & Carman, 2009). In other words, from a practice that focuses on the past to one that equally pays attention to the present and how heritage activities in the present create a future (R. Harrison, 2013; D. C. Harvey, 2001).

The official heritage narrative can be traced back to the installation of governmental heritage protection agencies as far back as the 15th century in Europe (Waterton & Watson, 2018). The heritage protected by these first agencies represented a product from the past, mostly material in form, and linked to the official ethnic identity of the nation-state that was considered in need of protection so it could be preserved for future generations (e.g. R. Harrison et al., 2020; Lowenthal, 1985). Besides having a strong link with creating national identities, these first practices of heritage management mainly were centred around private property, which changed during the 18th and 19th centuries with the opening of the first public museums (Sørensen & Carman, 2009).

In the following years, over the 19th and 20th centuries the official heritage narrative and the protection of its material reality became formalised in a set of international charters and the establishment of heritage institutions, such as the post-war founding of UNESCO in 1945, the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) in 1956, and the International Council on Monuments and Sites (ICOMOS) in 1965. These organisations became the official authorities to define heritage places and practices and the correct means of their conservation and management on an international level (see e.g. R. Harrison, 2013). In the official discourses of such agencies, heritage was often presented as a passive resource, supported by an emphasis mainly on the material aspects of tangible heritage (Sørensen & Carman, 2009). This is clearly demarcated in the focus of the World Heritage Convention (1972) on tangible and material forms of heritage. An issue that was only addressed in 2003 with the Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO, 2003).

Laurajane Smith (2006) calls this approach to heritage the 'Authorised Heritage Discourse' (AHD). The AHD refers to an understanding of heritage as static and reflecting existing social hierarchies, essentially relying on the recognition of an inherent authenticity of sites that needs to be preserved by professionals. In addition, as Rodney Harrison (2013) explains, heritage in its 20th- and 21st-century use is bound up with modernity and its focus on nation-states and human progress. In addition, accompanied by a sense of risk or loss of a historic place, it is essentially symbolising a confrontation with uncertainty and lack of control and order resulting in the need to conserve heritage (R. Harrison, 2013).

As an alternative to the AHD, Smith argues for a social constructivist approach to heritage, stating that "there is, really, no such thing as heritage" (2006, p. 11). Instead, Smith claims that heritage is a cultural process constructed by its practitioners and its social context, and thus in a way, independent of its material reality. Such an approach had already been introduced by David Lowenthal (1985) in his classic book *The Past is a Foreign Country*. In this work, Lowenthal argues that the past is to some extent a creation of our own, as "centuries of tradition inform every act of perception and creation, pervading not only artefacts and culture but the very cells of our bodies" (1985, p. 290). For Lowenthal, the past represents a subjective and changeable social phenomenon produced within a certain social and political context. This new approach, which turned heritage from a neutral, objective practice of registration, conservation and collecting into an active process with real world implications, shapes the backbone of heritage studies (see e.g. R. Harrison, 2013; D. C. Harvey, 2001).

More recently, heritage studies have become more concerned with what and who heritage represents or, perhaps more importantly, does not represent, leading to what we now know as 'critical heritage studies'. By opening up the heritage concept as dynamic and related to its social and cultural context, the theorizing of heritage and the field of heritage studies has become more diverse and complex. Instead of focusing on the official narrative, heritage studies scholars claim there are different versions of heritage, depending on who designates, interprets, experiences, or practices it (see e.g. Brian Graham & Howard, 2008; D. C. Harvey, 2001; Macdonald, 2009, 2013). An example of this receiving a lot of public attention is the movement around #RhodesMustFall in 2015 and the toppling of the 'Colston' statue in Bristol (UK) during the Black Lives Matter (BLM) protests in 2020. The activists taking part in these movements' actions showed how for different people a heritage site can have a different, and equally valid, meaning (Branscome, 2021; Holmes & Loehwing, 2016). Hence, the interpretation of heritage has started to focus more on how heritage values differ and cause friction on different scales (e.g. personal and local vs. national and global) while being changeable over time and between communities, but also relate to a more diverse range of interpretations, including those based on power, race, gender, and sexuality (see e.g. B. Graham, Ashworth, & Tunbridge, 2000; S. Hall, 1999; R. Harrison, 2008; D. C. Harvey, 2001; Macdonald, 2013). This change in approach to heritage meaning-making has, amongst others, been influenced by the political campaigns of indigenous people's rights. With heritage being described as a 'system of production', for

many indigenous people, their ontology did not match the official heritage discourses held by states and/or institutions, including, for example, the tangible/intangible, and natural/cultural heritage dichotomies (R. Harrison, 2013).

The work of Rodney Harrison (2015a, p. 27) with indigenous people in Australia led him to describe heritage as:

> Collaborative, dialogical and interactive, a material-discursive process in which past and future arise out of dialogue and encounter between multiple embodied subjects in (and with) the present.

This dialogical approach to heritage, based on an acknowledgement of ontological pluralism described in '*Heritage: Critical Approaches*' (R. Harrison, 2013), emphasizes heritage as a future making practice and has become a central idea in critical heritage studies. By understanding heritage as an active process, assembling subjectively desired futures, the relevance of engaging with economic, environmental, social, and political issues influencing these futures becomes essential (see e.g. R. Harrison, 2013; R. Harrison et al., 2020; D. C. Harvey, 2001; Holtorf, 2015). Hence, critical heritage studies scholars have argued that (Winter, 2013, p. 533):

> Critical heritage studies should also primarily be about addressing the critical issues that face the world today, the larger issues that bear upon and extend outwards from heritage … better understanding the various ways in which heritage now has a stake in, and can act as a positive enabler for, the complex, multi-vector challenges that face us today, such as cultural and environmental sustainability, economic inequalities, conflict resolution, social cohesion and the future of cities.

It is the relation between heritage and climate change–the latter representing one of these multi-vector challenges–that is central to this thesis.

However, where this research follows the popularized understanding of heritage vocalized in critical heritage studies: as a process in a dynamic relationship with a variety of actors and embedded in a wider societal, political, sometimes global context, this does not mean that this understanding is translated to the work done in the organisations subject of this thesis. Instead, this research will study the understanding of heritage from the perspective of HE and the RAÄ in terms of their work and publications, focusing on how

climate change might change these understandings or how their understanding of climate change and heritage complement one another and/or may cause friction.

Climate change and heritage studies: an alternative approach

Over the past few years in the cultural heritage sector, climate change has become a much-debated topic, with a growing number of heritage sites being confronted with the direct consequences of global warming in the form of sea-level rise, increases in (possibilities of) extreme weather events and changes in humidity (C. M. Hall, Baird, James, & Ram, 2016). Previously, most studies concerned with heritage and climate change have focused on this cause-and-effect relationship between climate change and consequences for the conservation of heritage (see e.g. Bonazza, Maxwell, Drdácký, Vintzileou, & Hanus, 2018; May Cassar & Pender, 2005; Fatorić & Seekamp, 2017b; Hollesen et al., 2018; Howard, 2013; Phillips, 2015). These studies have mainly been concerned with developing practical responses to mitigate risks to heritage resources and adapt heritage management accordingly by creating an understanding of the present and future risks and threats connected to climate change. The methodologies related to these studies are based on assessing risks and consequences to support the creation of adaptation and mitigation measures. For example, Hollesen et al. (2018) describe how to anticipate the disappearing archaeological sites in the Arctic due to coastal erosion and permafrost thaw by monitoring degradation and prioritising the most vulnerable sites.

This project makes an *original contribution* to the field of critical heritage studies, and heritage studies more generally, in its methodology and approach. In contrast to the studies previously noted, the project aims to go beyond the assumption of simple cause-and-effect relationships related to climate change and heritage preservation. Instead, via the application of the hyperobject as the central concept, it explores the other social and material changes that climate change may produce within networks. It will do so through multi-sited ethnography (Falzon, 2009; Hannerz, 2003; Marcus, 1995, 2011) with relevant national government authorities in England and Sweden. The aim is to explore how climate change influences the operations and objectives of these organisations and how such organisations might intentionally seek to become agents in acting against climate change themselves.

In its engagement with the climate change-heritage relationship, this thesis aims to build upon the work of recent critical heritage research projects such as Heritage Futures

(R. Harrison et al., 2020) and Unruly Heritage (Olsen & Pétursdóttir, 2016), as well as the edited volumes by Harrison and Sterling (R. Harrison & Sterling, 2020), and Harvey and Perry (D. Harvey & Perry, 2015). Each of these books and projects approaches this relationship as complex and multidimensional, where the value of heritage is not taken for granted but scrutinized in specific settings in relation to other dynamics and relational networks.

Context: CHEurope, XR and the pandemic

Amongst many, there are two factors that have had a significant influence on the shaping of this research that are worthy of mentioning in particular. The first relates to the cohort of research projects this study is part of. This project, titled 'CHEurope: Critical heritage studies and the future of Europe'[3], consists of fifteen individual research projects and is funded by the European Commission. The project explores the field of critical heritage studies as an academic discipline by linking heritage to a broad range of other research fields and exploring heritage's role, implications and potentiality within this context. This thesis is part of 'work package 1', which consists of a total of two PhDs that are constructed around the theme 'theorising heritage futures in Europe'.

As a consequence of participating in this project, I moved to London in September 2017. Due to this move, I found myself in one of Europe's environmental movement epicentres in 2019 and 2020, when Extinction Rebellion found its way onto the streets of London. I participated in several of their and affiliated actions in these years. As a result, my own evolving engagement and understanding of climate change and climate action during these years runs parallel to how I came to develop the ideas that thread through this thesis. Ironically, where the CHEurope project provided the circumstances for creating my own climate change awareness, the thesis also often kept me away from 'the streets' while worrying about my progress and sense of 'duty' (or guilt) towards this work. This research, therefore, embedded me in the climate movement while simultaneously keeping me from participating and engaging with it to the extent I desired. Thus, acting both as an enabler and a blockade for my personal concerns and actions.

From a personal point of view then, I enter the field as someone with a strong climate change advocacy agenda. Although I would like to lay claim to taking a more neutral

[3] see www.cheurope-project.eu and https://yesterdayishere.eu/

stance from the role as a researcher, it would be impossible to ignore my belief that radical change is needed. Although I do not intend to perform activist research, forcing a change upon the research site (Hale, 2001), I do acknowledge that this belief is present in guiding my relationship to subjects in the field, in the choice of wording, and the opinions asked for in casual conversations. It is also present in using reusable coffee cups and arriving at the office by bike, which implicitly express my values to my surroundings and might influence their interaction with me. Therefore, I am not an objective observer. My experience and definition of the field site, but also the chosen themes for analysis, will be influenced by my personal ideas and beliefs concerning the topic. After all, also my experiences, actions and concerns cannot escape the hyperobject reality (see chapter 3 for a more thorough explanation of my positioning in relation to the fieldwork).

Secondly, part of this research developed during the outbreak of the Covid-19 pandemic that has affected most of the world since the spring of 2020. When the UK government announced the first lock-down in March 2020, this transition disrupted for many our day-to-day lives. At the time, I was in the last phase of my fieldwork at HE, planning on conducting two or three more interviews with people I got directed to by those I had met in the time spent at the office. However, due to the lockdown and the chaos that followed, contacting people became difficult as everyone was trying to adjust to the quickly changing situation. I also noticed that I quickly lost rapport without being able to attend meetings in person. In a way, the fieldwork found its natural ending here, as everyone was adapting to the new situation and the HE offices closed for an unknown period of time.

In addition, in the context of this research, a note needs to be made on its relation to climate change. The pandemic and climate change cannot be separated when approached through the hyperobject lens and when embedded within an Anthropocene or Capitalocene understanding of the current climate crisis (see chapter 2). The multispecies ethnographers Aronsson and Holm (2020) describe the coronavirus outbreak as one of the side effects of living in (and creating) the Anthropocene. They write that in the Anthropocene, "deforestation, the surge in population growth and density, and anthropogenic climate change, give rise to an increased number of unusual encounters between humans, nonhuman companion species, and wild animals" (2020, p. 1). Consequently, the borderlines between human and wild animal territory are blended. In its most common understanding, the outbreak of COVID-19 is traced to a 'wet market',

named after their frequently watered floors, in the Wuhan province of China, where wild animals are brought together and sold (Malm, 2020). Like SARS in 2003, but also MERS, HIV and Ebola, the current pandemic results from the mixing of humans and wild animals. The emergence of these 'emerging infectious diseases' is directly linked to anthropogenic influences on ecosystems due to "an unprecedented rate of wildlife habitat loss, increasing human encroachment into wildlife territory, significant habitat fragmentation and loss of biodiversity" (Daszak, Cunningham, & Hyatt, 2001, p. 104). A result of market forces has explained the reasons why humans move deeper into the territory of the nonhuman. For example, the industrialisation of agriculture in China forced small farmers into the wild animal trade as they could not compete with the big factory meat farms that sprung up throughout the country in the late 20th century (Lynteris & Fearnley, 2020).

One last point I want to address concerning COVID-19 and the climate crisis is how nations across the world have and continue to respond to both. As not only are the pandemic and climate change interrelated, as explained above, but they also show similarities in their identity of being 'crises'. Both are local, national and global. Both need urgent cooperative international action. The understanding of both is backed up and needs continued backup by scientific research, and both can have exponential adverse effects (Malm, 2020). Thereby, both have increased socio-economic inequalities throughout and between countries, as was painfully shown by the record wealth of the world's most wealthy during the pandemic (Neate, 2020). For example, the UK now has a new record of billionaires (Jolly, 2021), while many others were losing jobs and struggling to find any certainty in their daily lives (see also Sultana, 2021). Likewise, climate change also hits the most vulnerably first (Sultana, 2021). However, the ways responses to both crises have shaped or have lacked vary significantly. Symbolic for this difference is the language used in the early days of the pandemic, most notably by the French president Emanuel Macron who claimed: "We are at war" (BBC News, 2020). In line with this rhetoric, a whole chain of radical decisions and unprecedented restrictions were put into motion.

In his book *Corona, Climate, Chronic Emergency*, Andreas Malm (2020) outlines the differences in response to both crises and why the direct action taken in response to the pandemic has so far not happened in response to the climate breakdown. Malm summarises this in a description of the differences in victimhood; for the pandemic, he writes, victims consist of "old white people" (2020, p. 18), and the "timeline of victimhood

placed rich and poor at opposite ends for corona and climate" (2020, p. 23). In other words, COVID hit rich and wealthy countries without mercy, getting them into action immediately. Furthermore, according to Malm, and as seen in the words of the French president, corona and the political response align with the 'classical war response' that aims at the protection of one's own people and nation-state borders: "whereas a war against CO_2 […] would be a war for the benefit of one's own *and* foreign others. First of all, it would be a war for the poor" (2020, p. 26, emphasis in original). Admittedly, Malm gets a bit more radical in his political explanation of the differences he sees here. This closely ties up to his understanding of the climate crisis as perpetrated by fossil capital. I will return to Malm's writing in chapter 2, as he makes an interesting case for approaching and understanding our 'chronic emergency' through the framework of a Capitalocene.

Outline thesis

This thesis is divided into six chapters shaped around different understandings of climate change and the responses and climate action these understandings initiate.

Chapter 1 and 2 shape the theoretical framework of the research and present the concepts that will be applied to engage with the work of HE and the RAÄ critically. Chapter 1 describes how climate change has entered the public stage through international policy and in the environmental movement. This chapter focuses on how climate change is mainly presented as an environmental issue in policy frameworks and public discourse. The language used in this understanding is based on the natural sciences: characterised by quantitative climate projections and data representing global rising temperatures and ecological impacts. The second part of this chapter looks into how this approach has equally prevailed in heritage studies and the heritage sector, as concerns have grown over the environmental impact of climate change on heritage sites.

Chapter 2 moves beyond the 'scientisation' of climate change. It engages with the concept of the Anthropocene and the consequences of this concept on the framing of climate change, and the questions and concerns it initiates. It describes how through the application of the concept of the Anthropocene, the climate crisis has become multidimensional and one outcome or dimension of a multifaceted socio-environmental world system. Through the influence of the Anthropocene as a conceptualisation of the current state of the world, the humanities have increasingly become involved in the climate change discourse. However, within the geographical setting of this research, in this chapter

I argue that the Capitalocene makes for a better agenda to understand the socio-economic and socio-environmental relations that act as drivers of the climate crisis. In addition, within the Capitalocene framing, heritage is integrated into the relational frameworks that comprise climate change and vice versa, i.e. it does not allow to keep climate change as only an *external* impact. As the conceptual framing of climate change in the Capitalocene has not yet received significant attention in heritage studies, the second part of this chapter will return to the Anthropocene concept. Here, I will discuss how the Anthropocene and related ideas have influenced the work done in heritage studies in response to climate change and how these differ from the work discussed in chapter 1.

Chapter 3 sets out the methodology and methods applied to answer the research questions. Here, I will also further present the concept of the 'hyperobject' as I employ it to study climate change as an 'object' and 'subject' in a multi-sited ethnography. The last part of this chapter will briefly introduce the case study organisations.

Chapter 4 is the first of three comparative thematic chapters presenting empirical material relating to the two case study organisations. Chapter 4 will focus on how both organisations primarily engage with climate change as a risk to heritage sites and places, in line with the framing of climate change presented in chapter 1. As a response, adaptation strategies are developed to prepare for present and future changes. This chapter will argue that this approach is closely tied to the origins of both organisations in the conservation movement and fit within the heritage 'endangerment sensibility' paradigm, representing a common approach to heritage as vulnerable and in need of anthropogenic care. Ultimately, I argue, the work undertaken in response to the conceptualisation of climate change as a risk to heritage sites does not require a fundamental change in the practice of either of the case study organisations. Instead, it represents a continuation of their most familiar work and practices.

Chapter 5 describes the second theme, discussing the work undertaken by the two case study organisations that engages with climate change as part of the mitigation discourse. As a result of the framing of climate change as a problem of carbon emissions, mitigation efforts take up a central role in policy frameworks and climate change responses, as described in chapter 1. This chapter shows that framing the historic environment as a contributor to the mitigation of greenhouse gas emissions has become the dominant argument of the heritage sector to engage in this particular framing of the

climate change discourse. It allows the case study organisations to present their work as a positive contribution towards a net-zero future. However, as in chapter 4, I will argue that this framing does not create a shift in the focus of or ideas underpinning the heritage authorities' work and facilitates their 'business-as-usual', albeit with an added moral authority.

Both chapters 4 and 5 are connected to the framing of climate change as an environmental concern and external impact and directly align with how climate change is presented in chapter 1. Chapter 6 makes a shift in this approach and aligns more with how climate change is presented within the Anthropocene discourse discussed in chapter 2. It outlines how climate change is situated within the organisational networks and how at both organisations, staff are working on broadening the climate change engagement throughout their respective organisation and beyond the heritage sector. This latter pursuit leads to discussions around the relationship between the natural environment and cultural environment sectors, or more generally between 'nature' and 'culture'. This chapter describes the issues faced when climate change is approached as a more complex phenomenon, in need of a linked up and collaborative response. However, I will argue that while these responses may lead to new insights into the limitations of organisational and sectoral structures, climate change continues to be seen as an external phenomenon to heritage work instead of a 'viscous' hyperobject.

Chapters 4, 5 and 6 all explore how climate change is framed in different aspects of heritage work in each of the two case study organisations and the implications of these different framings on the work of HE and the RAÄ in response to climate change. In the two concluding chapters, I will summarise these findings and draw up some general remarks and final reflections. I will finish by briefly reflecting on what it may mean when heritage is shaping futures as part of the hyperobject climate change in a Capitalocene era. Here, I will engage with ideas of post-growth societies and what it means to live in a more-than-human world. These ideas gain popularity as post-climate change imaginaries. Central to these ideas is nurturing an indigenous and caring relationship with one's surroundings. Essentially, moving from 'what does climate change change?' to questioning 'what should climate change change?'.

Chapter 1 – Climate change by the numbers

In the four years this research has taken shape, climate change has become a recurrent front-page news item. The science is now widely agreed upon and fuelled by a growing number of national and international accords, policies and agreements, climate change has now a distinct presence in popular language and discourse. This chapter will refer to some explicit inputs and outcomes of the current public and political discourse around climate change and climate action. I will take the convincing reality of the scientific evidence of climate change as given. Instead, I will focus on an overview of the developments in political and activist climate change engagements over the past decades to create the societal context in which this research is set.

I will argue that in national and international climate change policy, there has been and continues to be a significant focus on climate change as an *environmental* problem driven by greenhouse gas emissions. As a result of this understanding, climate action is understood as a response to the natural sciences. Science needs to create the calculations to balance emissions with mitigation and present the urgency of action through future climate projections. However, this approach has also been criticised for its 'scientisation' of the climate crisis (Garrard, 2020) and its western colonial approach (Whyte, 2020).

In the second part of this chapter, I will relate this 'general' scientific approach to climate change to responses shaped by the heritage sector and heritage studies. I will argue that the same framing of climate change is applied in work created there.

1.1 Framing climate change: setting the scene

Over the past decades, global weather data has started to draw a daunting climatic background to life. The past seven years have been recorded as the warmest since global weather recording started (2015-2021) (Zhong, 2022). In the UK, all of the recorded ten hottest years have taken place since 2002 (Press Office, 2019). However, while perhaps the most familiar, average weather records are only one of the boundaries that have been stretched due to anthropogenic influences on global and local ecosystems. That the world systems, in the plural, are pushed to their extremes through anthropological efforts, is symbolised by 'Overshoot Day'. This day is marked by the Global Footprint Network, as the

day on which humans have used more resources than the world can produce in a twelve-month period (Earth Overshoot Day, 2019).

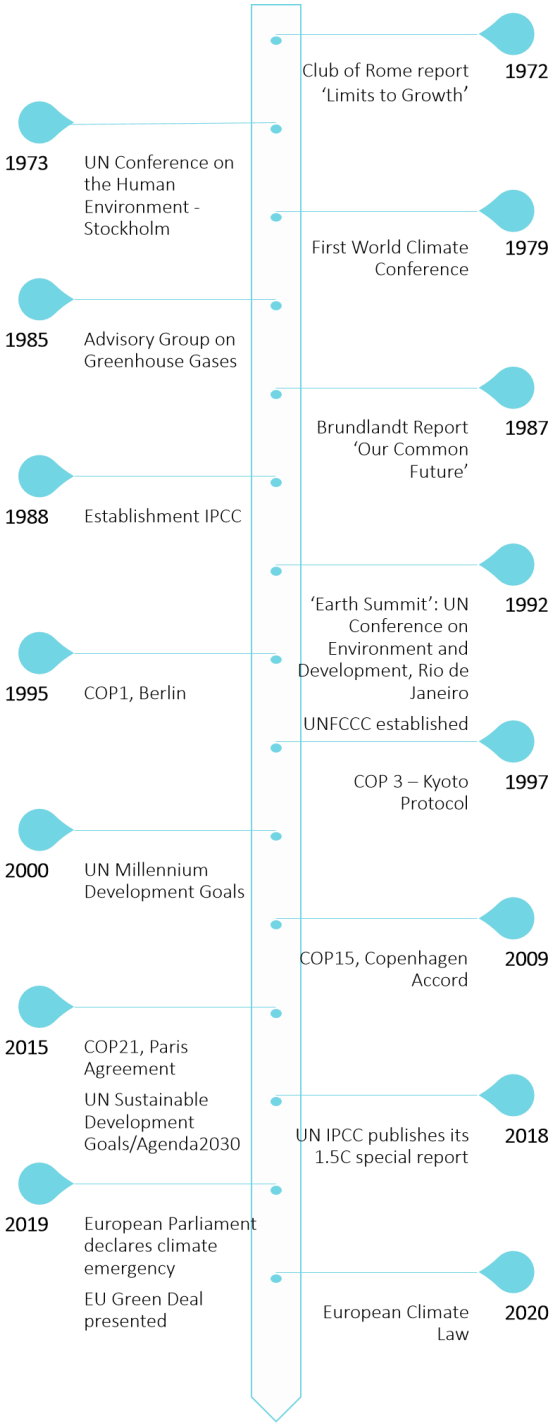

Figure 1 Key moments in the development of global climate change policy. Source: *author's own.*

Overshoot day took place on the 29th of July in 2021, just over halfway through the calendar year. Given this date, it means we need 1.75 planet earths to provide what the world's current population is currently consuming, with 57% of our ecological footprint made up by carbon fossil usage (Earth Overshoot Day, 2019). On the national scale, the website tells that Overshoot Day took place as early as the 10th of February 2022 for Qatar, while Jamaica 'only' reached it on the 20th of December of the same year, showing the unequal global balance of resources usage (Earth Overshoot Day, 2022). For Sweden and the UK, their overshoot days are April 3 and May 19, respectively (ibid.). After 'overshoot day', we live on the earth's reserves, a moment marked by another cycle of broken records over the past years, as Overshoot Day moves up to earlier dates each year (Earth Overshoot Day, 2022).

On the political level, the backdrop to this alarming data is the Paris Agreement of 2015, which marked a critical moment in international policymaking (see Figure 1). The Paris Agreement, which builds on the 1997 Kyoto Protocol and the 1992 United Nations Framework Convention on Climate Change (UNFCCC), required the 36 most wealthy economies to cut their emissions (United Nations/Framework Convention on Climate Change, 2016). It was ratified in December 2015 by the world leaders of the Conference of the Parties, the supreme decision-making body of the UNFCCC, at their 21st annual meeting 'COP21' (ibid.). This historic convention committed countries to take steps to reduce greenhouse gas emissions and make a joint effort to prevent global temperatures from rising above 2 °C compared to pre-industrial levels, with the aim to limit it to 1.5 °C during the 21st century (United Nations, 2015). Although no legal binding targets were set, the intention was ground-breaking and initiated a new era in climate change responses (Briggs, 2017).

While the Paris Agreement set a global target, the underlying inequality in national contributions in emissions is addressed by Le Quéré et al. (2021). They write that the same high-income countries that subscribed to carbon emission cuts in 1997 in Kyoto and in 2015 in Paris were responsible for 35% of global emissions in 2019 in comparison to a 14% share in global emissions by the 79 low- and lower-middle-income nations (ibid.). In the higher income nations (including Sweden and the UK), emissions have been lowered by 0.8% a year since the ratification of the Paris Agreement in 2015 (ibid.). However, despite

the Paris Agreement, as Figure 2 shows, global emissions remain on the rise until the start of the 2020 pandemic.

In October 2018, following a request of the UNFCCC at the Paris Agreement, the International Panel on Climate Change (IPCC) published a report titled *Global Warming of 1.5 °C* (Masson-Delmotte et al., 2018). In this report, the IPCC clarifies earlier climate prognoses and scenarios in case of a 1.5 or 2.0 °C degree warming. The report's clear conclusion is that the Nationally Determined Contributions (NDC) of the various countries pledged in the Paris Agreement are insufficient to limit global warming by 1.5 °C over this century, adding another warning signal to the existing body of scientific evidence (ibid.).

Figure 2 Global fossil CO_2 emissions. Source: *Le Quéré et al., 2021, p. 198*.

In 2015, the same year COP21 took place in Paris, the UN General Assembly agreed on a follow-up framework for the Millennium Development Goals from 2000. This led to a new set of 17 Sustainable Development Goals (SDGs), brought together in Agenda2030 and established in tandem with the Paris Agreement (UN General Assembly, 2015). The SDGs are designed to take a holistic and interdependent approach to global sustainability,

relating various factors to one another in its set goals (see Figure 3). Climate change is addressed explicitly in goal 13: 'Take urgent action to combat climate change and its impacts' (ibid.). Together with the SDGs, the IPCC reports form the guidelines and primary resources at the foundations of many national and international policy documents. However, the SDG agenda has received criticism for supporting the western capitalist paradigm of economic growth. For example, through its specified pursuit of economic growth in goal 8: 'Decent work and economic growth' (Hickel, 2019), as well as the lack of incorporation of "interdependencies with other socio-economic factors" (Bradshaw et al., 2021, p. 4) and ignorance of racial inequalities, while taking *whiteness* as the default (Khandaker & Narayanaswamy, 2020).

Figure 3 The SDGs, as employed by the UN at COP21 in Paris. Source: *Social Development for Sustainable Development | DISD (un.org).*

However, where Overshoot Day already indicated the broader anthropogenic impact on the earth systems, climate change is accompanied by what is now called the Sixth Mass Extinction (Barnosky et al., 2011; Ceballos, Ehrlich, & Dirzo, 2017). In the spring of 2019, the IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services), an organisation initiated by the United Nations General Assembly in 2012 (ipbes, n.d.), published a report on the current global state of biodiversity and nature. The report reviewed 15,000 scientific studies by 145 scientists and has as its key message: "Nature and its vital contributions to people, which together embody biodiversity and ecosystem functions and services, are deteriorating worldwide" (Díaz et al., 2019, p. 10).

With biodiversity "declining faster than at any time in human history" (ibid.). The report presents the stark data that symbolises the negative impacts of humans on the well-being of nature and biodiversity. At the same time, the report stresses the essential contributions nature and biodiversity deliver in return to the well-being of humans.

However, according to the environment historian Justin McBrien (2019), we do not live in the '6th mass extinction', but in the 'First Extermination Event', emphasising the anthropogenic agency in the creation of this event. Illustrative for this change in terminology is the percentage of biomass humans and their livestock make up nowadays: 10,000 years ago (before the widespread use of agriculture), humans made up 3% of the total mammal biomass on earth (Bar-On, Phillips, & Milo, 2018). In 2021 this number was 36%, with another 60% made up by our domesticated animals, leaving a mere 4% for wild mammals (ibid.).

1.1.1 1972: the limits to growth

While the increase in attention paid to these reports in the public debate and the alarms that they sound might suggest that our knowledge of climate change is relatively new, the opposite is true. In 1972, 50 years ago, the Club of Rome's landmark publication '*Limits to growth*' (Meadows, Meadows, Randers, & Behrens III, 1972) already pointed out the planetary restrictions of resources in relation to global demographics. According to their report, due to the limits to this relationship, humans need to limit their wants and needs and the focus on endless economic growth; in other words, there are 'limits to growth'. The report includes an explicit warning to stay away from these natural limits of earth's resources, cautioning that doing otherwise may result in violent competition and potential societal collapse. These planetary limits were developed to ideas of post-growth societies (e.g. Jackson, 2009; Kallis, Paulson, D'Alisa, & Demaria, 2020; Latouche, 2009) and into the 'nine planetary boundaries' proposed by Rockström et al. (2009) three decades later.

A further key historical moment occurred in 1992 when the 'Earth Summit' in Rio de Janeiro took place. In Rio, the UNFCCC treaty and its organisational practices originate. The convention was called into existence under the following objective (United Nations and Canada, 1992, p. 7):

> The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the

> relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Recognising the anthropogenic origins of a changing climate, it "acknowledg[ed] that change in the Earth's climate and its adverse effects are a common concern of humankind" (United Nations and Canada, 1992, p. 2).

In the same year, the Union of Concerned Scientists issued the '*World Scientists' Warning to Humanity*', signed by 1700 scientists from around the world (Kendall, 1992). This three-page document raised the alarm about the future of humanity and the earth, stating the stresses of human interventions on the earth's ecosystems resulting in, for example, soil erosion, water shortage, deforestation, and biodiversity loss. It concludes with five-fold advice on 'what we must do':

> (1) we must bring environmentally damaging activities under control to restore and protect the integrity of the earth system's we depend on, (2) we must manage resources crucial to human welfare more effectively, (3) we must stabilize population, (4) we must reduce and eventually eliminate poverty, (5) we must ensure sexual equality, and guarantee women control over their own reproductive decisions.

These five statements of advice are very similar to the outcomes of the reports by the IPCC, IPBES, and the formulation of the SDGs 20+ years later. However, still, their message needed repeating, as the warning did not seem to be taken to heart by any decision-makers. Thus, it was followed by a 'second notice to humanity' from a new generation of scientists (Ripple et al., 2017, p. 1026):

> Since 1992, with the exception of stabilizing the stratospheric ozone layer, humanity has failed to make sufficient progress in generally solving these foreseen environmental challenges, and alarmingly, most of them are getting far worse.

Hence, knowledge, warnings, and intergovernmental discourse on the anthropogenic effects on the earth systems are nothing new. Instead, they have largely been ignored, and their messages can be heard echoed in today's environmental movements and policy instruments.

However, and noteworthy, indigenous peoples have sounded alarms long before western scientists grasped the changes that were happening. For example, Daniel R. Wildcat, a Native American scholar and Yuchi member of the Muscogee Nation of Oklahoma, reminds us in his book *Red Alert! Saving the Planet with Indigenous Knowledge* (2009, p. 28):

> Since the arrival of Europeans to our American Indian and Alaska Native homelands, many of our leaders have issued alerts based on their first hand experiences. Many recognized that change in our lands foreshadowed destructive changes in our lifeways.

The history of the daunting knowledge of the changing climate and ecological crisis was the subject of a series of articles in UK newspaper 'The Guardian' in 2019. In October of that year, in tandem with Extinction Rebellions' climate change protests in London, the newspaper published on the lineage of the knowledge of the fossil fuel industry on their contributions to anthropogenic climate change, showing that this awareness dates back to the 1950s (Watts, Blight, Smears, & Gutiérrez, 2019). The outcomes of this research journalism show that before international warnings were issued and governmental documents were produced and signed, the industry itself was fully aware of the long-term effects of their work. An example of this is a 30-minute documentary[4] from 1991 by the petroleum company Royal Dutch Shell, warning of the damaging consequences on ecosystems and the climate from the production of *their own* products. However, as we know now, this knowledge did not change their practice, and Shell has since refrained from publicly scrutinising their own business in the way they did in 1991.

However, despite the existing knowledge about the effects of the products sold by their corporations, The Guardian's research also shows that efforts from the 'big polluters' to keep this knowledge away from the general public amplified over the following years (Watts et al., 2019). Naomi Klein writes about these corporations' efforts in *This Changes Everything* (2014) and her more recent book *On Fire* (2019). Here, Klein argues that despite the information available, the social-political climate of the late 1970s and early 1980s inhibited action against the work of big global corporations. In a time when the idealism of a free market, reigned by a neoliberalist ideology, surged, corporations had all the freedom

[4] available on YouTube "Climate of Concern - Royal Dutch Shell," 1991 https://www.youtube.com/watch?v=0VOWi8oVXmo&ab_channel=WillTisdale

to focus on expanding their business and pursuing the growth of their revenues instead of on the consequences of their industries to others (Klein, 2014, 2019). Unchecked by any policy frameworks, the unlimited business of just twenty companies has been responsible for 35% of carbon and methane emissions used for human consumption since 1965 (The Guardian, 2019). Altogether, it shows the deep links between the fossil fuel industry, economic interests, a preference for keeping the status quo and climate change indecisiveness.

Figure 4 Cartoon from 'The New Yorker' magazine, 1989. The text reads: "It's great! You just tell him how much pollution your company is responsible for and he tells you how many trees you have to plant to atone for it." Source: *https://www.newyorker.com/magazine/1989/10/16.*

1.2.1 Rise of the environmental movement

Alongside the growing body of scientific work on climate change, the environmental movement took shape. Although nature preservation programs had already been initiated at the end of the 18th and early 19th century (see timeline in Figure 5), the start of the modern environmental movement is often attributed to the publication of Rachel Carson's *Silent Spring* in 1962 (Cole & Foster, 2001). Carson's book fuelled an awareness of the consequences of artificial pesticides on ecosystems and thus the negative outcome of anthropogenic practices on the natural environment. Similar to the knowledge of the fossil fuel industry's impact on the climate described above, Carson accused the pesticide fabricators of being aware of their products' detrimental effect on ecosystems and humans alike.

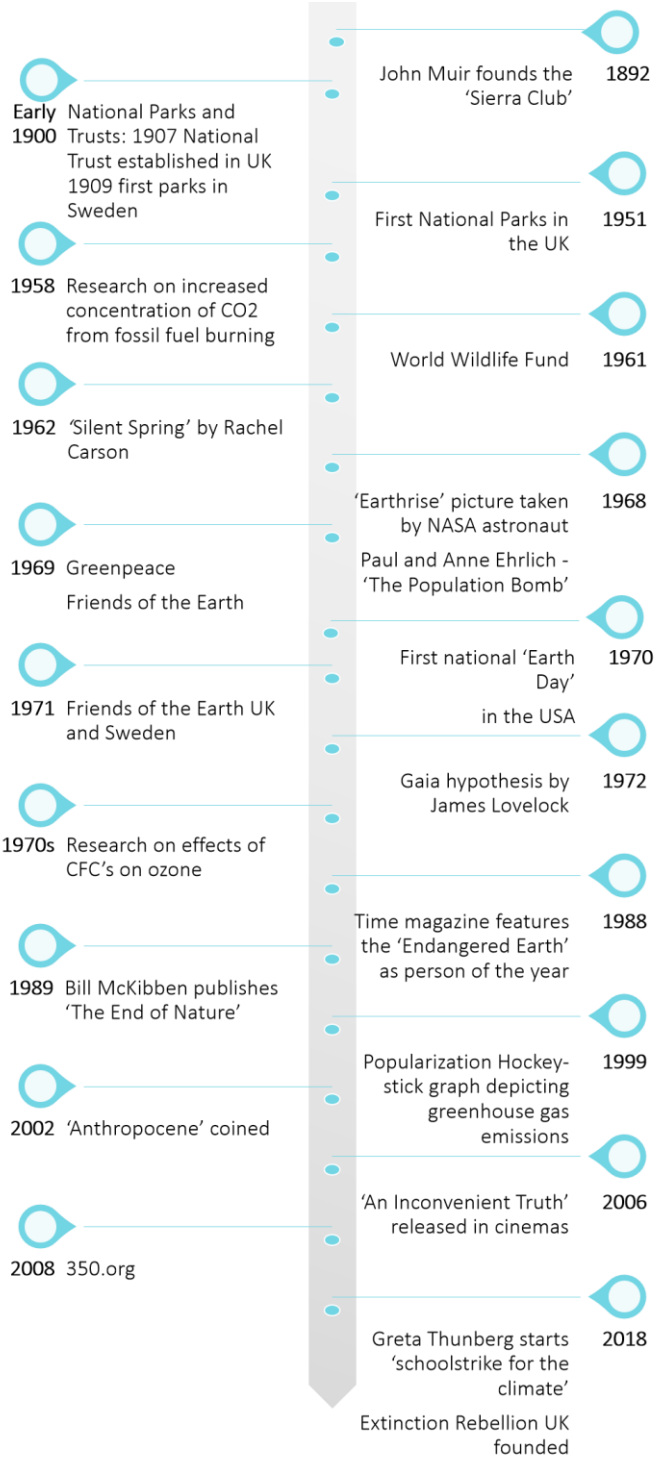

Figure 5 Concise timeline of key moments in the environmental movement. Source*: author's own.*

In the decades after the publication of '*Silent Spring'*, a string of other significant book publications and the establishment of environmental organisations has created a growing public awareness and concern for the state of the natural environment (see Figure

5). In combination with the growing body of alarming data and the supposed inaction on the side of governments, as well as the freedom of the big polluting corporations to do their business without consequences as described by Klein, a growing global environmental movement has taken shape (Klein, 2014, 2019).

Since 2018/2019, the UK and Sweden have become key *hotspots* of environmental action. In the UK several 'Rebellions' of Extinction Rebellion lead to protesters swarming the streets of Westminster. Extinction Rebellion (XR) is a decentralised group of climate activists which has gained strong support since its founding in 2018 (Taylor, 2019). XR has spread from the UK to several other countries worldwide, where through acts of civil disobedience action groups demand attention for three demands: (1) for the government to tell the truth about climate change, (2) to act now: to have a carbon-neutral UK in 2025 and stop biodiversity loss, and (3) to have people's assemblies leading government's policies (Extinction Rebellion UK, 2019).

However, XR and its demands have been met by criticism for lack of diversity and the acknowledgement of the need for climate justice, and the limitations of its focus on tactics of mass arrests (Saunders, Doherty, & Hayes, 2020). Especially under the influence of the BLM protests, sparked by the murder of George Floyd in the summer of 2020, XR has been under pressure to revise its demands and strategies and to underline better and emphasise the links between environmental and racial justice (Lakhani & Watts, 2020; Skelton & Miller, 2016). This has, for example, led to the addition of a fourth demand (XR Hackney newsletter, 1 July 2020) in the XR group of the borough of Hackney in London (my local group):

> Government must respond to the climate and ecological emergency with a just transition – moving to a world that prioritises the needs of those disproportionately harmed by systemic racial and social injustice.

Where XR has made its way into public discourse in the UK, in Sweden most attention has been paid to Greta Thunberg. Since 2018, no coverage of climate change protests, actions or inactions can exclude the influence of the Swedish schoolgirl who started the 'Fridays for Future' movement (Singh, Oliver, Siddique, & Zhou, 2021). Since she sat down in front of the Swedish Parliament in the fall of 2018 as part of her 'school strike for the climate', school children across the world have joined in their respective hometowns. Together, they signal to their governments that there is no point in investing in a future through education

when their future is jeopardised by the inaction of political leaders (ibid.). Through the delivery of powerful speeches at major international political events, Greta Thunberg ridicules the inaction of governments and businesses alike and has become a key person in the environmental movement today (ibid.).

Figure 6 Extinction Rebellion in London, September 2019. Source: *The Guardian UK*

Figure 7 Greta Thunberg (second from left behind the banner) leading a 'Fridays for Future' protest march in Stockholm, May 2019. Source: *author's own*.

However, while Greta Thunberg is a spokesperson for the scientific evidence, there is still a counter-culture consisting of people and institutions who are not frightened by the future climate projections presented by scientists. An example of this is the Cato Institute. This research organisation, based in Washington D.C., advocates the ideals of neoliberalism

and is one of the most prominent institutions representing a climate sceptic stance. The Cato Institute's core principles are to protect the free market and individual freedom, which they intend to protect at all (economic) costs (Cato Institute, n.d.). As a consequence, many climate change-related mitigation policies are seen as a threat to their core values, as these policies are often linked to more governmental interference and perceived to represent a left-wing agenda, see, for example, their article titled *Why the U.S. Can't Afford a Green New Deal* (Miron & Nicolae, 2019).

Several elected political leaders of the past years, like Donald Trump in the US, Jair Bolsonaro in Brazil, and Scott Morrison in Australia, also characterise this sentiment of denial or ignorance, and they have attempted to slow down or block climate action on the national and international scale. However, the pressure to change their stance is increasing. As of 2020, countries such as the UK, China, South Korea, Japan, and the EU have all pioneered carbon neutral targets for the coming decades in their national policies (Watts, 2020), creating political pressure for others to follow. Here, the climate change policy and net-zero goals of the UK government of the Conservative Prime Minister Boris Johnson are promising. His government's response shows that public and political attention and pressure on both the national and global scale have resulted in an active engagement with an issue traditionally linked to left-wing politics (see, for example, the government pages on climate change: Department for Business Energy & Industrial Strategy, 2019).

1.2 Understanding climate change by the numbers

One of the main themes running through the above understandings of and responses to the 'problem' climate change is the focus on scientific data. In heritage studies, Laurajane Smith (2006) introduced the *Authorised Heritage Discourse* in her book *Uses of Heritage*, which symbolises the overarching, globalised power narrative defining what official heritage is and who gets to determine it to be so. It is possible to find a similar authorised discourse in the ways climate change is primarily presented in public discourse and policy. This discourse is based on the quantitative scientific data, mostly calculations of greenhouse gas emissions, based on the Western scientific tradition, that inform mitigation and adaptation responses.

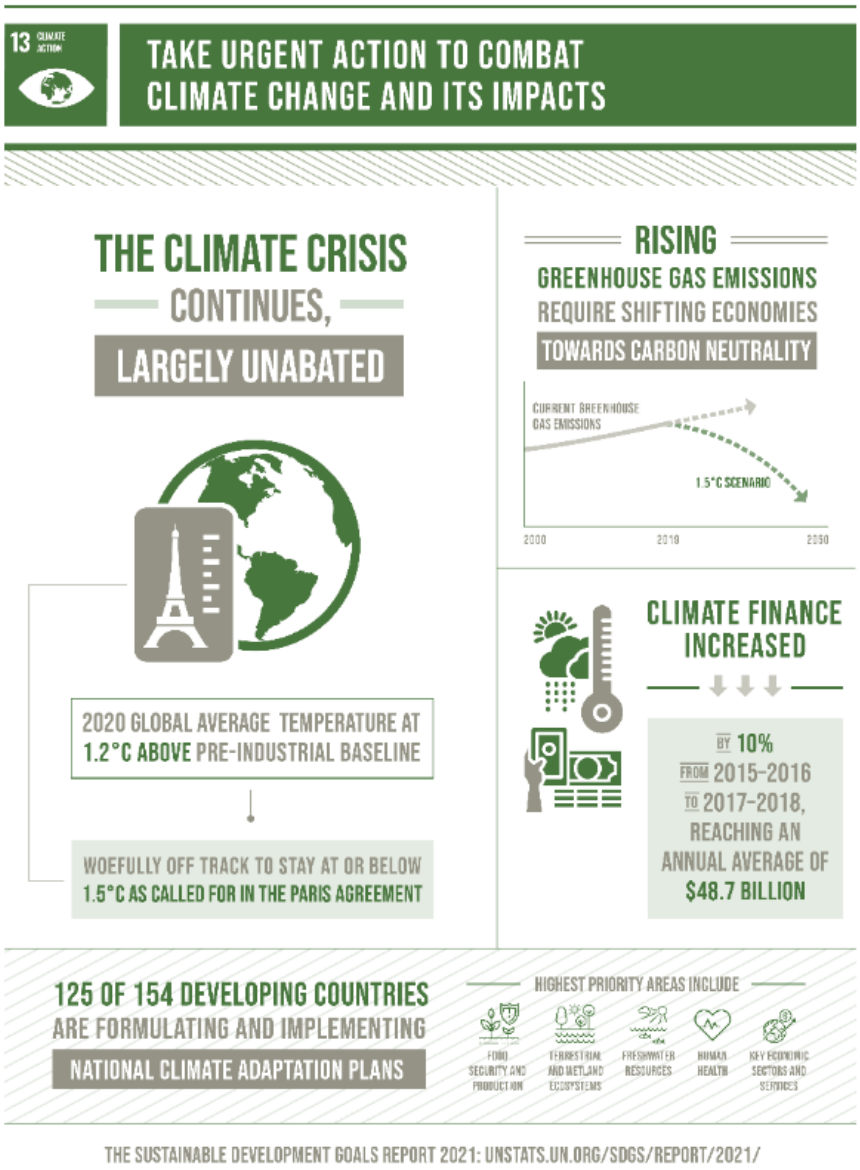

Figure 8 SDG Goal 13 'Take urgent action to combat climate change and its impacts' focuses on mitigation strategies and their impact on global temperatures. Source*: https://sdgs.un.org/goals/goal13.*

This approach to climate change is symbolized by the work and the reports of the International Panel on Climate Change (IPCC). The IPCC can be seen as the universally accepted authority on climate science and informant for policymaking (Mahony & Hulme, 2018). Their reports inform many of the international climate change policies and practices, as well as the broader UN language directly linked to climate action, as used in the mitigation targets set in the Paris Agreement, the UNFCCC, and Goal 13 of the SDGs on

climate action (see Figure 8). This discourse focuses on reducing CO_2 and greenhouse gas emissions as climate change action and has net-zero futures as the ultimate goal.

Consequently, and as a response to the data presented in the IPCC reports, this discourse focuses on mitigation and adaptation as the primary response to anthropogenic climate change. According to the IPCC, mitigation "involves actions that reduce the rate of climate change" and is achieved by "limiting or preventing greenhouse gas emissions and by enhancing activities that remove these gases from the atmosphere" (IPCC, n.d.-b). On the other hand, adaptation is "the process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities" (IPCC, n.d.-a). Bassett and Fogelman (2013) write that the emphasis in climate discourse and policy has shifted over decades from an emphasis on mitigation to an equal focus on adaptation. They claim this is the consequence of climate change becoming increasingly noticeable in combination with the realisation that political efforts for mitigation keep failing. This acceptance of change has led to an increased focus on risk assessments and adaptation strategies; tools meant to create a disaster preparedness and the resilience to deal with the uncertainty related to future scenarios (Lei, Wang, Yue, Zhou, & Yin, 2014).

1.2.1 Mitigation and techno-fixes: getting to net-zero

However, mitigation remains the main approach of climate action in influential climate science and policy, as seen in, for example, the Paris Agreement. Mitigation is bound up in an understanding of the climate crisis as a problem of emissions, and most international and national climate targets are framed in mitigation goals (see e.g. Ministry of the Environment, 2020; The UK Government, 2008). However, there is also a critique on the strong emphasis on mitigation and the calculations behind these policies. For example, because this framing excludes the humanities and the socio-cultural dimensions, it leaves little engagement with the underlying social and economic drivers that fuel the parameters causing a changing climate (e.g. Castree et al., 2014; Goldman et al., 2018; Pielke, 1998; Swyngedouw, 2020). Furthermore, while the IPCC reiterates their warnings for future climate scenarios and the urgency to act, their mitigation scenarios are also tied to the economic premise of GDP growth (Hickel & Kallis, 2020). As a consequence, according to these critiques, it becomes impossible to radically question the current socio-economic status quo, which a growing group of scholars points out as one of the most critical drivers

of the climate crisis (Hickel, 2020; Jackson, 2009, 2021; Kallis et al., 2020; Raworth, 2018; Soper, 2020).

Furthermore, due to a focus on greenhouse gas mitigation, a trust in technological innovation, techno-fixes or geoengineering techniques are part of this debate. Each of these supports the focus on lower global carbon level objectives without questioning the underlying systems that perpetuate the situation (Buck, 2019). Symbolic of this is, for example, the inclusion of the geoengineering technique BECCS in three out of four possible pathways to get on track for a 1.5 °C warming of global temperatures in the IPCC special report '*SR1.5*' (Masson-Delmotte et al., 2018). The idea of BECCS, an abbreviation for 'bioenergy with carbon capture and sequestration' (Buck, 2019, pp. 40–41):

> Is that a chain of actors grow biomass, burn it in a power plant that can separate out the carbon, and then transport the carbon somewhere to be stored underground. This carbon-storage part is key. Without it, the system is just regular old biofuels, which don't remove net carbon from the atmosphere […] Because both bioenergy and carbon capture and storage are known, BECCS sounds doable: doable enough technically that it was factored into the models.

Carton (2020) describes why the inclusion of BECCS in the future scenarios of the IPCC is worrying, as it shows how attached we are to be able to hold on to our current lifestyles. Furthermore, the inclusion of BECCS in calculations of future climate predictions by the IPCC incorporates a carbon debt in the models. Carton calls this a "carbon unicorn" (ibid., p. 36) as it allows larger carbon budgets than when no negative emission techniques are taken into account. BECCS is an interesting example to include here because it shows how willingly we are to continue working in a capitalist growth-based ideology fuelled by the interests of industries (Buck, 2019). In addition, it does not look for alternatives to radically change these ideologies or create systemic change. Instead, by including technological innovation in mitigation strategies, our lifestyle, institutions and ideas of the future can remain unchanged (ibid.).

1.2.2 Criticism on the 'authorised climate discourse'

Further critique on the above approaches to and understandings of climate change comes from scholars outside the sciences. For example, the eco-critic Garrard accuses what he calls "the 'scientisation' of climate change" (Garrard, 2020, p. 1; see also Hulme & Mahony,

2010). According to Garrard, this framing of the climate crisis moves it from an issue in the democratic debate to one to be dealt with by the "scientific expertise of the IPCC" (ibid.). This, to him, also explains why the humanities are always on the second row in the climate change discourse (ibid.):

> The humanities disciplines are disfavoured by politicians and vice-chancellors because the problems we address are never solved. There is no definitive interpretation of Beloved or the origins of the First World War, and no last word from the philosophers regarding the objectivity of ethical judgements.

In this approach, the quantitative data is perceived to offer a prediction of our future. However, while their scientific foundations might give the idea that there is certain universal objectivity attached to them, this global, universal approach they present also causes a focus that omits other ways of knowing. Mahony and Hulme describe the IPCC as representing: "knowledge claims [that] are distilled to their global, consensus essences and re-circulated, with studious neutrality, as authoritative and global knowledge" (2018, p. 402). To an extent, this 'universalised' knowledge claim bears similarity with UNESCO's world heritage list, as the latter also transcends to local in favour of the global, as it represents those places "to be of outstanding universal value" (UNESCO, 1972).

Kyle Whyte (2020), an indigenous Potawatomi scholar, criticises this universalisation of the IPCC approach to climate change as a western or settler-mind set. For example, Whyte (ibid., p. 5) claims that the fear of a 2 ^{o}C increase in global temperatures is a western-framed fear:

> U.S. settler colonialism, for example, in a short period of time, inflicted displacement, drastic ecological changes, and lost or disrupted relationships with hundreds of species that indigenous peoples depended on through kinship ties for generations. These changes are more extreme than what many nonindigenous persons fear most about moving beyond 2 ^{o}C.

Whyte (ibid.) also reminds us that the consequences we might fear or that are emphasised in western media and politics are just as much based on these western ontologies:

> If we understand climate change through various 'kincentric' perspectives, then a relational tipping point was probably crossed years ago through the operations and impacts of colonialism, industrialization, and capitalism. It's absolutely

confounding to me why many people do not feel the urgency of addressing the injustices associated with the crossing of the relational tipping point. A narrow focus on averting some ecological tipping point is a major concern for some indigenous peoples because we know that the needed relational qualities for coordinated response are missing.

1.3 Heritage responding to the numbers

The above sections have described the presence and lineage of climate change in public and policy discourse. A similar framing of climate change as an environmental problem can also be observed in heritage studies and practice. Here, climate change has thus far mainly been approached as a threat and risk. Likely, this is a direct result of the tangible impact climate change has caused on heritage sites across the world. As heritage work is still strongly influenced by its history within the conservation movement, heritage sites remain to be understood in terms of risk and threat and in need of protection to avoid damage or loss (DeSilvey & Harrison, 2020; D. C. Harvey & Perry, 2015). The consequences of a changing climate due to anthropogenic climate change are now added to the list of potential threats.

As a result, the climate change-heritage relationship has so far mainly been discussed on the premises of risk (climate change to heritage) and vulnerability (heritage to climate change) (see e.g. Bonazza et al., 2018; May Cassar & Pender, 2005; Fatorić & Seekamp, 2017b; Hollesen et al., 2018; Howard, 2013; Kim, 2017; Perez-Alvaro, 2016; Perry, 2015; Phillips, 2015; Rowland, 2008; Sesana, Gagnon, Bonazza, & Hughes, 2019). Central to these studies is the mapping of change, vulnerability and risks at case study sites, and the development of tools, practices and methodologies to prepare and adapt to the present and future risks caused by extreme weather events and a changing climate. Perez-Alvaro (2016), for example, discusses the impact of a changing climate on oceanic ecosystems and describes how this influences the *in situ* preservation of underwater heritage. In addition, she also discusses how some onshore heritage may turn into offshore sites in the future as sea levels rise. Howard (2013) and Phillips (2015) are other examples. Both turn to World Heritage Sites in Britain to discuss what changes may be needed in the management plans of these sites in light of climate change.

Over the past years, the multitude of these and studies alike are collated in several literature reviews. These create an inventory of projects running across the globe related

to the (potential) effects of climate change on heritage sites and practices. For example, Horowitz et al. (2016) provide an alphabetical overview of articles and websites covering research on climate change and heritage conservation and include some of the articles referenced above. The review is compiled to "help inform organizations like the Association for Preservation Technology (APT), the National Centre for Preservation & Training (NCPTT), and others involved in preservation/conservation research, in formulating priorities or strategies for research and education" (Horowitz et al., 2016, p. 2). Hambrecht and Rockman (2017) are another example. They provide an overview of non-USA heritage officials and community groups engaging with climate threats to cultural heritage sites and practices. The various projects they discuss show that several involve community engagement. These engagements are often shaped around day-to-day monitoring of sites by locals, creating low-cost methods to understand the changes occurring to a site. An example of this in the UK is the CITiZAN project (CITiZAN, n.d.), which takes place in several coastal places and communities. The CITiZAN project works with volunteer surveyors, who share their observations of threats to coastal archaeological features with the network, covering a large part of the over 30,000 km English coastline.

Similarly, Fatorić and Seekamp (2017a) conducted a systematic literature review of 123 publications, creating an inventory of knowledge of the consequences of climate change on cultural heritage and the resulting responses. They (Fatorić & Seekamp, 2017a, p. 228) have done this, they write, because:

> Despite a high level of scholarly interest in climate change impacts on natural and socio-economic systems, a comprehensive understanding of the impacts of climate change on cultural heritage and resources across various continents and disciplines is noticeable absent from the literature.

In addition to mapping the "impacts of climate change on cultural heritage", the authors claim it is necessary to conduct more research on the benefits and opportunities for communities and other stakeholders to adapt and preserve their cultural heritage. Thus, promoting the conservation of heritage places as a conservation strategy.

The discussed publications show that most projects and publications focus on mapping the effects of a changing climate on specific heritage sites. Thereby, most in-depth studies focus specifically on (potential) damage to buildings. An early example of this is the 'NOAH's ark' project, a three-year international project funded by the European

Union, running between 2004 and 2007 (European Commission, 2011). This project responds to European climate predictions for the upcoming years, using this data to study the expected effects of future weather on building materials (ibid.). 'NOAH's ark' is an example of using scientific data in the heritage field to inform adaptation plans and risk assessments to guide future heritage management strategies.

A significant number of studies concerned with climate change impact and risk to specific sites focuses on World Heritage Sites (see e.g. Howard, 2013; Perry, 2015; Phillips, 2014; Reimann, Vafeidis, Brown, Hinkel, & Tol, 2018; The Australian National University, 2009). For example, Perry (2015) discusses the effects of climate change on natural World Heritage (WH) sites, or what he describes in the title of the article as "the world's best places", referring to climate change as a wicked problem. Perry criticises current heritage management systems and claims that these often cannot deal with wicked problems and the uncertain futures these herald, concluding: "Managing WH sites in perpetuity will require innovative, adaptive and broadly inclusive strategies, an approach practised at a few but absent from the management philosophy of the majority of natural WH sites to date" (ibid. p. 8).

UNESCO, the designator of the World Heritage sites, has also published and commissioned several reports addressing the impacts of climate change on their designated heritage sites, the first of this series dating from 2006 (Markham, Osipova, Lafrenz Samuels, & Caldas, 2016; and see e.g.: UNESCO, 2006, 2008, 2019). These reports aim to help site managers to respond adequately to climate change by using case studies to inform about the threats experienced at World Heritage sites worldwide. However, UNESCO does not see climate change solely as a threat to their designated sites, but also claims on their website that: "The global network of World Heritage sites is ideally suited to build public awareness and support through sharing of information and effective communication on the subject, given the high-profile nature of these sites" (UNESCO, 2019). This message is emphasized in a publication from June 2021, when UNESCO published a so-called 'brief report' titled *Bridging the gaps: Cultural heritage for climate action* (Giliberto & Maclagan, 2021). The publication shares three key messages: (1) "Climate change is of global concern, affecting communities worldwide, and their heritage, in different ways", (2) "Cultural heritage, particularly intangible heritage, is a source of resilience and an asset supporting communities in climate action", and (3) "Cultural

heritage conservation and management, community resilience, and climate action should be considered in a single framework" (Giliberto & Maclagan, 2021, p. 1). Here, in contrast to their previous reports, UNESCO shows interest in what role heritage can represent in climate action, especially in the creation of adaptation and resiliency strategies in local communities.

Several other official bodies in the heritage field have published reports and commissioned research on climate change in the past years. Some examples of these: in 2010, the USA National Park Service published their Climate Change Response Strategy (National Park Service, 2010). In 2014 the Union of Concerned Scientists published a report on heritage sites in the USA under threat of climate change called '*National Landmarks at Risk*' (Holtz, Markham, Cell, & Ekwurzel, 2014). More recently, Historic Environment Scotland had a launch event for their new report titled *A Guide to Climate Change Impacts on Scotland's Historic Environment* (Harkin, Hyslop, Johnson, & Tracey, 2019). Each of these reports has the vulnerability of heritage to climate change at its centre.

Interestingly, not much attention has been paid so far to the contribution of the heritage industry and the practice of heritage to climate change (but see McGhie, 2021). Hall and Baird (2016) reveal this paradox as they focus on the effects of environmental change on the management of heritage sites and heritage tourism. While discussing the impacts of climate change on the tourism business, the article does not mention the effects of heritage tourism on the changing climate. Although one could argue that this paradox is intrinsic to the climate change debate (think of the climate scientist flying to a climate conference), the research so far has been very one-sided, focusing mainly on the impacts of climate change on heritage rather than the other way around. One exception to this is Terrill (2008, p. 399), who writes:

> As world heritage sites produce greenhouse gas emissions, so there may be a possibility to reduce them [mitigation]. But the possibilities are unlikely to be significant. World heritage sites are small in proportion to the overall land are of the world (emissions from world heritage marine sites can be discounted as being essentially trivial), and in terms of world economic activity.

However, this bypasses the fact that heritage sites are not clearly bounded entities but entangled in a web of global tourism associated with social and economic issues. Before, I described that one of the critiques posed to the general focus on mitigation and science-

based understandings of climate change and climate policies is that it simplifies the complexity of what climate change entails. Similarly, Terrill seems to make the same simplification, as he takes greenhouse gas emissions as the sole climate change impact.

1.3.1 Heritage, according to the IPCC

So far, I have discussed publications that focus specifically on the relationship between heritage and climate change. Earlier on, I wrote that (inter)national policy is mainly based on the reports presented by the IPCC. Due to the importance of the IPCC's publications, several heritage scholars have been concerned about the inclusion of heritage and culture in these reports. For example, Michael Hall and Yael Ram (2016) have conducted a lexical assessment of the use of the term 'heritage', 'cultural heritage', and 'indigenous' in the IPCC assessment reports published between 1990 and 2014, concluding that (ibid., p. 101):

> It has found that heritage has had limited attention in the reports although the range of chapters in which it has appeared has increased over time. In contrast, indigenous cultural knowledge and practices have received far more consideration, even though they are not usually termed as a form of heritage.

They argue that this lack of inclusion of cultural heritage results from the IPCC's ontology. According to Hall and Ram, this ontology is based on the natural sciences: "heritage does not fit easily into the dominant natural science ontologies of the IPCC framework, especially when it is isolated from other ontological forms such as those of indigenous and traditional cultures" (ibid. p. 102).

Similarly, from an investigation of the IPCC reports published between 2013 and 2014 to any references made to heritage and related terms, Hana Morel (2018, p. 3, my emphasis) concludes that:

> References to heritage - explored here in a wide capacity to include areas such as climate change's impact on cultural and national landscapes, indigenous peoples, the use of traditional practices and the challenges and opportunities brought about by cultural factors, as explored as traditional practices – are *largely focused on impact and vulnerabilities.*

And in addition:

> It [the research] also highlights that scientific data must localise global and scientific meta-narratives and recognises that cultural knowledge and practices do play decisive roles in responding to climate adaptation strategies.

However, Morel's review also shows that references to culture and climate are made in the reports when they are understood as resources for knowledge and (historic) inspiration for climate change adaptation and strategies. Here, the most emphasis lies on integrating, valuing and using traditional knowledge and practices in such strategies.

Another high-level policy framework that includes both climate change and cultural heritage is Agenda2030. As previously mentioned, Agenda2030 represents the commitment of the UN member parties to end poverty and achieve sustainable development by 2030 (UN General Assembly, 2015). It consists of 17 sustainable development goals with 169 targets or sub-goals. Climate change is related to several of these goals, but only directly addressed in 'Goal 13: Climate Action' (ibid.). Nocca (2017, p. 3, my emphasis) reviews the role of cultural heritage in documents related to sustainable development and writes of Agenda2030:

> It [cultural heritage] is explicitly mentioned only once in the goal 11, that is referred to the cities, in particular to the need of making cities and human settlements 'inclusive, safe, resilient and sustainable', through 'inclusive and sustainable urbanization, planning and management' (Target 11.3) and more 'efforts to protect and safeguard the world's cultural and natural heritage' (Target 11.4). In particular, cultural heritage is mentioned in the Target 11.4 ('*strengthen efforts to protect and safeguard the world's cultural and natural heritage*'), one out of 169 targets.

So, again, in relation to climate change, the 'heritage-conservation paradigm' is still prevailing, even in non-heritage specific frameworks. This could indicate why heritage receives so few mentions in general climate change and sustainability reports. It seems heritage is not generally regarded as a proactive agent or resource in the climate change discourse. Instead, it is 'another element' under threat.

1.4 Conclusion

In summary, this chapter has provided an overview of the present and past knowledge and responses to climate change since the publication of the Club of Rome's '*Limits to growth*'

report (Meadows et al., 1972). It described the broader context of this thesis by drawing up the key institutions, reports, agreements, and environmental movements that shape the current public and political debate.

I argued that the most common framing of climate change and its related responses are grounded in either of two interlocked framings of climate change. The first frames climate change as a problem of carbon and greenhouse gas emissions. Consequently, climate action and engagement involve mitigation practices. The second framing focuses on the threat and risk climate change poses to current decision making, management and planning processes. The adequate response to this framing is the creation of adaptation plans and risk assessments. Natural science, the IPCC, and practical, technological solutions are the central agents shaping these frameworks and are dominating socio-cultural and socio-environmental framings and responses. The evidence-based decision making and future planning that follows up from the above is based on a scientific paradigm and requires a business-as-usual understanding of the future.

Climate change has also become a much-debated topic in the heritage sector and heritage studies as more sites become exposed to climate change impact. Here, the heritage-climate change relationship has first and foremost been framed in terms of risk and vulnerability and as a threat to the certainty and linearity of practices representing 'business-as-usual'. Therefore, in response to the uncertainty that climate change futures herald, these studies focus on mapping risks and change to heritage sites and creating adaptation practices. I argued that a concern for the conservation of heritage sites forms the central guidance in these responses. As such, the primary response from the heritage sector follows the common framing of climate change as an environmental and external threat described above. As a consequence, the presented studies essentially look to continue their practices, albeit with extra adaptive measures applied, but based on a future vision that is mostly interpreted as an extension of the present.

The theoretical framing of climate change laid out in this chapter is of relevance to the following chapters and the analysis of the ethnographic fieldwork (chapters 4-6). Especially of importance are the framing of climate change as a science-based and environmental problem and the implications and critique of this framing on the ensuing actions it initiates. In addition, it sets the work of the case study organisations in the lineage of climate concern in heritage practice and heritage studies. The main concepts presented

in this chapter – adaptation, mitigation, environmental impact, science-based decision-making, risk and threat – shape the theoretical origins of the themes presented in chapters 4 and 5.

Chapter 2 – Climate change as Anthropocene or Capitalocene

In the previous chapter, I focused on framing climate change as an environmental phenomenon understood through a scientific epistemology. I described how this approach is common in public and political discourse. In this chapter, I will introduce the concept of the 'Anthropocene' and discuss the impact of framing climate change through this concept on climate change engagements. I will describe how the Anthropocene as a concept has gained purchase in the humanities as a framework to describe the current crisis in terms of a complex and troubled relationship between humans and their environment. Through the lens of the Anthropocene concept, climate change becomes a mesh of interrelated issues, surpassing the mitigation-adaptation focused discourse and responses discussed in the previous chapter.

This chapter will first explore the concept of the Anthropocene: where it originates and how it is present in the natural sciences, and subsequently how it has found its way into the humanities and social sciences. Second, I will share some of the critiques in response to what the Anthropocene represents and, perhaps more importantly, *who* it represents. From the Anthropocene, I will move to the particularities of the framing of climate change as an outcome of a Capitalocene, as I regard this concept to better suit the context of this research. I will explain why the concept of the Capitalocene forms a helpful conceptual framework to scrutinise the work of both case study organisations.

Following this, I will look into work conducted in heritage studies. Unfortunately, heritage studies have not engaged significantly with the Capitalocene yet. Therefore, I will return to the concept of the Anthropocene in the last sections of this chapter. For the purpose of this chapter, I will focus on heritage-related work that I interpret as inspired by an understanding of climate change as an outcome of the Anthropocene – both as an epoch and as a discourse (Dibley, 2012) – rather than a more straightforward scientific problem.

2.1 The changes of the Anthropocene

Climate science is daunting through the numbers it presents us with, but the numbers cannot capture everything that anthropogenic climate change has set into motion. Climate

change is one element of a more comprehensive environmental crisis caused by 'humanity'. This interlocked series of crises also includes, amongst others, biodiversity loss, disruption of the nitrogen cycle, ozone depletion, ocean acidification, topsoil depletion, plastic pollution, and tropical forest destruction and deforestation more generally (see e.g. Lewis & Maslin, 2015). Together, this list of imprints of human civilisation on the planetary scale has now left a footprint in the geological strata, prefiguring an era named the 'Anthropocene' (P. J. Crutzen, 2002).

The Anthropocene as a concept was born from the concerns of the Nobel laureate Paul Crutzen and his colleague Eugene F. Stoermer (P. J. Crutzen, 2002; P. Crutzen & Stoermer, 2000). Inspired by observations of the "still growing impacts of human activities on earth and atmosphere, and at all, including global, scales", and because of "the expansion of mankind, both in numbers and per capita exploitation of Earth's resources has been astounding", they felt the need to declare our current epoch the 'Anthropocene' (P. Crutzen & Stoermer, 2000, p. 17). They used this term to describe: "the present, in many ways human-dominated, geological epoch, supplementing the Holocene" (P. J. Crutzen, 2002, p. 23). Although the Anthropocene has not yet been formally established as a geological epoch, the scientific appreciation of the Anthropocene as such has been accompanied by a range of publications from various academic disciplines, questioning when precisely this new era has initiated (Lewis & Maslin, 2015). The proposed dates stretch from the moment humans started to practice agriculture, leaving their nomadic ways of living behind, up to the 'nuclear bomb spikes' in the 20th century (Edgeworth et al., 2015; Gibson & Venkateswar, 2015; Lewis & Maslin, 2015; Lowenthal, 2016; Zalasiewicz, Waters, Summerhayes, & Williams, 2018).

The Anthropocene as an "epoch", and even more as a "discourse" (Dibley, 2012, p. 139) has stimulated much discussion and debate not only in the earth sciences but also across the arts, humanities and social sciences, as it forces a significant reconsideration of presumed 'truths' regarding human-environmental relations (see e.g. Bonneuil, Christophe Fressoz, 2017; Hornborg, 2017; Latour, 2014; Lorimer, 2015). In contrast to 'climate change', the 'Anthropocene' provides a background to engage with systemic issues and see climate change as an outcome and part of an interrelated meshwork of relations. Consequently, an engagement with climate change as an outcome of the Anthropocene epoch presents other questions than those posed and answered by science (as discussed

in chapter 1). It, for example, engages the mitigation discourse with the environmental and social ethics of rare earth materials, deep-sea mining and biofuel, techniques and resources that are part of the energy solutions for zero-carbon pathways laid out by governments worldwide (e.g. Buck, 2015; Cooper, Brown, Price, Ford, & Waters, 2018). These innovative practices create fitting solutions for the compartmentalised framing of climate change in terms of greenhouse gas emissions. However, the multidimensional lens of the Anthropocene shifts the focus from mitigation aims to the systemic problems underlying the emissions, thus requiring different solutions.

Furthermore, the Anthropocene discourse encompasses all kinds of histories and the relations between these 'histories': of humans and nonhumans, deep-time and short time, and global and local spatial scales. Thus, the concept offers a framework to engage with the climate crisis across the borders of disciplines. It links the scientific data to the cultural, political and socio-economic dimensions of the causes and effects of the climate crisis (see e.g. Bonneuil & Fressoz, 2017; Chakrabarty, 2014; Haraway, 2015; A. Tsing, Swanson, Gan, & Bubandt, 2017; Yusoff, 2018). Ultimately, the Anthropocene, as both an epoch and a discourse, poses the ontological question, 'how do humans fit into the web of life?' (Moore, 2016a).

Thus, the Anthropocene represents not only a physical crisis but also an ontological crisis, as it accompanies the recognition that humans have become the primary source of global geological and climatological change. As Gillings and Hagan-Lawson write, "neither climatic nor biogeochemical stability is likely to continue", and "the Earth systems we rely on to provide a liveable environment for human society are likely to become much less predictable" (2014, p. 1). As such, the Anthropocene describes an era in which things humans thought to be stable can no longer be assumed to be so, leading to questions that Sklair (2017, p. 776) describes as relating to "what it means to be human on this endangered planet". Consequently, Palsson et al. (2013) argue for a call to arms for the humanities and social sciences to engage with the Anthropocene debate because the environment must be understood as a social category. They claim that building a new understanding of humans' position in the geosystem requires all academic disciplines to work together. In other words, the recognition of the Anthropocene forces us to develop new concepts and ways of understanding humans' physical and discursive impacts on the environment (see e.g. Hulme, 2009; Latour, 2014).

The wide use of the concept of the Anthropocene in literature and beyond has led Jamie Lorimer (2017) to dub this popularity the 'Anthropo-scene'. Lorimer refers to a five-fold categorisation of how this Anthropo-scene enfolds: as a scientific question, an intellectual zeitgeist, an ideological provocation, as new ontologies, and as science fiction. Within this categorisation, this research itself reflects what Lorimer calls today's "intellectual zeitgeist" (ibid., p. 121). He describes this 'zeitgeist' as: "providing a plastic and catchy label for a common curiosity and anxiety about the state and future of Earth after the 'end of Nature' – i.e. the end of the idea of Nature as pure place untouched by human hands that has been so central to modern environmentalism" (ibid.).

2.1.1 Nature/Culture and the nonhuman in the Anthropocene

'The end of the idea of Nature', or the disintegration of a Culture/Nature divide that Lorimer refers to above, is central to many debates taking place within the Anthropocene zeitgeist. This discussion can be traced back to Bruno Latour's '*We have never been modern'* (Latour, 1993). In this seminal work, Latour argues that it has never been possible to create an ontological segregation between the natural and cultural realms – we thus have never been modern. Instead, Latour claims, we are hybrids surrounded by hybrids: all consisting of both natural and cultural parts. In the Anthropocene context, the argument favouring the dissolution of the Nature/Culture duality is perhaps most well known in the thesis put forward by Dipesh Chakrabarty (2009) in his popular article *The Climate of History: Four Theses.* In this piece, Chakrabarty (ibid., p. 197) claims that in "the current planetary crisis", it is no longer possible to approach human history and natural history as existing in parallel; instead, they should be understood as one and the same (see Wildcat, 2009 for a similar argument). In a later publication, he adds to the Nature/Culture dichotomy the history of industrial civilisation or capitalism (Chakrabarty, 2014). Altogether making up what Chakrabarty (ibid., p. 1) calls 'conjoined histories':

> Anthropogenic global warming brings into view the collision—or the running up against one another—of three histories that, from the point of view of human history, are normally assumed to be working at such different and distinct paces that they are treated as processes separate from one another for all practical purposes: the history of the earth system, the history of life including that of human evolution on the planet, and the more recent history of industrial

> civilization (for many, capitalism). Humans now unintentionally straddle these three histories that operate on different scales and at different speeds.

In recent years, this notion of a collision between the human and nonhuman and their interlocked relationship has been addressed in many popularised post-human and object-orientated ontologies (see e.g. Braidotti, 2013; Haraway, 2016; Morton, 2013; A. L. Tsing, 2015). Hence, for Western thought, the Anthropocene has become the setting of a new way of engaging with the world around us, or "an invitation to dismantle the rifts that separate humans from other lifeforms" (Gibson & Venkateswar, 2015, p. 6).

According to Timothy Morton (2013), for example, climate change has forced us to engage with and take the agency of nonhuman agents seriously. Morton comments that climate change brings us closer to our entanglements with our nonhuman environment as it moves humans away from the anthropocentric framing of their worlds. Instead, Morton (ibid., p. 5) writes:

> We are no longer able to think history as exclusively human, for the very reason that we are in the Anthropocene. A strange name indeed, since in this period non-humans make decisive contact with humans, even the ones busy shoring up differences between humans and the rest.

The vastness of climate change and its more-than-human relational network is captured by Timothy Morton's conceptualisation of climate change as a 'hyperobject'. A term Morton first coined in their 2010 book *The Ecological Thought* (2010) and further explored five years later in a book named after the concept (2013). Here, Morton defines the concept of hyperobjects via five key characteristics. These describe the properties of the hyperobject in relation to the human experience as follows:

(1) Hyperobjects are viscous, which means that they stick to who- or whatever comes into touch with them.

(2) They are nonlocal, which means that "any 'local manifestation' of a hyperobject is not directly the hyperobject" (Morton, 2013, p. 1). In other words, hyperobjects are so massively distributed in time and space that any particular (local) manifestation never reveals the totality of the hyperobject. In addition, this locality can be nonhomogeneous, for example, in the case of carbon which is not evenly emitted and not evenly captured throughout spatial and temporal scales.

(3) Hyperobjects act on timescales other than those accessible to humans, making it hard for humans to mentally grasp and understand them since we cannot perceive the end nor the beginning. A characteristic that Morton calls 'temporal undulation'.

(4) Hyperobjects are phased; they are high-dimensional compared to the three-dimensional human experience. In Morton's (ibid., p. 70) words: "hyperobjects occupy a high-dimensional phase space that results in their being invisible to humans for stretches of time".

(5) Hyperobjects unveil interobjectivity. This means that we will not experience the hyperobject as such; instead, we will connect with manifestations of it through other, intermediary objects on human scales, i.e. interobjective manifestations: "We see a host of interacting indexical signs" (Morton, 2013, p. 85). Interobjectivity exists in contrast to *intersubjectivity*, which has an anthropocentric focus. Like raindrops falling in California are indices for La Niña, climate change can only be experienced through its local, present human scale manifestations.

Although Timothy Morton does not explicitly frame the hyperobject within the Anthropocene era, through the hyperobject understanding, Morton engages with the ontological "quack of being" caused by the ecological crisis and at the centre of the Anthropocene discourse in the humanities.

So, the Anthropocene reflects a more complex phenomenon than 'just' presented by climatic changes. Instead, taken into the humanities and social sciences, it points to an ontological discussion, questioning the fundamental relations between humans and their environment. The limitations of the answers that natural science can provide to these questions are illustrated by the following words of the former environmental advisor to the White House and dean of the School of Forestry & Environmental Studies at Yale, Gus Speth[5], who realised that:

> Thirty years ago, I thought the top three global environmental problems were biodiversity loss, ecosystem collapse, and climate change. I was convinced that with enough good science, we would be able to solve these problems. But I was wrong. The real problems are bigger than that. They are things like selfishness, greed, and apathy. For those kinds of problems, good science isn't enough. For

[5] This quote is widely attributed to Gus Speth, however it is unclear when exactly he said these words.

> that we need a spiritual and cultural transformation. And we scientists don't know how to do that.

Similar reasoning can be found in the work of, for example, Hulme (2009), Morton (2013, 2016), Boulton (2016), Klein (2014, 2019), Eisenstein (2018), and Palsson (2013). For example, in her discussion of Morton's concept of the hyperobject, Elizabeth Boulton (2016) refers to this required transformation as a 'deep frame' shift. With this terminology, Boulton refers to changes "that involve more complex and influential neuron structures that 'hold' a person's guiding worldview, identity, and values" (ibid., p. 773). Thus, inspired by the Anthropocene as an epoch and conceptual framework, writers claim for transformations on a deeper ontological, ethical or ideological level, moving beyond a focus on mitigating greenhouse gas emissions, and technological fixes.

2.1.2 From Anthropocene to Capitalocene

Although the concept of the Anthropocene has proven popular, it is also met with criticism. For example, Andreas Malm and Alf Hornborg (2014, p. 62) argue that it provides too much credit to human agency: "The Anthropocene narrative portrays humanity as a species ascending to power over the rest of the Earth System". They criticise the etymology of the concept and claim that it fails to specify who this 'Anthropos' is. Herewith, they point to the global injustices between the ones contributing most to the causes of the climate crisis and those exposed most intensely to its effects (see also Alaimo, 2016; Bauer & Bhan, 2018; Crist, 2016; Sultana, 2022).

For this reason, alternative propositions to describe the current epoch are made. These alternatives mean to replace the anonymous, vague, and anthropocentric terminology of the Anthropocene and aim to be more specific about what exactly it is that humans have created and need to face. Examples are the Capitalocene (Malm, 2016b; Moore, 2017), Manthropocene (Raworth, 2014), Misanthropocene (Patel, 2013), and the Chthulucene (Haraway, 2015, 2016). The first refers to an era shaped by the causes and effects of a capitalist system based on social and environmental injustice, while the last is introduced by Haraway to "name a kind of time place for learning to stay with the trouble of living and dying in response-ability on a damaged earth" (2016, p. 2).

Taking on these critiques, the Capitalocene may provide a better context for this research. Where the concept of the Anthropocene provides the freedom to divert

responsibility to 'humanity', the Capitalocene, as used by Alf Hornborg, Donna Haraway, Andreas Malm and Jason Moore[6], does not offer this convenience. Instead, it points out the capitalist system of growth and profit and its beneficiates as the main culprits (Malm, 2018; Moore, 2016a). This specification is important, as my research and case studies are set in highly industrialised OECD[7] countries in Western Europe with a history of imperialism and early fossil capitalism. Especially Britain is a case on point here, as it is regarded as the birthplace of the Industrial Revolution and the early expansion of fossil fuel technologies (Malm, 2013, 2016a). In addition, my own Dutch heritage is part of this same narrative consisting of a colonial history and capitalist-driven high consumer lifestyle in the present.

Essentially, the Capitalocene conceptualisation of the climate crisis refers to the crisis' inherent inequality across a range of relations. This inequality is in the past and the present and takes place both at the start and the end of the production chain of the marketplace, including both humans and the natural environment. The data the 'UN Emissions Gap Report' (2020) presents is representative of this. For example, the diagrams in Figure 9 show how the global top 1% income earners emit 15% of all carbon emissions, while the bottom *50%* of the world population emits a mere 7%. However, this latter group is most vulnerable to the effects these emissions cause on local ecosystems and weather patterns (Hickel, 2021). Moreover, not only the consequences of emissions are felt strongest by the most vulnerable. Their labour and the natural resources and riches of their environments provide the input for most of the consumption patterns in the Global North (ibid.).

Consequently, the people and the natural environment in these countries experience the negative impact of the production of goods for the Global North and the effects of their consumption in the Global North, all the while benefiting very little themselves (Hickel, 2021; Malm & Hornborg, 2014). The UN report summarises the above numbers as follows: "Equity is central to addressing lifestyles. The emissions of the richest 1 per cent of the global population account for more than twice the combined share of the poorest 50 per cent" (2020, p. xxv). Here, we come to a further point that makes the Capitalocene interesting as a framework for this study. In the context of the Capitalocene,

[6] in: Hornborg, 2019, p. 201, Alf Hornborg explains the origins of the term: it was coined by Malm and adopted by Haraway, Moore and himself soon after

[7] Organisation for Economic Co-operation and Development – founded to stimulate economic growth and mostly consisting of high-income economies. The 38 countries (incl. Sweden, UK and the Netherlands) comprise almost 43% of global GDP (2017). Source: https://en.wikipedia.org/wiki/OECD.

capitalism directly links to economic growth, and growth depends on the consumerist lifestyles prevailing in the west (Hickel, 2020). The UN report further writes that "around two-thirds of global emissions are linked to the private household activities according to consumption-based accounting" (2020, p. xxiv). As seen above, a significant number of these households consists of the wealthiest 1%. Furthermore, "Lifestyle emissions are influenced by *social and cultural conventions*, the built environment and financial and policy frameworks" (ibid., my emphasis). From this it can be interpreted that culture and cultural heritage play a critical role in shifting these conventions that hold up high consumerism, a lifestyle directly linked to high-resource and -energy usage, thus putting a high burden on the earth and her inhabitants (Hickel, 2020).

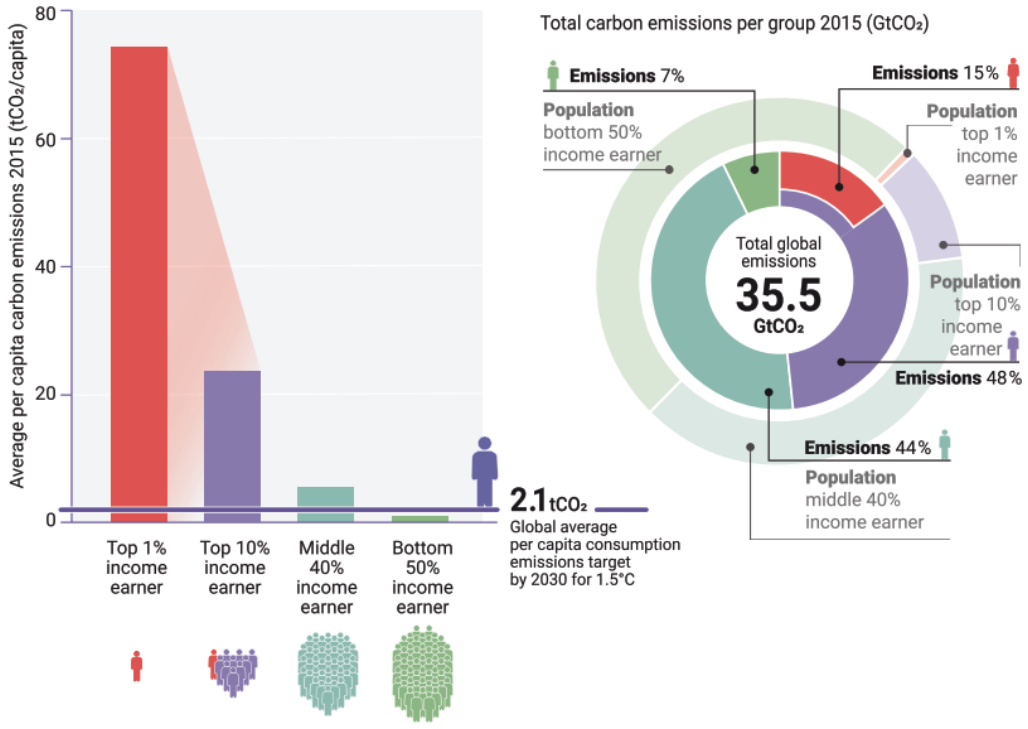

Figure 9 "Per capita and absolute CO_2 consumption emissions by four global income groups in 2015. Note: Per capita CO_2 consumption emissions, and absolute CO_2 consumption emissions by four global income groups in 2015 compared with emissions reduction targets for 2030 for limiting warming to 1.5°C. Income thresholds in 2015 are according to US$ purchasing power parity in 2011: 1 per cent > US$109,000; 10 per cent > US$38,000; middle 40 per cent > US$6,000; poorest 50 per cent < US$6,000." Source: *UN Emissions Gap Report 2020 p.63.*

Thus, the application of the Capitalocene, in contrast to the Anthropocene, as a framework to understand climate change has the inequity in contributions to and experiencing of the negative impacts of climate change at the centre of its understanding of the climate crisis. This allows, from the start, to approach climate change as a highly political issue that considers its drivers and impacts to be of socio-environmental and socio-economic nature. In this way, it avoids contributing to what Bonneuil and Fressoz (2017, p. 68) describe as:

> Whole books can now be written on the ecological crisis, on the politics of nature, on the Anthropocene and the situation of Gaia without so much as mentioning capitalism, war or the United States, even the name of one big corporation […].

Furthermore, a Capitalocene lens does not only offer a critical perspective on today's socio-environmental and social relations, it also presents a critical framework to engage with these relations as continuing from the past: understanding climate change as a historical phenomenon that is still playing out in the present and the future. As a consequence, *climate change becomes a part of the cultural heritage network*, and vice versa, instead of an external impact.

2.1.3 Understanding climate change as Capitalocene

To better understand what the Capitalocene stands for and how it frames climate change, this section will aim to contextualise the origins of the term and the reasons for its initiation. Through an exploration of how the term is defined by its leading proponents (Malm & Hornborg, 2014; Moore, 2017), I will show that it provides a more complex framework through which to understand climate change and its meshwork of relations, both today and as a consequence of historical processes.

Essentially, the Capitalocene is derived from an understanding of capitalism not just as an economic system, but as representative of a socio-environmental set of power relations: "[the Capitalocene] signifies capitalism as a way of organising nature—as a multispecies, situated, capitalist world-ecology" (Moore, 2016b, p. 6). From the Capitalocene understanding, the beginning of the climate crisis is set in the time of Columbus and the early-modern origins of capitalism and its "extraordinary reshaping of global nature", marking "a turning point in the history of humanity's relation with the rest of nature" (Moore, 2017, p. 596). Moore (ibid.) uses the limitations of the Anthropocene

concept to further explain why he is in favour of the use of Capitalocene as a label for the current epoch:

> While there is no question that environmental change accelerated sharply after 1850, and especially after 1945 [suggested dates for the start of the Anthropocene], it seems equally fruitless to explain these transformations without identifying how they fit into patterns of power, capital and nature established some four centuries earlier. From this standpoint, we may ask, are we really living in the Anthropocene – the 'age of man'– with its Eurocentric and techno-determinist vistas? Or are we living in the Capitalocene – the 'age of capital'– the historical era shaped by the endless accumulation of capital?

The Anthropocene does not clearly distinguish culprits and victims due to its understanding of climate change mainly as an issue of the homogenous and anonymous Anthropos. Similarly, from an Anthropocene perspective (a term coined *only* in 2000), it is easy to overlook the available long-term knowledge and the warnings that have been granted to signpost the ecological impacts of western lifestyles and the scientific knowledge concerning the adverse effects of petroleum as early as 1958 (Jones, 1958) (see also chapter 1). As a critique, a framing of climate change as an outcome of the Capitalocene sees the current climate crisis not as an inevitable outcome of the human story of progress, but as a deliberate process, based on the capitalist system of exploitation of people and nature in favour of capital growth since the 1600s (Malm, 2018).

When it comes to human-nature relations, Jason Moore describes how central to the Capitalocene framing is the concept of 'Cheap Nature'. Moore (2017, p. 595) places the origins of capitalism and 'Cheap Nature' 500 years ago:

> With the English and Dutch agricultural revolutions, with Columbus and the conquest of the Americas, with the first signs of an epochal transition in landscape transformation after 1450. […] That transition marked a turning point in the history of humanity's relation with the rest of nature.

Moore explains 'Cheap' in a twofold manner. First, Nature should be cheap in monetary terms: to extract free resources to create profit for humans. Second, it should also be 'Cheap' in the understanding that it is less worthy of existence than men, specifically white western men.

Underlying the creation of Cheap Nature is a philosophy of dualism, often referred to as a Cartesian dualism after the 17th-century philosopher René Descartes (Moore, 2015). Descartes argued for a strict dualist ontology, where nature and culture, intellect and emotions, body and mind were all defined as opposites of one another (see e.g. Hickel, 2020). Moreover, according to Descartes, there exists a hierarchy between these counterparts: culture over nature, intellect over emotions, and mind over body. Moore (2015) explains how this bipartite way of thinking provided the perfect basis for capitalism to grow and move forward. Namely, by splitting humans from the natural realm, nature was made into something alien, something humans act *upon*, an inanimate entity at humanity's disposal. This made the nonreciprocal extraction of resources from nature possible. Not only in the practical industrial sense but also within an ideology that allowed people to see themselves as the master of nature and thus not feel ethically or morally obliged to give back after taking (see also Hickel, 2020; and Wood, 2002 for a historic overview of capitalism). This dualist hierarchy also extended into human-human relationships (Hickel, 2020; Moore, 2015). By perceiving themselves as 'cultured', the white western coloniser categorised the human 'other' to the realm of nature. As a result, colonised indigenous people, women, and non-white people, amongst others, were seen as less worthy (ibid.). This hierarchy created the foundations for what Moore calls 'Cheap Labour': "extract as much labour at as little cost as possible" (Schwartz, quoted in Moore, 2017, p. 616), regardless of the impact of the ones performing the labour. From a white western standpoint, this same mind-set towards nature and 'the other' still applies today. It can be seen in the women working in sweatshops who create our clothes or the children working in mines to dig up the minerals in our phones.

The above relates to the earlier mentioned discussions around Nature/Culture relationships. The Cartesian (after Descartes) dualism is also central to discourses shaped around the Anthropocene in Science and Technology Studies (most notably Latour, 2014, 2017), as well as in the posthumanities (Braidotti, 2020; Haraway, 2016; Rose et al., 2012; A. Tsing, 2012) and object-oriented ontologies (e.g. Morton, 2007, 2013: more on Morton's work and OOO in chapter 3), and subsequently also in heritage studies (particularly R. Harrison, 2015a). Just as engagements with the concept of the Anthropocene lead to ontological questions on socio-environmental relationships, these same questions underpin the Capitalocene thesis. However, there is a difference in nuance caused by the particular framing of the climate crisis of the latter in contrast to the above-mentioned

theories in relation to Nature/Culture understandings. The main difference is the position humans and their agency are granted by the main promotors of the Capitalocene epoch. They argue that while the inclusion of nonhumans as equals in our thinking and acting is crucial in creating a more sustainable, socially just and environmentally ethical world, flattening out the agency and thus responsibility for action over multiple actors is problematic in climate action (Hornborg, 2019; Malm, 2018; Moore, 2017; Soper, 2020). Instead, Malm (2018) argues, *we* have agency. The 'we' Malm refers to here are those humans who are the strongest supporters, users, creators and consumers of fossil fuels and fossil capital. For Malm (2018, p. 96), it is crucial then to put humans front and centre of climate action:

> Neither the stone nor the canister nor the coal is the agent; the outcomes to which they contribute are integral aspects of the original action as stretched out over time. Global warming is an integral aspect of consuming fossil fuels, not *another* action performed by others.

Instead,

> Humans have brought about global warming by locating, removing and setting fire to fossil fuels, and that has not happened through somnambulism or haphazard forays: it has been a persistent project[8] throughout the past two centuries, driven by an everyday agency inscribed within existing social relations and reproducing them anew. That is why we are able to say that humans and humans alone have turned the control knob.

Thus, while embracing the stance of OOO and posthumanism to emphasise the interconnectedness and dependencies between forms of human and nonhuman life, in terms of agency, it is essential to single out humans to come to meaningful climate action. In this thesis, I will, when necessary, stay in the space between these two approaches to Nature/Culture relations. On the one hand, I built on the framing of climate change as a phenomenon taking place within a mesh of relations – human *and* nonhuman. On the other hand, due to the organisations that are at the centre of this study, a certain uniqueness

[8] For Malm's argument on this "persistent project", see Malm, A., Fossil Capital: The Rise of Steam Power and Roots of Global Warming, 2016

needs to be given to the role of the 'Anthropos' they represent, a uniqueness that is paired with a unique responsibility.

2.2 Heritage in the Anthropocene

So far, I have discussed heritage-climate change relations that focus on responding to threats caused by anthropogenic climate change to heritage sites. Here, I will return to the Anthropocene and how this concept has inspired work and different understandings of the heritage-climate change relationship in heritage studies. This section is titled 'Heritage in the Anthropocene', as the Anthropocene, in contrast to its more specified adaptations as Capitalocene (or Chthulucene, Misanthropocene etc.), has been widely adopted as a framework to engage with the climate crisis. While the Anthropocene is not always explicitly distinguished in the work I describe in this chapter, I see it as a background to which these studies are set. Harvey and Perry (2015) already pointed out the differences in approach, writing that climate change and heritage are often related to one another in heritage studies and related disciplines in either of two ways. The first is, as discussed in chapter 1, based on the understanding of climate change as an environmental problem in need of a response. The other approach consists of publications discussing the consequences climate change brings about on established ideas of heritage and heritage management when entering the relational network. It is these studies that can be framed as a response to ideas of the Anthropocene, moving beyond a one-dimensional engagement with the climate crisis (represented in chapter 1).

In addition to the division made by Harvey and Perry, for ease of structure, I divide the second approach here in two subsections: first, publications exploring the effects of climate change on the heritage discourse. Second, studies which do the opposite and explore the effects of heritage on the climate change discourse, or i.e. what heritage (studies) offers in relation to the climate change discussion. Often these studies use the Anthropocene as a platform to discuss the relation between humans and their environment, and to relate to and understand climate change from the humanities perspective (Brewer & Riede, 2018). Here, I want to discuss some of the work that paved the way to rethink heritage and heritage practices in the face of climate change and the Anthropocene.

2.2.1 The Anthropocene and its heritages

The Anthropocene describes a time in which humans are altering their environment to unprecedented scales. It is the result of a combination of factors, including lifestyle, ideology, and, arguably, a mentality that champions economic growth (Crownshaw et al., 2018). Cultural heritage, in a broad sense, is what we create, and actively take with us to the present and the future (R. Harrison, 2013). Usually, heritage is associated with things and practices which we consciously choose to bring with us into this present and future. However, the Anthropocene, a piece of heritage *an sich*, has given another dimension to what our heritage can entail. A different form of 'dark heritage', the presence of which other-than-humans will have to share with us and we with them.

The *Unruly Heritage* project led by Bjørnar Olsen and Þóra Pétursdóttir (P. Pétursdóttir, 2017; Þ. Pétursdóttir, 2020; Þ. Pétursdóttir & Olsen, 2018), is a good example of research exploring the question of what heritage is in the Anthropocene (Olsen & Pétursdóttir, 2016, p. 38):

> How can we in the proposed new geological age of the Anthropocene, with ever more unintentional monuments and involuntary memories accumulating around us, self-confidently think of the past as completed and gone? As a distant 'foreign country' – or indeed of heritage as something selected and optional?

According to Olsen and Pétursdóttir, heritage is no longer something we choose to bring with us. Instead, heritage is created in the present due to our day-to-day behaviour, whether intentionally or unintentionally. From this central precept, they study marine debris, drift matter washed ashore, and ruins in a deprived Russian town as forms of heritage. Objects and places that are controversial in terms of heritage conservation due to their '*unruly afterlife*' (Olsen & Pétursdóttir, 2016, p. 42). According to Olsen and Pétursdóttir this also means that we need to turn away from an anthropocentric approach to heritage and care. Instead, they argue that care is a capacity also available to the nonhuman, giving the example of wetlands and the services they offer to humans and other nonhumans. Pétursdóttir (Þ. Pétursdóttir, 2020, p. 100) expands on this joint exploration in later work, arguing that:

> For one, it may be argued that unruly and persistent phenomena like drift matter, nuclear waste, and space debris in orbit, have and will make up such a prominent

> part of our legacy that it becomes inevitable to consider them as forms of heritage, albeit unintended and ostensibly unwanted. Equally importantly, however, these things offer an empirical ground for rethinking not only the ontology of heritage and the merging of nature-cultures, but also the onto-epistemology (cf. Barad 2007) of a heritage of and for the future.

Pétursdóttir questions the friction of drift matter with the presumed certainties the heritage sector and heritage management relies on, perhaps most notably regarding ideas of the future (see also R. Harrison et al., 2020; Högberg, Holtorf, May, & Wollentz, 2017; Holtorf & Högberg, 2015).

Another example of unruly heritage is explored by Cornelius Holtorf and Anders Högberg (2014). They are inspired by the material remains of the world's first fast breeder nuclear reactor in the north of Scotland and use this case study to explore how to remember troublesome places and symbols of undesired heritage. They approach the reactor, "an emblem of the Atomic Age" (Holtorf & Högberg, 2014, p. 343), as a requiem of Anthropocene practices with deep-time consequences and that risk changing the earth's makeup. Holtorf and Högberg question whether the reactor's dome should be conserved as heritage "for the benefit of future generations" (ibid. p. 345). Due to the nature of the nuclear residues, the site will be subject to "institutional control […] well beyond until the 2300s when the remaining residual radioactive contamination is expected to have decayed to insignificant levels" (ibid. p. 344). However, they argue that there is a lack of consideration in the conservation strategy to how future generations in the 2300s may differ from present generations. Instead, sites of unruly or unwanted heritage, like the nuclear dome in Dounraey, confront heritage management with the task to think beyond a future that is a continuation of the present (ibid. p. 353):

> The question is not what we can retain from a site like Dounreay, how we value this legacy and how we may want to communicate its current significance to people we know today. The question is rather how future generations will value the site and how some of them may want to communicate the actual future significance of the site to people living then.

Nuclear waste illustrates an example of new objects of heritage created in and by the Anthropocene that pose a challenge to how we understand heritage and conservation.

In a somewhat related manner, Britt Solli (2011) explores the relationship between heritage and Anthropocene futures in *Heritage and Archaeology in the Anthropocene*. Solli (2011, p. 42) criticises the focus of heritage studies on the impact of climate change on tangible sites and argues: "The more fundamental, almost existential, question is what will climate change do to the concept of heritage and our way of expressing scientific narratives about the past?". For example, Solli wonders about the effects of anticipated climate migration flows and the challenges of displacement to the concept of heritage. She questions what changes this will cause to the landscape and the people living in these landscapes. Moreover, migration means that many heritage sites will not be able to be preserved in situ, possibly depriving people of a cultural identity linked to a specific place. Solli argues that "for peoples who have been forced to leave their homeland because of climate change, without the possibility of return, maintaining narratives of an essential heritage may be of great value, even joy" (ibid. p. 49). Here, she comments on the 'linguistic turn' that has taken place in heritage studies. This 'turn' argues against any form of essentialism in heritage understandings. Instead, it perceives heritage as a social construct (Smith, 2006). Solli reframes heritage as potentially in need of such an essentialist underpinning to be sustained in the Anthropocene era, arguing against this popular framing of heritage.

More recently, the concept of the Anthropocene inspired the book *Deterritorializing the Future: Heritage in, of and after the Anthropocene*, a collection of chapters on the interrelationships of heritage and the Anthropocene, edited by Rodney Harrison and Colin Sterling (2020). The editors understand the Anthropocene as "an opportunity for collective planetary rethinking, not further technocratic solutions" (ibid., p. 24). According to Harrison and Sterling, this means that in relation to heritage, it is essential; "to track and stimulate multivocal, heterogeneous and dialogical ways of apprehending the past in the present" (ibid. p.25). The book opens up an exploration of the practice and understanding of heritage in relation to a variety of settings: more-than-human worlds, deep temporalities, consumer societies, processes of rewilding, and Anthropocene debris. Altogether, collecting stories that redefine what heritage is and can be in a world of ecological breakdown (ibid. p. 28):

> Heritage as we understand it in this volume is an intersubjective and inherently transdisciplinary space where ongoing concerns over climate breakdown,

> environmental justice, more-than-human legacies and alternative modes of care and stewardship might be worked through by different actors in different ways.

Through engagements with, for example, garbage disposals, taxidermy collections, biobanks, and decommissioned nuclear stations, the book opens up the idea of heritage, inheritance and intergenerational care "to more-than-human forces and imaginaries" (ibid. p. 41). In doing so, it explores what it means to practice and think with heritage in the Anthropocene epoch.

The projects and research described above use the Anthropocene as a concept to critically reflect on what futures heritage practices create, how the definition of heritage may need to be expanded, and how relevant current heritage practices are in relation to uncertain futures. In doing so, they do not only study heritage but also what it means to live in the Anthropocene.

2.2.2 What can heritage offer to climate change – getting practical

The above studies engage with the Anthropocene on the conceptual level, other studies provide more practical responses to how heritage activities and the heritage sector can offer in response to climate change. This work mainly focuses on the practical application of existing knowledge of the heritage sector and the information heritage places can provide to support climate change adaption. In general, it is more practically minded than the work discussed above. However, it engages with climate change beyond its environmental impact on heritage sites, as discussed in chapter 1. Instead, it involves a consideration of the complexity of the climate crisis in terms of temporal and spatial scales. Essentially, this work is framed around a shift from heritage as a victim of climate change impacts towards a catalyst or mobiliser for climate action.

Carole Crumley (2015), for example, writes that archaeologists comfortably work with timelines that stretch over 1000s or 10000s of years into the past (see also Edgeworth, 2014; Solli et al., 2011). Hence, the idea of humans changing their environment is a familiar idea for archaeologists (Crumley, 2015, p. 7):

> Below ground, where archaeologists focus their attention, this longer history is not entirely about the release of millennia of stored carbon into the atmosphere or the invention of ever large tools to dig out the Earth's resources and reconfigure its landscapes: the other changes tell more about the intimate details of the human

> affair with Earth. For millennia people have altered their surroundings by using fire, propagating certain species of plants and animals, building dams that change the course of rivers, clearing land, and generally making themselves at home- and in the process altering the course of human evolution.

Crumley calls this approach 'historical ecology'. An approach related to what Chakrabarty (2009) describes when he argues that human and ecology history can no longer be distinguished in the Anthropocene epoch. Crumley describes it as: "a definition of ecology that includes humans as a component of all ecosystems and to a definition of history that goes beyond the written record to encompass both the history of the Earth system and the social and physical past of our species" (2015, p. 7).

A second strand of work focuses on heritage and history as a record of prior adaptations to changing environmental circumstances. Kathryn Lafrenz Samuels (2016) calls the archaeological data of past societies' interactions with their environment 'heritage proxies'. These proxies tell us about past environmental changes via the study of the adaptive behaviour of human ancestors. In addition, these examples from the past are a resource for possible adaptation measures today. Giovanni Boccardi makes a similar argument and writes: "In adapting to new circumstances, humans must be able to discern and select from these past experiences, retain what 'works' and integrate it in new and more effective strategies" (2015, p. 95). Boccardi encourages combining this traditional knowledge with new techniques based on modern science. Lafrenz Samuels and Boccardi echo here the ideas of "history as a quasi-controlled experiment" (Palsson et al., 2013) and as the "best laboratory" (Brewer & Riede, 2018) of testing methods to sustain human societies.

Tim Winter and Miguel Gomez-Heras and Stephen McCabe apply this approach to heritage in more specific settings. Winter (2016) describes how we can learn from traditional building techniques that offer 'passive' climate comfort. Winter's work is a critique of the overuse of air-conditioning in modern buildings. Similarly, Gomez-Heras and McCabe (2015) review stone as a historical record of climate changes in the built environment. According to their research, stone surfaces can be used to trace trends in pollution, catastrophic events and other forms of historic weathering.

Caitlin DeSilvey and Rodney Harrison describe another 'comfort zone' of heritage professionals which may prove a useful resource in the Anthropocene (DeSilvey & Harrison,

2020). They argue that heritage studies scholars and professionals are familiar with concepts of extinction, loss, and preservation. Consequently, they can offer a critical engagement with these phenomena, which we will and are unavoidably encountering on ever-greater scales in the current era. These engagements have been explored by named writers in more detail in publications focusing on the acceptance of loss and decay (DeSilvey, 2017), the conservation practices of global seedbanks (R. Harrison, 2017), and ex-situ biodiversity conservation practices (Breithoff & Harrison, 2020), with the latter two institutions of interest as they are designed to counteract future losses.

The third and last heritage-climate change relationship I want to discuss here concerns work that focuses on the local knowledge of indigenous peoples of weather patterns and environmental change. This is often referred to as 'Traditional Environmental Knowledge (TEK)', which can be understood as: "cultural knowledge, practice, and beliefs concerning the environment and people's relationship to other living and non-living entities" (Lazrus, quoted in Gibson & Venkateswar, 2015, p. 11). TEK is, for example, the topic in articles by Makondo and Thomas (2018), Audefroy and Sánchez (2017), and Lenoard et al. (2013). Each of these discusses adaptive coping strategies and the monitoring of environmental change by 'traditional' peoples to environmental change and risks. Although they emphasise that these practices have often been subject to various success rates and are strongly connected to their specific local environments, they can be used as a source of information and knowledge applicable in a broader context. However, while a common concept, in the studying and use of TEK there is a risk of the continuation of colonial attitudes work, as Queen Quet, Chieftess of the Gullah/Geechee Nation (2021, my emphasis), writes:

> Many scientists and academics have been using the term 'Traditional Ecological Knowledge (TEK)' for quite some time. They see it as a 'cumulative body of knowledge and beliefs handed down through generations by cultural transmission, about the relationship of living being with one another and with their environment. TEK is an attribute of societies with historical continuity in resource use practices', according to the ASAP Glossary. *We see it as the way we live!*

2.2.3 Policy and practical responses from the heritage sector to climate change: the international level

Recently, an increasing number of international heritage organisations and collaborations have also initiated projects or published reports on heritage and climate change. An example of this is the ICOMOS report titled *The future of our pasts: Engaging cultural heritage in climate action* (ICOMOS Climate Change and Cultural Heritage Working Group, 2019). With this report, ICOMOS aims to respond to the lack of mobilisation in the cultural heritage and related sectors to engage with climate change. Although the report's main themes are shaped around adaptation, mitigation, and heritage at risk ('loss and damage'), ICOMOS also focuses on heritage as a critical resource to drive climate action and as a tool to understand the socio-political climate entanglements such as ethical concerns, inequalities and injustices. In doing so, it looks at how heritage can support ethical and equitable transformation towards sustainability.

ICOMOS is also the driving agent behind the *European Cultural Heritage Green Paper*, in collaboration with Europa Nostra (Europa Nostra, 2021). In response to the European Commission's European Green Deal, the report (2021, p. 10, my emphasis) states:

> The project [the European Green Deal] must capture the hearts and minds of Europeans. Leveraging the potential of craft, creative industries and cultural heritage can support just outcomes and help deliver both a green transition and strengthened social inclusion, as highlighted by the ambition of the New European Bauhaus. That is why Europe's cultural heritage needs the European Green Deal to succeed. *This is why cultural heritage is essential to the success of the European Green Deal.*

The report presents heritage as a communicator to enable the changes needed in cultural norms and values to move to a greener Europe. It describes the agency of heritage to do so in common themes, as seen in other research presented in this chapter: as embedded in multi-generational timescales that help people understand the projected long-term impacts of climate change, it presents conservation as an "antithesis to consumer society ethos of single-use disposability", and last, the report describes European archives and

memory collections as holders of knowledge of past adaptation practices to environmental change (Europa Nostra, 2021, p. 5).

The *European Heritage Green Deal* is fairly similar to the ambitions of another recent international project: the Climate Heritage Network (CHN), which launched in 2019 (Climate Heritage Network, n.d.-b). Like ICOMOS, this network also aims at the international high-level policymaking bodies, vouching for the inclusion of heritage and culture in climate change responses of, for example, the UN and the EU (Climate Heritage Network, n.d.-a). Its members include Historic England and the Riksantikvarieämbetet, as well as a variety of heritage organisations and individuals from across the globe (Climate Heritage Network, n.d.-c). Springing from a lack of mobilisation in the heritage sector around climate change and a lack of representation of cultural heritage in international policy like the Paris Agreement and the SDGs, the aim of the CHN is to promote the role of the heritage sector in these policy frameworks. By acting as a platform to share experiences, as well as speaking as a collective of actors to have a stronger voice on the international level, the network (Climate Heritage Network, n.d.-d) sees culture and heritage as essential to climate action:

> Cultural heritage is both impacted by climate change and a source of resilience for communities. Cultural heritage-based solutions to climate change mitigation and adaptation offer enormous potential while other forms of climate action. Nonetheless, there are literally thousands of historic preservation professionals and supporters whose heritage talents have not been mobilized on climate issues.

The ICOMOS-led reports and the CHN all aim to implement more cultural heritage awareness in climate change policy frameworks. However, while acknowledging the role heritage can play in climate change engagement, the impact of climate change on heritage sites remains a focal point throughout these initiatives. As most of the above projects and networks are in their early stages, it is hard to say what their influence will be on the international level and how their work will progress in the future. Nonetheless, these publications and collaborations represent the increased awareness of the need for a linked-up response across sectors and an interest of the heritage sector to be part of the (international) climate change discourse.

2.3 Conclusion

In summary, climatic change induced by anthropogenic causes has brought climate scientists and geologists to say we live in an era called the 'Anthropocene'. Taken from the natural sciences into the social sciences and humanities, the Anthropocene now symbolises something that goes beyond a geological process on a planetary scale. Instead, it points to more profound shifts in how humans place themselves in the world. So, within what Lorimer calls the Anthropocene 'zeitgeist', writers and alike are trying to create an understanding of the new position humans have in relation to their environment.

The Anthropocene has also influenced work in (critical) heritage studies. As the Anthropocene encompasses a change in perceived certainties about the future, heritage scholars have been inspired by the meaning of this epoch for heritage and its conservation. These endeavours are linked to the Anthropocene paradigm, reflecting on our position in the world through heritage or what we leave behind for the next generations. It also shows that heritage and heritage activities are increasingly perceived and explored as a resource, instead of 'just' a victim in need of protection, changing the ideas about what heritage can be and perhaps should be in the Anthropocene epoch.

While the Anthropocene is a useful concept to make climate change into a more complex phenomenon, I argued that in the specific context of this research, the concept of the Capitalocene provides a better critical framework to reflect on the work of both case study organisations and their response to climate change. Through the Capitalocene framing, different questions can be asked, and *different expectations had for HE and the RAÄ*, as it means they are tangled up in the socio-economic and socio-environmental relations that drive the current climate crisis due to the past and present realities of the nation-states they belong to. Consequently, climate change is not an external impact but a meshwork of past and present relations that both organisations and the heritage they represent are part of.

The intellectual framework set out in this chapter and chapter 1, provides the critical lens through which the ethnographical data of the fieldwork sites will be analysed in the succeeding chapters (4-6). In regards to the concepts introduced in this chapter, of special importance for the analysis is the complexity these concepts bring to the climate change discourse. The Anthropocene conceptualisation of the climate crisis – and even more so the Capitalocene – direct the attention to the past and present socio-natural and

socio-economic networks at play and what futures these create. It puts special emphasis on the agency and responsibility of the western *Anthropos* and *their heritage* in creating and sustaining the current crisis. This emphasis is interesting for the ensuing chapters, as it offers a critical engagement with how the organisations relate heritage to the climate crisis and what this means for the action they undertake in response to climate change.

Chapter 3 – Studying climate change as a hyperobject: Methodology and methods

3.1 Introduction

This chapter discusses the chosen methodological approach and associated methods to answer the sub-questions and reach the main aim of this research: *to understand the actions, engagements and reflections of heritage government authorities as a response to climate change and the ideas regarding climate change and heritage that underpin these engagements.* It will explain why I choose the hyperobject as a concept to study climate change at the two case study organisations and map out the implications of this approach on the methodology and methods.

In order to study climate change as a hyperobject in heritage government authorities, I chose to undertake a multi-sited ethnography consisting of participant observation, interviews and documentary research at two case study organisations in Sweden and the UK, which hosted my work placements as part of the *CHEurope* doctoral training programme. I use the outcome of the fieldwork at these two case study organisations as a reflective comparison, using each experience to understand better how the relationship between heritage and climate change is framed and the implications of this framing on climate change engagements in similar organisations across Europe. Through this study, the case studies provide analytical sites to critically engage with the relationship between climate change (action) and heritage more generally and starting points to question this relationship's potentialities further. Here, this relationship is understood as moving in two directions: understandings of the climate crisis impact heritage and heritage work, and ideas concerning heritage and heritage work impact the engagements with climate change. In other words, this research studies climate change in order to understand heritage and vice versa (after Nightingale et al., 2020). It is not the aim of this study to provide a systemic historical overview of the climate change work at either of the organisations. Instead, the empirical data presented focuses mainly (with a few exceptions) on work in response to climate change during the years 2017-2020 within a small setting of their organisational networks.

The two organisations that are the subject of this thesis are Historic England (HE) and the Riksantikvarieämbetet (RAÄ: Swedish National Heritage Board). Both organisations function as official government authorities for the historic environment sector in their respective countries. Due to the parallels in their function, the focus of the work done by both organisations and their shared geographical location in West-Europe, they provide relevant sites for this reflective comparison. In addition, over the past few years, Sweden and the UK have become centres of climate activism. From the moment Greta Thunberg sat down in front of the Swedish government in August 2018 and Extinction Rebellion (XR) made itself visible to the public during its first rebellion in April 2019 in London, both countries have become hotspots of the environmental movement. Engaging a new generation of environmentalists and pressuring their and other governments to act more urgently on the climate crisis, Greta Thunberg and XR have fuelled the climate discourse in and beyond the UK and Sweden (Sabherwal & Van der Linden, 2021; Singh et al., 2021; Taylor, 2019).

3.2 Writing an ethnography of climate change – a case study approach

Following the aims of this research, the chosen methodology is one of a reflective comparative analysis of two case studies. According to Carman and Sørensen (Sørensen & Carman, 2009), the use of a case study approach has been part of heritage studies since its first graduates entered the field in the early 1990s. It has remained a popular approach to study heritage practices and places throughout the subsequent years. This is proven by Sørensen and Carman's own book, as each chapter is made up of case study research, but also most of the work on heritage and climate, which I referred to in chapters 1 and 2, represents case study research. However, instead of seeing the case study as providing a final answer to a research inquiry, I follow Carman and Sørensen in adopting a case study approach as "a means of exemplifying and learning rather than the goal" (Carman & Sørensen, 2009, p. 20). This approach is relevant for this research as it aims to study climate change as a hyperobject. This means there is no ultimate goal, as ideas concerning climate change and climate change itself have no set linear reality and thus lack a 'right' response. Therefore, through 'exemplifying and learning' from the responses of the case study organisations, the study aims to come to a better understanding of the climate change-heritage relationship.

However, what does it mean to undertake a case study based ethnography of climate change? Werner Krauss (2009) writes that writing a climate change ethnography creates friction of scales, as it aims to *localise* a *global* phenomenon. This friction exists between keeping the local effects, causes and responses of weather embedded in the 'hyper'-presence, effects and causes of climate change. On this matter, Hannah Knox (2020, p. 4) admits that numerous studies have been undertaken on the local effects of a changing climate on people's social practices, but "there has not been a very established conversation between these studies of local weather matters and a broader anthropology of global climate change as a technological, infrastructural, political-economic phenomenon". To include this multi-dimensional presence of climate change, Knox approaches her case study – the city of Manchester and a variety of local decision-makers – through the frame of "thinking like a climate", approaching climate as a "form of thought" (ibid., p. 6). This provides Knox with a framework to connect climate change as global data set to its effects on people's everyday life, their experience of weather, decision-making processes, and modes of managing their social networks.

3.3 Understanding climate change as a hyperobject

3.3.1 Object-oriented-ontology and ethnography

Where Knox's approach provides a descriptive framework to study climate change, I choose Timothy Morton's (2013) 'hyperobject' as a framework to create an object-object relationship to engage with climate change on the level of 'meeting it', 'encountering it', 'experiencing it', as well as 'being met by it', 'being encountered by it', and 'being experienced by it'. In chapter 2 I already referred to Timothy Morton's description of climate change as a 'hyperobject'. Here, I employ Morton's term as a methodological tool, and as an ontological and epistemological framework for this study.

As explained in chapter 2, Morton uses the hyperobject terminology to refer to objects and their effects that manifest on such large scales in space and time that humans have difficulty grasping them. Morton's approach finds its foundations in object-oriented-ontology (OOO), a philosophical stance part of the 'materialist turn' and strong relations to posthumanist thought (Harman, 2018, p. 12). In its most essential explanation, OOO is based on two principles: (1) only objects exist, and they are real, and (2) objects are withdrawn from direct access (Harman, 2018).

The first principle creates a flat ontology. This means that all forms of existence have equal existential status and potential for agency based on object-object relationships, in contrast to the unequal object-subject relationships (Harman, 2005). Objects in this definition consist of humans, nonhumans, and inanimate agents. This inclusive definition of objects shifts the ontological plane away from an anthropocentric focus, in Morton's words (2013, p. 17):

> [It] radically displaces the human by insisting that my being is not everything it's cracked up to be – or rather that the being of a paper cup is as profound as mine.

The change in ontological stance is further emphasised by OOO's basis in a realist ontology, which means that "the external world exists independently of human awareness" (Harman, 2018, p. 10). In terms of a changing climate, it means that this change happens independently of the human experience and the human scientific understanding. Through its flat ontological approach, OOO joins posthumanist philosophies (see e.g. Braidotti, 2013; Haraway, 2003; Wolfe, 2010) in decentring humans as a special entity from the ontological landscape. According to Morton (2013, p. 18), the decentring of the human experience is essential in times of the climate change hyperobject:

> [The] assertion that reality is finally knowable exclusively by (human) subjectivity. And *that* is the problem, the problem called anthropocentrism. […] We are not in the center of the universe, but are not in the VIP box beyond the edge, either.

The second principle is explained by Graham Harman as based on the idea that "reality is always radically different from our formulation of it, and is never something we encounter directly in the flesh, we must approach it *indirectly*" (Harman, 2018, p. 8). Instead, "all of the objects we experience are merely fictions: simplified models of the far more complex objects that continue to exist when I turn my head away from them, not to mention when I sleep or die" (Harman, 2018, p. 34). This means that the only way we ever experience reality is through our own experience, which is, in all cases, a limited understanding as objects and all their properties exceed what can be grasped by this restricted experience. In Morton's words: "consider raindrops: you can feel them on your head – but you can't perceive the actual raindrop in itself. *You only ever perceive your particular, anthropomorphic translation of the raindrops*" (Morton, 2013, p. 11, my emphasis) and, leading from this Morton states that "no discourse is truly 'objective'" (ibid. p. 4). This means that an OOO stance allows a world in which many worlds exist. It

acknowledges that we all experience it differently while thinking different ideas of different worlds. Methodology-wise, this means that everything presented in this research is my experience of a snippet of a world created by the two case study organisations and the groups and individuals I have encountered. As a result, the fieldwork is limited to my experience of a reality, not as a truth or a pretence of truth, instead, it means that there are as many other lived realities as people (and objects, and nonhumans) within the same space and time.

3.3.2 The implications of the hyperobject

In this research, I draw on Morton's conceptualisation of climate change as a hyperobject, using it as an analytical tool to understand the reality of this phenomenon and to study it as an object connecting the two case study organisations. This means that I choose the climate change-hyperobject to be the reality in which the research is set. I choose to do this for five reasons. First, the hyperobject offers an *object* of study. Moreover, it offers an object of study of which its reality cannot be denied, as its increasingly visible effects make its presence creep upon us: "the more we know about radiation, global warming, and the other massive objects that show up on our radar, the more enmeshed in them we realise we are" (Morton, 2013, p. 160). As such, all and everyone I encounter through this research is part of and living in the hyperobject climate change: "Becoming a geophysical force on a planetary scale, means that no matter what you think about it, no matter whether you are aware of it or not, there you are, being that" (ibid. p. 21).

Second, and following up on the first reason, it removes the question of whether climate change is "real" or not, as it goes beyond the scientific discussion and data to explore how climate change manifests through its effect on contemporary human thought and action. Hence, the mere existence of such a debate is the proof of the hyperobject's presence and its agency to provoke action and reaction. Moreover, based on realist ontology, the hyperobject exists independent of human's perception or understanding of it, they are "not a function of our knowledge" and they "are real, whether or not someone is thinking of them" (Morton, 2013, p. 2).

Third, it allows one to move beyond the particularities of climate change, to focus on the overarching phenomenon of which the particularity is a local manifestation. This means that the focus shifts to climate change itself, rather than, for example, the manifestations of climate change such as extreme weather episodes, flooding, etc. The

dramatic experience of such specific events tends to distract from seeing climate change as a larger, interconnected problem. An interconnected problem I understand through a Capitalocene framework (chapter 2) in this research.

Fourth, through their non-locality and temporal undulation, hyperobjects also offer an explanation for the *slow violence* of climate change (cf. Nixon, 2011), as its effects take place gradually, distributed over time and space. This explains why it is difficult for humans to feel like they can meaningfully engage with the *hyper*phenomenon and instead risk focusing merely on its present manifestations.

Last, in OOO, objects, and thus hyperobjects, are partially withdrawn from one's experience due to the limitations of the specificity of this subjective experience. As a result, a sense of mysticism remains. I interpret this as the impossibility to fully grasp the reality of climate change. Instead, as humans, we need to come to grips with living with and responding to the unknown. I think this is crucial to living in the Capitalocene where human's hubris in believing to be in control of nature and its use as a passive resource has created ecological havoc. Morton (2013, p. 17, emphasis in original) calls this a need for 'humiliation': "what if hyperobjects finally force us to realise the truth of the word *humiliation* itself, which means being brought low, being brought down to earth?". This brings me back to Sørensen's and Carman's quote (2009, p. 20) I used before: "[using the case studies as] a means of exemplifying and learning rather than the goal". The humility brought down upon us by the vastness of the hyperobject makes it impossible to pursue an ultimate 'goal', as a goal implies a sense of control. However, control is no longer solely held by humans within the hyperobject's reality. Therefore, the aim of this study focuses on 'understanding' the human approach to climate change contained within a subjective experience of the fieldwork sites and reflecting a particular anthropomorphic temporal and spatial setting.

3.3.3 A note on flat ontologies

A few notes need to be made in relation to OOO's emphasis on flat ontologies and human-nonhuman relations. Following the ideas behind the hyperobject and the earlier mentioned concept of a flat ontology, I wish to acknowledge that the idea of a flat ontology and many of the connected ideas underpinning OOO are not new. The acknowledgement of a plurality of worlds, the agency of nonhuman beings and objects, the refusal of a dualism between Nature and Culture, and the perception to view everything as connected,

are all principles present in many indigenous worldviews (Hart, 2010). Conceptual frameworks based on OOO and the similar actor-network-theory (Latour, 2005) and assemblage theory (DeLanda, 2006) have to some extent re-introduced (and one can argue: appropriated) these ways of thinking into modern western philosophy. Zoe Todd, a Métis/otipemisiw indigenous feminist scholar, explains this – for her very personal – frustration in the article titled *An Indigenous Feminist's take on the Ontological Turn: 'ontology' is just another word for colonialism* (Todd, 2016), which she wrote after attending a lecture by Latour on natural theology. In a reflection on her experience in attending Latour's talk, where he shared his view on his understanding of Gaia, Todd (2016, pp. 6–7) reflects:

> I waited through the whole talk, to hear the Great Latour credit Indigenous thinkers for their millennia of engagement with sentient environments, with cosmologies that enmesh people into complex relationships between themselves and all relations, and with climates and atmospheres as important points of organization and action […] It never came.

In a blogpost preceding the article, Todd (2014, emphasis in original) paraphrases her colleague Caleb Behn who gives a similar critique:

> First they came for the land, the water, the wood, the furs, bodies, the gold. Now, they come armed with consent forms and feeble promises of collaboration and take our laws, our stories, our philosophies. *If they bother to pretend to care enough to do even that much—many simply ignore Indigenous people, laws, epistemologies altogether and re-invent the more-than-human without so much as a polite nod towards Indigenous bodies/Nations.*

As I use the epistemology of OOO to create the boundaries of my fieldwork, it is essential to acknowledge the origins of these philosophical ideas and the fact that for many people around the world, they comprise lived realities, not just theoretical understandings.

3.4 A multi-sited ethnography of the climate change hyperobject

Returning to Knox and Krauss, who proposed an approach to maintain a connection between the global mechanisms fuelling the climate crisis while studying it in a local

ethnographic setting as an omnipresent phenomenon, the hyperobject provides a helpful framework. Because as Morton explains, it is impossible to experience or study the hyperobject in its entirety due to its nonlocality and phasing. As a result, one can only study and experience the hyperobject on specific places at specific moments in time, in the shape of indices (e.g. a record-hot summer or a freak weather event), or what Morton (2013) calls 'interobjective manifestations'. It is these manifestations, as they appear on the human scale within the studied organisations that I want to document and explore.

To do this, I adopt a multi-sited ethnographic approach as a research method (Marcus, 1995). Instead of focusing on one case study site, this approach will follow climate change as the object, in its OOO understanding of the word, connecting multiple physically disconnected sites to see what change climate change brings about at these different locations. Thereby, doing an ethnography of the case study organisations allows experiencing the presence of climate change in a manner that would not be possible through the use of questionnaires or methods alike. These alternatives would prevent me from experiencing climate change as it appears over a stretch of time on a daily basis in the office, in meetings, and in conversations.

Simultaneously, a multi-sited ethnographic approach supports the reflective comparative aims of this study. This approach should eventually lead to a greater understanding of the multiple ways in which different organisations might respond and the various forms in which climate change may manifest within these organisations (Azarian, 2011).

3.5 Tools and Methods

In the application of a multi-sited ethnographical approach within organisations, I will adopt several tools to gather data that allow me to (1) observe and map the manifestations of and the changes climate change brings about in a boundless field, and (2) gather experiences from those in the field on these changes and manifestations (for examples on other studies in and approaches to organisational ethnography see: Gaggiotti, Kostera, & Krzyworzeka, 2017; Gellner & Hirsch, 2001; Ybema, Yano, Wels, & Kamsteeg, 2009).

3.5.1 Participant observation

The first point will be studied via the use of participant observation and documentary studies (Ellen, 2007; Gellner & Hirsch, 2001). At HE, participant observation was shaped by

a secondment based on a work-based task. This task aimed to create a first attempt for a heritage sector-wide climate-change-risk-assessment template (see chapter 4). Through this contribution, an element of reciprocity between the organisation, its staff and myself was created (J. Harrison, Macgibbon, & Morton, 2001).

Figure 10 HE's office is based in Cannon Bridge House in the corporate centre of the City of London. Source: *author's own.*

As a participant observer at HE's London office between January 2018 and January 2020, I followed the work of specific staff members tasked with climate change-related work of the 'Strategic Research and Partnerships' (SRP) team, part of the 'Strategic Planning and Management' department. This team's main task is to conduct and commission research supporting HE's work. In the initial contact with the organisation, this team was pointed out as the most relevant because it is tasked with the main climate change-related work at HE. Due to contact with this team and my contribution to a particular project, I gained access to monthly meetings of the SRP team and meetings of the 'Historic Environment Adaptation Working Group' (HEAWG). The HEAWG was founded

as a result of the first request of the UK government's Department of Environment, Food and Rural Affairs (Defra) to HE to contribute to their 'climate change adaptation reporting power'. The intersectoral group aims to facilitate a space for organisations to share ideas and approaches on climate change while simultaneously acting as a support group (HEAWG meeting transcript, 23rd October 2018, Swindon). The twofold purpose of the group was described as follows during one of the meetings:

> One is to share what different organisations are up to within the historic environment sector, our experiences, challenges, research and contacts, those of us working with climate change, adaptation, historic environment, and the other, […], is as a source of information and a means of liaising between ourselves and Defra and the wider sector.
>
> (HEAWG meeting transcript, 23rd October 2018, Swindon)

At first, the HEAWG mainly consisted of organisations from the historic environment sector in England, but it has since expanded to include partners working with the natural environment and now includes the whole of the UK (fieldwork notes, 23rd October 2018). The presence of the member organisations during meetings varies, depending on the location and the availability of the representatives. The HEAWG provided me with an interesting setting to experience the general concerns, responses and approaches in response to climate change of a variety of heritage organisations.

One of the main offices of HE is located in the City of London. The key contact person, who supervised my work task, was based in this office, and the meetings of the SRP team also took place here. Due to my own residency in London, the fieldwork could take place over a more extended period of time, where I would come to the office on a regular basis to attend meetings and events or work on the assignment. The latter mainly took place between January 2018 and November 2018. However, my presence continued after the end of the task as I was invited to several climate change-related events by my key contact person. However, my attendance at the team meetings ceased taking place after HE's reorganisation in April 2019 (when I was in Sweden), resulting in the dismantling of the SRP team. The SRP team members found their way into other organisational teams that were disconnected from my research.

During my fieldwork at the RAÄ, I was hosted by the '*kulturvårdsstöd*' (cultural conservation support) team within the '*kulturarvsutveckling*' (cultural heritage development) department full-time for ±five weeks between April and May 2019. This department is based in the organisation's Visby office on the island of Gotland (see Figure 17). Similar to HE, through initial contact with the organisation, this team was singled out as most relevant and of interest for this research, as most climate change-related work takes place within this team. In addition, at the time, members of the department were working on the new climate change adaptation plan (Riksantikvarieämbetet, 2019a), at the time a focus point of the organisation's overall climate change work. The cultural conservation support team consists of 10 people (Riksantikvarieämbetet, 2019b) and is tasked with developing and sharing knowledge and granting support to heritage managers and practitioners in the conservation and management of heritage values (ibid.).

The situation at the RAÄ was different from HE, as I arrived at a moment when they did not have the staff resources to provide me with a specific work task. In addition, there was a significant language barrier, as I do not speak nor understand Swedish. This meant that contributing to their work was less straightforward, and my attendance at meetings was less beneficial to the purpose of my research. Instead, my participant observation in Sweden had a stronger emphasis on interviews and casual conversations and was aided by updates from people after relevant meetings.

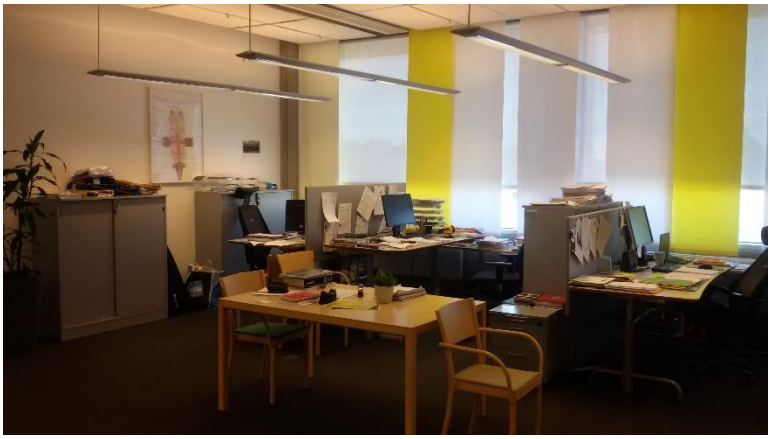

Figure 11 Office space in Visby. Source: *author's own.*

Figure 12 '*Fika*'-corner in Visby. *Fika* is a recurring moment during the Swedish workday where staff drink tea/coffee and often eat something sweet together. Source: *author's own.*

3.5.2 Documents

I also used my presence to focus on the types and content of formal and informal communication used within the organisations related to climate change (Gellner & Hirsch, 2001). Departing from an object-oriented, flat ontology, agency is attributed to written documents within the socio-material network, co-creating the organisation's composition, properties and policy-making practices (see also Harrison, 2013, 2015b for the inclusion of 'the material' in the study of heritage networks via material-semiotic approaches, and Carlile *et al.*, 2013 for the 'material turn' in organisational studies). Hence, I will include documents published by each organisation as a part of my analysis. Both publicly available and internal publications will be analysed and are used to investigate the material culture of the organisations and their agency within the organisational network (Østerlund, Snyder, Sawyer, Sharma, & Willis, 2015). Hammersley and Atkinson (2007, p. 132) describe material sources as:

> … made and used in accordance with organizational routines and [that] depend for their intelligibility on shared cultural assumptions. Records construct a 'documentary reality' that, by virtue of its very documentation, is often granted a sort of privilege.

The focus of this study lies on the work published and taken place during the years 2017-2020. However, if a reference was made by people working in either organisation to documents published before that time to illustrate a specific piece of work, these have

been included as well in the analysis. Similarly, significant work published just before 2017 is included too.

While both organisations, as public bodies, rely heavily on publicly available documents to disseminate their work, there is a difference in output between the organisations. This is likely due to a significant difference in organisational size between the RAÄ and HE (±300 vs ±900 employees). This difference in staff resources leads to an overall higher quantitative output of reports and publications at HE. Therefore, there is more documental support in discussions on HE's work than the RAÄ's in several cases presented in the following chapters.

A last note on written publications concerns the use of documents originally published in Swedish. Due to the limitations of my understanding of this language, I had to use 'Google Translate' to transfer these documents into English. However, as the adopted methodology does not rely on in-depth discourse analysis, focusing on the specifics of the used language, but on a thematic analysis to study the organisation's work, these translations proved sufficient for the aim of this research.

3.5.3 Interviews

A third method consists of the conducting of interviews. Based on the understanding that the organisation is not only formed by its formal rationality but also by the individuals working there, interviews are necessary to create a full understanding of an organisation's rationale and functioning (Gellner & Hirsch, 2001). Interviews were guided by a set of topic questions around 'understanding climate change' 'relating heritage work and climate change', 'networks', 'change' and 'futures' (see appendix 1 for the used interview guide). These topics came forth from the reviewed literature and the research questions. As the interviews were semi-structured, they were also led by topics that would come up during the conversation.

I conducted interviews with relevant people in the case study organisations on the basis of 'purposive sampling' (Silverman, 2013). This means that I choose to speak to those people who would be able to speak in-depth about climate change and have a meaningful understanding of how climate change was set in the organisational network. I would use the guidance of key contact persons and information shared in meetings and conversations to determine who to interview on this basis. I would arrange a set date and time with the

interviewees, after which the interview would take place in a private room at their office. A list of interviews conducted at both organisations is attached in appendix 2.

3.5.4 Audio recordings and ethics

I used a portable audio recorder to record the attended meetings and interviews. These recordings have been undertaken in compliance with the terms of my ethical approvals (see appendix 3). Therefore, I applied the following protocol in recording meetings: before starting the recording, I would explain to the group of attendants what I intended to do at the start of each session and asked if anyone had objections to this. In rare cases this would lead to someone expressing discomfort or not giving consent to record particular topics they intended to address in the meetings. In this case, I would switch off the recorder and remove it from the table upon request. Any further expressed discomfort would be resolved by me, or by my key contact persons, by reassuring attendees that no personalised quotes or names will be used in the research in compliance with the GDPR and approval of the application submitted to the UCL-IoA Ethics Committee (see appendix 3). However, usually, nobody would voice any objections, and the recorder would be in the centre of the table for everyone to see.

In terms of the interviews, I would ask how someone would like to be addressed at the beginning and at the end of an interview. Prior to the meeting, all participants were emailed a 'participant information sheet' outlining all implications of the research and the interviewee's rights, in addition to a 'consent form' stating their approval to participate (see appendix 4). While several people across HE and the RAÄ did not feel the need to be anonymised, some of their colleagues requested this option. Therefore, I choose to anonymise participants in the presented work fully. As this thesis aims not to focus on specific differences in opinion or understandings across the organisational levels, anonymisation does not pose an issue.

The recordings of the interviews and meetings were subsequently transcribed. Transcription would either be performed by myself, or by a transcription service (Way With Words, London), based on 'intelligent verbatim', i.e. leaving out verbal fillers. After the transcription, the recordings have been rechecked with the audio for inaccuracies.

3.5.5 A further note on the differences between the fieldwork at HE and the RAÄ

I already wrote that there are a number of differences between the fieldwork at both organisations. The main difference is that I spent a shorter (±5 consecutive weeks) and more condensed time at the RAÄ in comparison to HE. Consequently, I could establish a notion of what themes and ideas guided the climate change-related work of HE over an extended period. This allowed me to come to a point where I would repeatedly hear the same or similar arguments and reflections and see how these arguments gained traction and led to new projects over the ± two years I followed HE's leading climate change engagements.

Subsequently, these themes, representing HE's work, influenced my perception of and experience at the RAÄ. Therefore, HE forms the main guidance in interpreting the created climate change-heritage relationships in the analysis, and the work of the RAÄ acts as the reflective counter-part of the experience at HE.

3.6 Trustworthiness and the limitations of the research sites

Since the research is set in a framework based on OOO, my epistemological stance is regarded as a "speculative realist" one. From the point of view of OOO and speculative realism, I am defining the research site as my form of simplified reality. It is my experience of it that creates the boundaries of the research site. It is also only through my experience that the research site exists as it will appear in this thesis. As speculative realism suggests, we will never be able to know the full truth of an object since part of it will always be hidden (Harman, 2016, 2018). This is at least true for the objects involved since the relation these objects have - and in this case I am one of these objects and whatever or whoever I encounter in my case studies acts as another object - never exhausts the possibilities and the potential that exists in these objects (Harman, 2016, 2018). In other words, what is presented here is more 'a day in the life' of the organisations. From an OOO perspective, I will never be able to experience nor understand the field site to its full extent, whatever that extent may be. Instead, the field site is defined auto-ethnographically as the field of my own experience as a researcher.

This stance is related to one of the strategies Cresswell (2007) points out to create 'validation' or 'trustworthiness' in qualitative research. Cresswell notes that clarifying

researcher bias is important to contextualise the perspective the information in the field is filtered through. Already in the introduction I commented on the context of this research and my personal relation and concern for the climate crisis. The epistemological stance, described above, includes this bias within the research design. OOO creates boundaries around the 'truth' one can tell. Consequently, I do not intend to create an 'objective' truth of the research sites. Instead, the work in this thesis represents my simplified reality of the research sites, representing a limited moment in time in a limited spatial setting through a limited experience.

However, this does not mean that the following chapters are a product of *just* my musings. Through a "prolonged presence" at the organisations, especially at HE, and through "triangulation" of sources (Creswell, 2007, pp. 207–208) a degree of validation is created that goes beyond the mere personal interpretation. The first – prolonged presence, allowed to see trends in the reoccurrence of certain topics, approaches, concepts and language, pointing to an organisational approach and reality around the hyperobject climate change. The experience of these trends was extended from the fieldwork site at HE to that of the RAÄ, as similar organisational interests and approaches were observed at both fieldwork sites.

The second, triangulation, points to the use of different source materials in order to create a more nuanced description of the research sites. As explained in the 'Tools and Methods' section above, a variety of methods have been deployed in order to study a number of different sources (observation of the day-to-day, staff's experiences, organisational documents). Altogether, these have been essential to the data analysis and the creation of the themes that shape the following chapters (4-6). Throughout the analysis, the different source materials will be used in conjunction, as they speak to one another and together create a reality of the research site as created through my presence in a specific time and place.

3.7 After the fieldwork: data analysis and writing up

After returning from the fieldwork, I structured the ideas that came forth from the experiences at both fieldwork sites through ethnographic writing and a thematic analysis: deducting the main themes representing the engagements with climate change of both organisations. These themes were influenced by the theoretical concepts and underpinnings of this research. This approach was taken to move beyond the discursive

element that represents climate change. Instead, it supports the aim to understand the data by revealing patterns that translate into themes in the larger data set (Braun & Clarke, 2006) and disclose the ideas embedded in the data both implicitly (latent) and explicitly (Guest, MacQueen, & Namey, 2014).

To execute the thematic analysis, I have entered the collected data into NVivo, a piece of software that allows one to manage qualitative data effectively. From there, I started coding the data using a deductive approach. This means that the coding has been influenced and guided by pre-existing ideas, research questions, and known concepts and ideas generated from literature before the data analysis (Marks & Yardley, 2011). Initial ideas around themes were already shaped during the fieldwork. Upon returning from the fieldwork, final themes formed through a continuous process of reading, reflecting, writing, and synthesising the data. In line with the subjectivity related to the experience and definition of the fieldwork sites, as I explained above, this coding process is by no means a passive activity. As Braun and Clarke (2006, p. 80) write:

> An account of themes 'emerging' or being 'discovered' is a passive account of the process of analysis, and it denies the active role the researcher always plays in identifying patterns/themes, selecting which are of interest, and reporting them to the readers.

3.8 The case studies: a brief introduction

3.8.1 Historic England (HE), England, UK

Figure 13 Historic England logo. Source: *historicengland.org.uk.*

Historic England was created in 2015 from the larger organisation English Heritage. The latter, as an organisation, originated as a result of the creation of the National Heritage Act 1983 (Historic England, 2015). Historic England as a separate entity has existed since 2015 when English Heritage was divided into Historic England and the English Heritage Trust (Historic England, 2015). This led the English Heritage Trust to become a charity in charge

of the management of the National Heritage Collection and, hence, in charge of the care of many heritage sites in government control. The split created Historic England as the national policymaker, without ownership or guardianship of a specific heritage collection.

Figure 14 England's domestic government structure. HE is circled in red. Source: *https://www.culturalpolicies.net/database/search-by-country/country-profile/category/?id=42&g1=1.*

Historic England describes itself as 'the public body that helps people care for, enjoy and celebrate England's spectacular historic environment' (Historic England, n.d.-a). The organisation describes its aims as creating an understanding for the public of England's historic environment and its benefits while creating a sense of public care for heritage (Historic England, n.d.-d). They do this in five ways (Historic England, n.d.-d):

(1) By championing and protecting England's historic environment;

(2) By doing research;

(3) By providing advice to owners, local authorities and the general public;

(4) By designation, listing and record-keeping;

(5) Through providing funding to support activities related to these goals.

Historic England functions as the UK government's official advisory agency and is funded by the Department for Digital, Media, Culture and Sports (DCMS) (see Figure 14) (Historic England, 2019c). Despite its governmental affiliations, it acts as an independent body. About 900 people are employed by HE, divided over eleven offices and various teams throughout England. They describe their aims on their website as follows (Historic England, n.d.-d):

1. Championing historic places
2. Identifying and protecting our heritage
3. Supporting change
4. Understanding historic places and
5. Providing expertise at a local level

3.8.1.2 Climate change policy in the UK

On the national level, England's climate change policy is located on the UK level, and based on the UK's 2008 Climate Change Act (The UK Government, 2008). It is notably the first national legally binding framework in the world (Department for Environment Food & Rural Affairs, 2012). This Act makes it a legal obligation for the UK government to mitigate greenhouse gas emissions by 80% in 2050 (The UK Government, 2008). As part of the Climate Change Act, the Climate Change Committee (CCC) got established as an independent government watchdog and adviser (Committee on Climate Change, n.d.). The CCC creates the data to control and check the government's ambitions (ibid.).

There are several reporting cycles connected to the Act under its 'Adaptation Reporting Power' (ARP), which "allows the Secretary of State to ask key organisations to report on the steps they are taking to prepare for climate change" (Committee on Climate Change, 2020). The main two are the Climate Change Risk Assessment (CCRA), and the National Adaptation Programme (NAP) (see Figure 15). Reports published under this power are updated in 5-year cycles and supported by data on climate projections produced by the UK Climate Impact Programme (UKCIP). Together, they aim to provide the knowledge and evidence to guide current future policy and planning in response to climate change

adaptation and mitigation. As a government authority, HE has been asked to produce a 'Climate Change Adaption report' as part of the second round of the ARP in 2016 (see also chapter 4) (Historic England, 2016a).

Figure 15 UK climate change reporting cycles. Source: *Committee on Climate Change via https://slideplayer.com/slide/8352032/.*

On the international level, the UK has ratified the UN Framework Convention on Climate Change (UNFCCC), which dates from 1994 (UNFCCC, n.d.). The UNFCCC focuses on stabilising the level of greenhouses gasses emitted into the atmosphere. The framework was matched with legally binding limits of emissions from industrialised countries by the Kyoto Protocol in 1997, which the UK also ratified in 2002 (ibid.). Following up on this, in 2015 the UK was a co-signer to the Paris Agreement (see chapter 1).

3.8.2 Riksantikvarieämbetet (RAÄ), Sweden

Figure 16 Logo of the Riksantikvarieämbetet. Source: *RAÄ.se*.

Today's organisational structure and function of the Riksantikvarieämbetet (RAÄ) is shaped by a decentralisation process that took place in the 20th century. Then, the management of cultural heritage got moved from the duties on the national governmental

(the state) level – the level the RAÄ functions on, to the regional level of the 21 county administrative boards, which took it on board in their urban and landscape planning processes (see Figure 17 and Figure 18) (Compendium: Cultural policies and trends, 2021).

Figure 17 Sweden and its counties. Gotland is the island in orange in the South-East. Source: *worldatlas.com.*

Since this decentralisation, the role of the RAÄ is primarily to encourage and deepen collaboration with other sectors and agents and to create platforms for meetings and information sharing. The RAÄ has no legislative power, nor is it able to make any juridical decisions; instead, it provides advice to professional managers in the non-profit sector (Riksantikvarieämbetet, 2021d). The RAÄ functions under the Ministry of Culture, which is their main provider for their yearly budget and assigns them specific tasks each year (Riksantikvarieämbetet, 2021d). These tasks are set out in the government's '*Regleringsbrev för budgetåret 2019 avseende Riksantikvarieämbetet'* (English: Annual regulatory letter from the government for the financial year 2019), and '*Förordning (2014:1585) med instruktion för Riksantikvarieämbetet'* (English: Instructions to the National Heritage Board) from 2014). The former states how the RAÄ will need to report on the use of the government's funding in 2019 to: "promote[d] a living cultural heritage that is preserved, used and developed and how the grant has created conditions for

increased quality of life and sustainable development" (Kultur-departementet, 2018, p. 1). The relation to the government's aims can also be seen in the similar wording the RAÄ describes on its website (Riksantikvarieämbetet, 2021a) to describe its task:

> Our assignment includes ensuring that the cultural value of buildings and landscapes is preserved, utilised and developed, and watching over the interests of the cultural heritage and cultural environment in community planning and construction. Our vision is "Everybody thinks in time".

While the organisation needs to report to the government throughout the year, the government is not allowed to intervene in the work and advice given by the RAÄ. Next to the assignments given by the Ministry each year, the RAÄ is also tasked with supporting the 15 Swedish World Heritage Sites (Riksantikvarieämbetet, 2021d).

Figure 18 "Overall picture of the relationship between different levels of government and arm's-length bodies (arrows are indicating funding streams)". The RAÄ is referred to here by its English name, 'Heritage Board'. Source: *https://www.culturalpolicies.net/database/search-by-country/country-profile/category/?id=39&g1=1.*

The RAÄ consists of about 270 employees, divided over two offices in Stockholm and Visby, on the island of Gotland (Riksantikvarieämbetet, 2021a). It is also in charge of two museums and has its own library and archive, next to their offices in Stockholm. The

organisation is divided into six departments, which together contribute to five core areas around which the organisation's work is organised (see Table 1) (Riksantikvarieämbetet, 2021g).

Table 1 Departments and core areas of the RAÄ

Departments	Core areas
1. Department for strategy and planning	1. Cultural heritage and society
2. Department for the cultural environment	2. Rules and grants
3. Department for conservation	3. Information and knowledge
4. Department for information and communications	4. Heritage centre
5. Department for the library and archive	5. Management and internal support
6. Department for management administration	

3.8.2.1 Climate change in Sweden

The *Sveriges meteorologiska och hydrologiska institut (*English: Swedish Metereological and Hydrological Institute), abbreviated SMHI, is the Swedish government authority that creates the climate prognoses for Sweden (SMHI, 2017). Due to the size of the country, stretching over 1,574 km North-South, there are significant differences in expected regional changes to the climate (Swedish Portal for Climate Change Adaptation, 2020). The wild fires blazing through the Swedish pine woods in the summer of 2018 were widespread news and an example of the consequences of an increase in temperatures and drought, two of the main changes to the Swedish climate due to climate change (Christodoulou, 2018).

3.8.2.2 Sweden's environmental goals system

Sweden has a relatively long history of environmental protection, regarded as the first country to establish a government authority for environmental protection in 1967, the *Naturvårdsverket* (English: Environmental Protection Agency). It is also the first country to

host a UN conference on the environment (1972) and one of the first to introduce a carbon tax (1995) (Sweden.se, 2021).

Sweden's present national climate work is based on 16 environmental quality objectives and one generational goal (see Figure 19). The objectives are described (Naturvårdsverket, 2018, p. 1) as a:

> Promise to future generations of clean air, a healthy living environment, and rich opportunities to enjoy nature. These Swedish objectives, moreover, are to be achieved without increasing the environmental and health problems of other countries.

Figure 19 Sweden's 16 environmental objectives. Source: *Naturvårdsverket, Screenshot of content via slideshare.net.*

Central to the objectives is a sense of urgency; "environmental problems are something we need to tackle now", and intergenerational justice; "[we should] not pass [them] on to future generations" (ibid.). The connectivity between the objectives and the sense of responsibility to future generations is summarised in the overarching generational goal (Naturvårdsverket, 2018, p. 3):

> The overall goal of environmental policy is to hand over the next generation a society in which the major environmental problems have been solved, without increasing environmental and health problems outside Sweden.

Each of the 16 environmental quality objectives refers to a different part of an ecosystem and consists of several milestone targets that describe the measures of success

(Naturvårdsverket, 2018). Specific government authorities are responsible for the follow-up and evaluation of every goal (ibid.). As of summer 2020, the *Naturvårdsverket* website, which supervises the environmental objective work, states that for only one goal, the policy instruments and measures are in line with achieving this goal. Namely, goal 5: 'A protective ozone layer'. And for one of the objectives, 'A safe radiation environment', the achievement of the goal is 'close' (Naturvårdsverket, n.d.). It shows that, while the framework sets important targets, the action needed is not currently in line with reaching its final aims.

3.8.2.3 Internationally

On the international level, like the UK Sweden has ratified both the UN Framework Convention on Climate Change (UNFCCC) (Sweden.se, 2021) and the Kyoto Protocol in 2002, which both the EU and Sweden ratified (Naturvårdsverket, 2017).

Since 2015, Sweden is also legally tied to its endorsement of the Paris Agreement (Ministry of the Environment and Energy, 2018), the content of which I discussed in chapter 1. In addition, as a member of the United Nations, Sweden also contributes to achieving the Sustainable Development Goals or Agenda2030 (Naturvårdsverket, 2017).

Chapter 4 – Heritage at risk: adaptation, conservation, threats and vulnerability

4.1 Introduction

This chapter discusses the first of three themes that provide an organisational logic for describing the main ways in which Historic England and the Riksantikvarieämbetet engage with climate change. This first theme–'Heritage at risk'–focuses on the work of the two organisations that is a consequence of an understanding of climate change as an environmental phenomenon, posing a risk and threat to heritage and its conservation. This understanding seamlessly weaves into pre-existing heritage conservation paradigms and, particularly, the concept of 'endangerment sensibility' that I will explain in the first part of this chapter. The organisations' documents and the work discussed that focus on this approach often also engage with climate change in other ways, mainly in relation to carbon mitigation, which is the theme of the next chapter. Therefore, this chapter argues that the *primary* engagement of both organisations with climate change is through an understanding of climate change as a risk and a response based on conventional concerns of heritage conservation (RQ 1,2 and 3). These responses are related to the ways climate change is framed in public discourse and policy frameworks that I discussed in chapter 1, namely as an external environmental phenomenon (RQ 3). The key responses linked to this framing is based on adaptation (RQ 1), connected a perception of the future as an uncertainty to be managed (RQ 4).

Before moving to the data analysis of the ethnographic fieldwork, the next section (4.1.1) will shortly expand on the theoretical background of the relationship between heritage, endangerment and conservation that forms a thread throughout this chapter.

4.1.1 The conservation paradigm and endangerment sensibility

HE and the RAÄ both find their origins in the heritage conservation movement; conservation is at the core of their organisational aims and values (see chapter 3). They are closely tied to the heritage conservation paradigm through their foundations, based on listing and designating sites and places. In addition, as the heritage 'experts' of their respective countries, and through these selection processes, they have the authority to shape what represents the official heritage discourse (Smith, 2006). The conservation

paradigm is the interrelated process of heritage conservation linked to notions of risk, endangerment, and uncertainty and its management through listing and ordering, as Caitlin DeSilvey (2017, p. 4) notes: "Once safely contained within schedules, lists, and inventories, artefacts and structures fell under the presumption of protection". Rodney Harrison (2013, p. 6) describes these processes as interdependent to authorities like HE and the RAÄ:

> 'Heritage', at least insofar as those agencies charged with managing it are concerned, cannot exist independently of a process of categorising, ordering, listing and subsequently conserving and/or archiving it.

And continues (ibid. p. 7):

> In addition to appearing as something that is desirable, and that has a commercial, political or social value, heritage is often invoked in the context of debates and protests about things and practices that are considered to be threatened or at risk […] the element of potential or real threat to heritage – of destruction, loss or decay – links heritage historically and politically with the conservation movement.

Harrison adds to this that the relation of heritage to threat and ideas of risk and uncertainty are intrinsically bound up with 'the experience of modernity' and what Ulrich Beck has defined as a 'risk society' (Beck, 1992; R. Harrison, 2013). In Beck's idea of the risk society, the progress caused by modernisation is itself the cause of some of the problems society tries to liberate itself from. Thus, risk and uncertainty are always looming in the background. Climate change is now one of these looming presences. It threatens to destabilise the carefully crafted processes modern society relies on, while it is itself a consequence of these same processes (Bulkeley, 2001).

Dias and Vidal introduce a helpful concept to apply all of the above to heritage practices: the 'endangerment sensibility'. The endangerment sensibility links up practices of ordering and listing with the management of uncertain futures, essentially the endangerment label starts a process of care and conservation (Vidal & Dias, 2015, pp. 1–2):

> An entity's "endangered" status crystallizes by way of its incorporation into various documentary devices – archives, catalogues, databases, inventories and atlases. […] Usually animated by a sense of urgency and citizenship, both among scientists

> and the general public, cataloguing an endangered entity involves evaluating the intensity of the impending threat and opens the way for preservation strategies. […] In the endangerment regime, turned as it is toward preservation, irreversible loss and definitive forgetting are ultimate forms of negativity, anti-values par excellence.

To an extent, the listing of a place as 'endangered' also leads it to receive ultimate care and creates the ideal situation for the practice of conservation. Thereby, the labelling of a place as 'at risk' and the subsequent action undertaken is also a form of 'futures management' as it creates a sense of control over an essentially uncertain future.

Vidal and Dias (2015) stress that the practice of listing is not an objective nor an innocent one. Instead, it takes the authority to attribute value to an entity and, in turn, makes it available for prioritisation of resources. It also provides authority and power to those in charge of the listing, who gets to decide what is perceived of more value than other things or places and what is worthy of care and conservation. Essentially, marking heritage as 'endangered' or 'at risk' of climate change and its subsequent processes of listing and ordering define what is valuable or more valuable than other things and what should be *conserved for future generations*.

4.1.2 Outline of the chapter

In this chapter, I will show that the ways HE and RAÄ engage with climate change is first and foremost based on these notions of risk and uncertainty (RQ 3). Notions that subsequently feed practices of care and conservation that are at the centre of both organisation's responsibilities (RQ 2). Responding to this framing of climate change takes the shape of collecting data and creating priority lists to support 'risk assessments', 'risk management' and 'climate change adaptation' for those places regarded most vulnerable and/or valuable (RQ 1). These practices can be interpreted as an attempt to get a hold on the uncertainty, chaos and threat that climate change futures herald, similar to those responses from heritage studies and the heritage sector discussed in chapter 1 (RQ 4). I will argue that through this approach, their climate change engagement is primarily concerned with the continued practice of heritage conservation, thus not forging any significant change in their standard mode of operation.

The first part of this chapter will focus on how climate change adaptation and climate change as a risk emerge in the work of HE. I will start with a brief summary of the origins of HE as an organisation to show how the ideologies and concerns behind the organisation's foundation are based on an agenda of heritage conservation. This section (4.2.1) is based on literature published by the organisation and external authors outlining the organisational lineage and its interlocked link to the history of heritage conservation in England. I will use this as a starting point leading toward HE's definition of the heritage in their care and of conservation practice. These definitions are then clarified through a short description of the Heritage at Risk Register – a vital statistic in HE's work (section 4.2.2).

To establish their general approach to climate change, I will then discuss how climate change is represented in their high-level publications: cooperate plans since their split from English Heritage in 2015 and the 'Research Agenda' that sets out their long-term areas of research interest (4.2.3). From here, I will move on to several publications that more specifically represent their climate change engagements and point out the theme of risk, uncertainty and conservation in these documents (4.2.4-4.2.6). Last, I will engage with the subtheme of 'loss' in relation to climate change (4.2.7). I will then apply a similar approach to the RAÄ and their work, introducing the specific outline at the beginning of section 4.3. Throughout the chapter, I will refer to reflections staff members shared in interviews, conversations or meetings on the work of the organisation and the theme of this chapter. In the concluding part, I will return to the research questions and reflect on what the actions described in this chapter say about how both organisations understand the relationship between climate change and their work.

4.2 Historic England

4.2.1 Historic England's origins: Heritage protection and legislation in England

Heritage legislation in England dates back to 1882 when the 'Ancient Monuments Protection Act' was established, and the protection of historic sites became a government responsibility (see Figure 20) (Cowell, 2008). Before the implementation of this Act, heritage protection was based on the voluntary efforts of concerned groups and individuals with a passion for the historic environment, like William Morris' 'Society for the Protection of Ancient Buildings' (SPAB) founded in 1877 (ibid.). The Act initiated the position of an

'Inspector of Ancient Monuments', who was concerned with the oversight of the condition of monuments and conservation advice (Historic England, n.d.-i). In this context, buildings and sites could only be regarded as monuments when dating from before 1700 (Black, 2002). In addition, the Act, for the first time, made it a punishable crime to damage ancient monuments and sites (ibid.). However, while the Act reflects a contemporary concern for the conservation of heritage for future generations, its acceptance was not without problems. It was only approved after several failed attempts in the preceding decade, as wealthy property owners voiced concerns about the impact on private property and the public costs for the conservation (ibid.). As a result, conservation efforts mainly remained based on voluntary initiatives because any interventions or guardianship had to receive prior approval of the owner (ibid.). Thus, the 1882 Act did not prove to be very fruitful, and by the late 19th century, ancient monuments still did not receive any protection by law (Cowell, 2008).

However, in the 20th century, heritage legislation expanded under the influence of an increased public interest in and appreciation for England's historical past. This is reflected in the founding of 'The National Trust' in 1895 and the establishment of divisions of the 'Royal Commissions on Historical Monuments' (RCHM) in 1908 in England, Wales and Scotland (Cowell, 2008). The RCHM is the forerunner of today's Historic England. This government body was tasked with listing and recording ancient and historical monuments of cultural importance dating from before 1700 (ibid.). The listing was regarded as an essential part of supporting any heritage protection legislation (ibid.).

The first form of listing became part of the 'Commissioner of Works'' duties with the implementation of the 1913 Ancient Monuments Consolidation and Amendment Act (Cowell, 2008). The Act gave the legal power to the Commissioner to purchase monuments and to list those he deemed to be of 'national importance' (ibid.). In the following decades, further legislation for heritage protection was fuelled by public concerns in response to threats from urban development to historic monuments and buildings. Cowell (2008) writes that, for example, in central London, many historic townhouses were destroyed in the 1920s and 1930s: Dorchester House (1924), Norfolk House (1936) and Chesterfield House (1937).

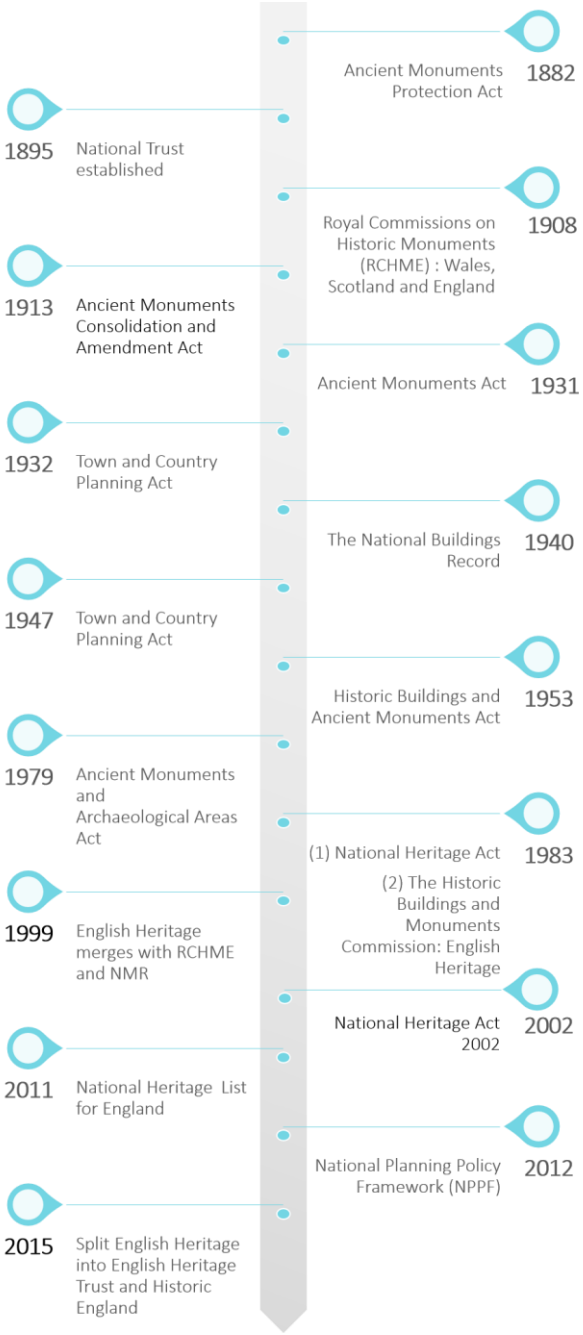

Figure 20 Historical overview of heritage policy in England. Source: *author's own.*

The Second World War and its destruction of historic city centres led to significant changes in heritage conservation frameworks. First, in 1941 the National Buildings Record was established to record all historic buildings at risk of the bombing (Cowell, 2008). This list would later form the start of the National Monuments Record and be used as a guideline for the post-war reconstruction. After the war, when city planning and redevelopment took a surge, a listing system for monuments got introduced and

developed in the 1944 and 1947 Town and Country Planning Acts (Black, 2002). A listing advisory committee presented three grades: grade 1 and 2 represented monuments to be added to statuary lists, and grade 3 indicated buildings deemed of lesser significance (later this would change into Roman numerals as the grading system is known today) (Black, 2002). However, only in 1953, when the Historic Buildings and Ancient Monuments Act came into force, did government grants become available to support homeowners in caring for their historic houses (Historic England, n.d.-i).

Under the influence of more public outcries and concerns for the loss over historic sites, particularly the destruction of the Coal Exchange and the Euston Arch in London, further legislation came into place through the 1968 Town and Country Planning Act (Black, 2002). For the first time, this Act included a formal system that required official government consent prior to any alterations to listed buildings (Historic England, n.d.-i).

The history of heritage conservation in England tells that conservation legislation, frameworks and public initiatives mostly happen as a response to the threat to heritage sites and monuments. The impending threat of loss fuels conservation actions and interest.

Today, the 1983 National Heritage Act sets out the legislative framework that guides official heritage work. The Act led to the foundation of what we now know as 'English Heritage' (Historic England, n.d.-i). This name was an invention by the first director of what was initially named the 'Historic Buildings and Monuments Commission for England', which he deemed to be too long and not 'catchy' enough (English Heritage, n.d.). From then until 2015, English Heritage acted as the sole government body tasked with preserving historic buildings and sites and championing the historic environment in the public discourse.

As I described briefly in chapter 3, in 1999, the RCHM merged with English Heritage, which in 2015 split into Historic England and English Heritage. At this point, English Heritage continued to take care of historic sites in their ownership, while Historic England became the government's advisory body (English Heritage, n.d.). Historic England's statutorily responsibilities are still listed in the National Heritage Act 1983. One of these responsibilities tasks HE with the management of the National Heritage List for England (NHLE) (Historic England, n.d.-h, my emphasis):

> The *only* official, up to date, register of all nationally protected historic buildings and sites in England - listed buildings, scheduled monuments, protected wrecks, registered parks and gardens, and battlefields.

The way HE defines heritage and its conservation (Historic England, n.d.-c) nowadays are worth quoting here in full:

> All that has been passed to us by previous generations. […] Whilst everything we inherit is strictly our heritage, the term has become synonymous with the places, objects, knowledge and skills we inherit that are valued for reasons beyond their mere utility. In other words, they have a value to us that is over and above their functional use.

And (Historic England, n.d.-c, my emphasis),

> In this relatively small country, everywhere bears the marks of our predecessors' efforts to sustain life and satisfy their needs. That part of our surroundings that displays the interaction between people and places through time is called the historic environment. […] [heritage assets] are the elements of the historic environment that we value for more than their money's worth. *The generations that follow us are most likely to value them too, for the same or similar reasons. It has therefore long been accepted that we have a responsibility to look after them*.
>
> It is this responsibility that justifies *a protection system* for the historic environment and the consequent interference with the private rights of property owners.
>
> […] Conservation is the *process of maintaining and managing change* to a heritage asset in a way that sustains and where appropriate enhances its significance.

From the above it can be interpreted that conservation is understood by HE as the management of change in order to keep heritage for future generations. It also follows that notions of 'risk', 'threat', 'vulnerability', and 'endangerment' are central to the past and present official heritage discourse and the existence of HE as an organisation. Historically and today, the responsibility and the creation of a protection system (see quote above) are based on heritage conservation through designation, listing, conservation guidance, and

professional advice. A network of relations that is summarised in HE's role description (Historic England, n.d.-k):

> We are the public body that helps people care for, enjoy and celebrate England's spectacular historic environment. We protect, champion and save the places that define who we are and where we've come from as a nation.

And (Historic England, n.d.-d),

> Protecting historic places through the designation system is at the very heart of what we do, as expert advisor to the government.

The above definitions and aims form the basis for the organisation's work and their climate change responses.

4.2.2 Listing heritage sites and places at risk: the Heritage at Risk Register

The above approach and the application of the outlined definitions find its most explicit expression in the 'Heritage at Risk Register' (HAR) (see Figure 21). This key listing system for HE, based on the 1991 London Buildings at Risk survey, has since 1998 expanded into an official UK government statistic and covers a wide variety of heritage sites (Historic England, n.d.-b). The HAR is one of the main tools for HE to categorise valuable places, prioritise their resources, and direct public attention. This register contains heritage assets that are considered to be at risk for various reasons: changes to the planning system, deprivation and vacancy, or lack of conservational care (Historic England, 2019d).

The HAR is based on risk assessments of heritage sites formed from the intersectionality of system properties rather than singular threshold properties (Historic England, 2019d). As a consequence, threats are described through a standardised vocabulary. This means that a site at risk of coastal erosion due to climate change will not be marked as such but as subject to 'slow decay' (e.g. the entry for Sandsfoot Castle in Weymount, Dorset). Thus, climate change does not feature explicitly as a risk in the register.

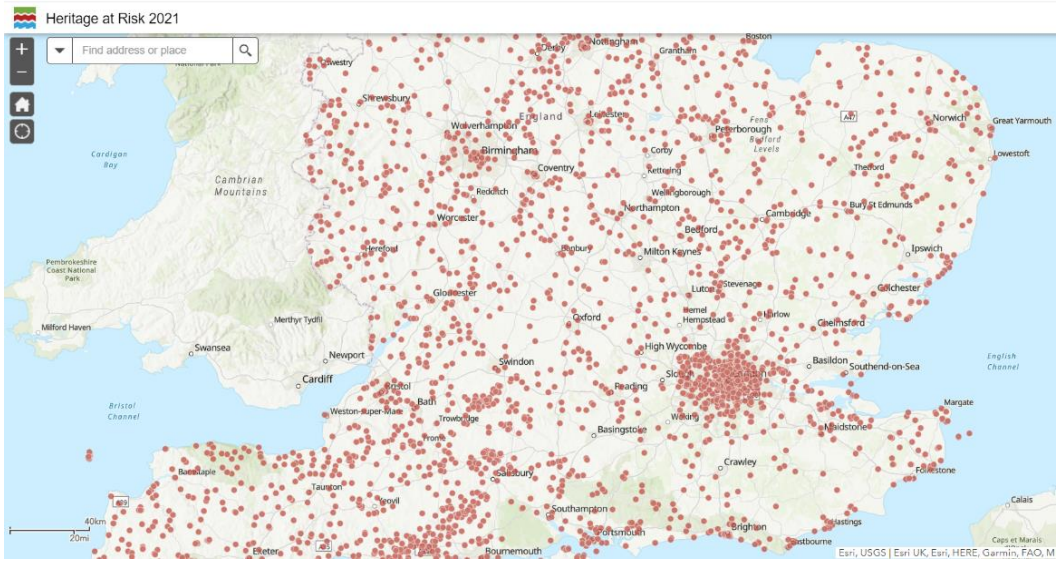

Figure 21 Heritage sites designated as 'at risk' in the HAR. Source: *Screenshot of content on https://historicengland.maps.arcgis.com/apps/webappviewer/index.html?id=97e1547e0e234fa49c977b6fde2ad2fd.*

The references to the HAR in HE's corporate targets provide further insight into how HE approaches risk and conservation. For example, one of the identified measurements of success for the organisation's work is described in the Corporate Plan for 2017-2020 as: "[the] number and percentage of sites removed each year from the Heritage At Risk register for positive reasons" (2017d, p. 16).

Similarly, the preceding Corporate Plan quantifies this aim by stating as one of their goals to: "remove 750 (15%) entries on the 2015 Heritage at Risk Register by 2018" (Historic England, 2016e, p. 11). Climate change does not fit into this, and as a 'wicked problem' (a problem for which exact causes, results and solutions are not directly identifiable), does not comply with any notion of 'solvability'. Furthermore, this is also related to an outdated concept of management, based on an understanding of a past that seamlessly evolves into a familiar future. An approach that in the presence of climate change, and more so in the presence of a climate crisis, does no longer hold. A lack of realistic predictive causal-effect mechanisms in futures subject to climate change questions predictions about future systems and, therefore, our capacity to manage them effectively. This is closely related to the lack of ideas of what a future may look like, or who this future belongs to, to which I will return throughout this, and following chapters (see also R. Harrison et al., 2020; Högberg et al., 2017; Holtorf & Högberg, 2015)

4.2.3 Climate change in corporate plans and the research strategy: guidelines for HE's work

The HAR shows how conservation and risk are closely related. HE's corporate plans show how this works in relation to climate change, as the latter is added as a risk to their conservation agenda. These corporate plans are published every three years and describe HE's values, goals, focal points, and aims for the coming period. The first corporate plan under HE's own flag was published in 2015 (Historic England, 2015). These plans only give a very concise overview of HE's present and future practices thus references to specific items, like climate change, are scarce (see Table 2). However, as these reports do make up the general focus and interest of the organisation's public-facing message, it is of relevance to see how climate change features in these strategic documents.

Table 2 Climate change references in Historic England Corporate Plans 2018-2023.

Year	Climate change reference	page
The first year - 2015	-	
Corporate plan 2015-2018	"there are significant challenges. Public finances are under severe pressure. There is an urgent need to stimulate prosperity, to provide new housing, to renew infrastructure and to respond to climate change. Historic places can often be adapted to meet these changes in ways that enhance rather than detract from their inherited character and identity.	14
Corporate plan 2016-2019	-	
Corporate plan 2017-2020	Our Aims and Key Outputs: Aim 4: Strengthening national capacity and sustaining heritage protection systems Output nº 20: Understanding the threats to historic environment and developing strategies to combat them from climate change to conservation deficits	5, 20, 35, 39 (repetition)
Corporate plan 2018 - 2021	-	
Corporate plan 2019-2022	Interim outcome: "Greater resilience to the effects of climate change on historic places"	6

Corporate plan 2020-2023	Context: "Climate Change requiring mitigation and adaptation through sustainable practices " Interim outcome: "Greater resilience to the effects of climate change on historic places "	5 6

Table 2 shows that the references in the various corporate plans reveal that HE's main concern in relation to climate change is to 'understand threats', 'develop strategies', 'combat threats', 'greater resilience', and 'adaptation'. In other words, to prepare for and manage (future) climate impact.

This general understanding of climate change is emphasised by the Research Agenda (Historic England, 2017c) and Research Strategy (Historic England, 2016d). In addition to the corporate plans, the organisation's topics of interest are expressed in their Research Agenda and the related Research Strategy. These two documents define the focus for HE's research. The Research Strategy sets out the general research themes. The Research Agenda elaborates on these themes, adjoined by examples of possible research questions of interest to HE's organisational objectives. The nine themes that structure the Research Agenda are; #value, #understand, #diversify, #adapt, #conserve, #inform, #skill, #inspire and #innovate (including the hashtags). Climate change appears here as a specific one-page topic and is categorised under the theme '#adapt', which is introduced with reference to how our world will "change in the future", and the need for "foresight" to be able to adapt and to grow "resilience" to possible change (Historic England, 2017c, p. 25).

Notably, one of the first sentences of the climate change chapter of the Research Agenda states an acknowledgement of the anthropogenic influence on current climate change: "it is clear that current climate change, driven by human activity, is causing environmental changes at a rate that has not been seen for millennia" (Historic England, 2017c, p. 30). While this is a strong introduction into the understanding of the problem, it fails to specify what activity and human they are referring to, thus granting similar anonymization as the Anthropocene has been critiqued for (see chapter 2). This approach is extended into the proposed four research questions (2017c, p. 30) suggested to guide HE's climate change work:

(1) “What are the impacts of natural and environmental change on the historic environment?”;

(2) “What are the likely impacts of climate change adaptation measures, such as flood prevention or managed coastal retreat, on the historic environment, and how can we mitigate the potential harm or make best use of these opportunities?”;

(3) “How do we balance the need to sustain the historic environment and to reduce greenhouse emissions?”;

(4) “What can an understanding of past changes to the environment and to human activity contribute to the wider discussion about environmental change, particularly climate change?”

The first three questions focus on the impact and threat climate change poses to heritage, including possible prevention measures and consequences of these measures on the historic environment. The roles swap around in the last question (question 4). This question addresses the role and potential agency of the historic environment in contributing to the climate change discussion, a topic I will return to in chapter 6.

What the above documents have in common, is the framing of climate change as a risk to the conservation of heritage and the need to manage the uncertainties following from this. While the Research Agenda acknowledges the anthropogenic nature of current climate change, when it concerns heritage, it continues to refer to climate change as an external impact, returning to an understanding of the heritage-climate change relationship based on the conservation paradigm of endangerment and protection.

4.2.4 Impact of a ‘greening’ society on the cultural environment: mitigation as threat

The aim of this research is not to undertake an analysis of the historical work HE’s has undertaken in response to climate change. However, due to a very helpful overview of this work since 1997 provided by the 2016 Climate Change Adaption Report (see Figure 22), it is possible to realise some wider trends (Historic England, 2016a). Furthermore, this list indicates how from the start, climate change is framed as a risk in terms of heritage conservation.

The first listing in the overview is the 1997 publication titled *After the Storms* (English Heritage, 1997), a direct response to the 1987 'Great Storm' and the damage and impact it left behind on the historic environment. 'After the Storms' does not make a direct reference to climate change (ibid.). However, twenty years later, the author of the Climate Change Adaptation Report (Historic England, 2016a) added it to the overview of HE's climate change-related work. Apparently, in retrospect, the freak weather event of the 'Great Storm' has become an index of the hyperobject climate change. This interpretation of climate change as an environmental impact on heritage sites is repeated throughout the overview. In the following years, for example, documents responding to adverse effects on the historic environment due to coastal erosion (see Figure 22, 1998 and 2003), sea-level rise (1997), and flooding (2004) are all listed as climate change-related. These concerns culminated in a scoping study commissioned by English Heritage (EH) in 2002 on the impact of climate change on the historic environment, published in 2005 (M. Cassar, 2005).

Throughout the following years, climate change impact starts to appear by proxy through the effects of renewable energy infrastructures on the historic environment. This concern is also voiced in the Research Agenda (Historic England, 2017c), as described above. Because of society's new and growing interest in changing fossil fuels for green energy, landscapes get altered through the addition of windmills and solar parks, while house owners are looking into options of installing solar panels on the roofs of their homes. As a response, HE provided guidance on the installation of such techniques in historic houses (see, e.g. publications of 2005, 2006 and 2011 in overview Figure 22). This guidance has updated versions that are available from the website today, for example, on the installation of heat pumps in and solar electrics on historic homes (Historic England, 2017b, 2018b). The most recent addition includes guidance on the impact of commercial large scale infrastructures on heritage assets (Historic England, 2021).

APPENDIX I: SUMMARY OF HISTORIC ENGLAND'S CLIMATE CHANGE WORK 1997-2016

Date	English Heritage/Historic England Project/initiative
1997	After the Storms published looking at the longer term impact of the 1987 great storm[29].
	EH/RCHME publication of England's Coastal Heritage identifying future sea level rise as a major threat to England's coastal archaeological resource. The recommendations led directly to the Rapid Coastal Zones Archaeological Survey programme
1998	EH commissioned the first in a series of rapid coastal archaeological surveys in order to allow us to respond to Government policy on coastal defence in the face of climate change.
2000	EH published guidance on protecting historic churches from lightning[30], augmented in 2003 with guidance on protecting historic buildings from electrical surges
2002	EH commissioned a scoping study on the implications of climate change for the historic environment by University College London. Published in 2005, this served to illustrate possible approaches to future research (Cassar 2005)[31].
	EH published Building Regulations and Historic Buildings an interim guidance note on the application of Part L of the Building Regulations
	With a wide range of partners EH co-funded the UK Climate Impacts Programme (UKCIP) to undertake a study of the potential impacts of climate change on UK gardens, garden plants and the garden industry[32].
2003	EH published Coastal Defence and the Historic Environment on the coastal defence policy for the historic environment, augmented in 2006 with more detailed guidance on shoreline management planning.
2004	EH arranged for the Carbon Trust to undertake a number of assessments of their energy use.
	EH published 1st edition of Flooding and Historic Buildings covering flood protection and damage
	EH published 2nd edition of Building Regulations and Historic Buildings
2005	EH published the first in a series of guidance notes on renewable energy technologies, sustainability and heritage. This now includes wind energy, biomass crops, micro-generation technologies and water management.
	EH Research strategy published for 2005-2010 Discovering the Past: Shaping the Future
2006	EH published Sustainable Development Strategy and Sustainable Development Action Plan
	EH published initial policy statement Climate Change and the Historic Environment
	EH published Biomass Energy and the Historic Environment
	EH commissioned a study of the implications of climate change on World Heritage Sites, as part of the UK Government contribution to the UNESCO Experts' meeting on climate change (World Heritage Centre 2007).
	EH published Shoreline Management Plan Review and the Historic Environment
	Government Historic Estates Unit 10th Annual conservation seminar Be Prepared! Emergency Planning for Historic Buildings & Collections
2007	EH published guidance for home owners on energy conservation in traditional buildings together with interim guidance on Energy Performance Certificates, Home Information Packs, understanding SAP ratings for historic and traditional homes, advice for Domestic Energy Assessors, all building on previously published technical advice regarding compliance with Part L of the Building Regulations.
	As research partners with the Engineering and Physical Sciences Research Council (EPSRC) and UKCIP, HE co-sponsored the publication of the Engineering Historic Futures which focuses on responses to flood damaged historic buildings[33]
	Government Historic Estates Unit 11th Annual conservation seminar Cutting Down on Carbon: Improving the energy efficiency of historic buildings
	EH published Micro Wind Generation and Traditional Building
2008	EH published 2nd edition of Climate Change and the Historic Environment[34].
	EH launched a website, 'Climate Change and Your Home', to provide the general public with information about how traditionally constructed buildings are likely to respond to climate change and how any necessary adaptations, including energy saving measures, might be made.
	EH launched a research project, 'Hearth and Home', to measure the energy use and embodied energy of a group of Victorian terraced homes and to lead to enhanced advice on the cost-effectiveness of various energy-saving measures.
	EH hosted 'Inventing the Future: Buildings in a Changing Climate', a summit for invited representatives from Government, industry and academia to look at buildings in light of climate change adaptation.
2009	EH organised a training course 'Climate Change and the Historic Environment' at Oxford University Department for Continuing Education (repeated 2010).
2010	EH organised a training course in 'Flooding and the Historic Environment' at Oxford University Department for Continuing Education
	EH initiated the English Heritage Coastal Estate Risk Assessment[35].

[29] https://historicengland.org.uk/images-books/publications/after-the-storms/
[30] https://content.historicengland.org.uk/images-books/publications/lightning-protection-for-churches/lightning-protection-for-churches.pdf/
[31] http://discovery.ucl.ac.uk/2082/1/2082.pdf
[32] UKCIP 2002 *Gardening in the global greenhouse* https://content.historicengland.org.uk/images-books/publications/gardening-global-greenhouse/gardening-global-greenhouse-summary.pdf/
[33] Cassar and Hawkins 2007.
[34] https://historicengland.org.uk/images-books/publications/climate-change-and-the-historic-environment/

	EH published 2nd edition of Flooding & Historic Buildings
	EH published Energy Efficiency and Historic Buildings
2011	EH established the National Heritage Protection Plan for 2011-14 whi incorporated climate-related activities and projects
	EH contributed to the development of the UK Climate Change Risk Assessment (published on 26/1/12), at workshops and by direct communication with Defra.
	EH published Solar Electric Panels and slates on Listed Places of Worship
	EH published series of 13 guidance notes on upgrading the thermal performance of building elements
2012	EH contributed to development of the National Adaptation Programm at workshops and by direct contact with Defra, and responded positive to Defra's invitation to submit an adaptation report.
	EH appointed Climate Change Officer within Historic Environment Intelligence Team (role currently included within more general 'Environmental Impacts' portfolio).
	EH Climate Change Network was established, to provide expert advice on prioritising and procuring research and formulating responses to address climate change issues.
2013	EH published initial thoughts on the potential effects of oceanic chang on the management and curation of underwater archaeological remains[36]
	English Heritage Estate and Inland Flood Risk Assessment published
	EH Research into the thermal performance of traditional brick walls published
2014	The future Historic England committed to undertake an Adaptation Report as part of the second round of ARP. As part of this commitmen the cross sector Historic Environment Adaptation Working Group was established, coordinated by Historic England and Church of England
	EH Research into use of external wall insulation on traditional buildin in the North West of England published
	Practical Building Conservation Building Environment volume published EH/Ashgate
2015	Historic England contribute to Climate Change Risk Assessment 2 an the Flood Resilience Review
2016	Historic England produce Climate Change Adaptation Report

Figure 22 Overview of climate change related work by EH/HE. Source: *'Climate Change Adaptation Report', 2016, pp. 31-33.*

The guidance on heat pumps and solar electrics does not mention climate change or incentivise these adaptations as climate action. Instead, the first thing to consider, according to both, is "the potential visual or physical impact on the building's historic fabric" (Historic England, 2018b, p. 1), thus the focus remains on the vulnerability of heritage places. However, 'reducing carbon emissions' is offered as one reason for installing solar panels to increase the overall energy efficiency of a building. Essentially, these guidance reports try to balance the wish to conserve the historical values of a building or landscape while endorsing renewable energy as an organisation. Named guidance documents, then, seem to be more a reaction to an energy trend than encouragement for traditional home-owners to participate or perhaps even lead this green-energy movement. In this way, these documents appear more as 'damage-control' to the heritage sites than manifestos for climate engagement.

4.2.5 The Climate Change Adaptation Report

So far, I have discussed work not explicitly centred on climate change to create an overview of how climate change is included in HE's general organisational framework and its main statistic: the HAR. The following sections (4.2.5, 4.2.6) discuss climate change work and related topics more specifically. The analysis moves here from purely published work to also include the verbal accounts of staff shared in interviews and discussions during meetings of the HEAWG.

I will first look at the Climate Change Adaptation Report to see how HE frames the relationship between heritage, heritage conservation and the climate crisis. The report was published in 2016, just before starting my fieldwork at HE. However, it is a key document in how it positions climate change as a topic of interest for the organisation in the years after and thus relevant to this study (fieldwork notes, 16 April 2018, London).

The Climate Change Adaptation Report (CCAR) follows from a request by Defra (Department of Environment, Food, and Rural Affairs) to government authorities and forms part of the government's reporting power and the National Adaptation Plan originating in the 2008 Climate Change Act (see chapter 3). This request followed from the first round of a five-yearly climate change adaptation reporting cycle, completed in 2011 (Historic England, 2016a), which demanded 98 organisations from several sectors to provide a climate change adaptation report to demonstrate their present and future resilience to climate change (The UK Government, 2008). Unlike other work from HE, this report is

directly initiated by a government request and shows a growing governmental concern and interest in climate change impact in the UK. The report aims to make the first steps in creating a common approach to climate change risk assessment for the historic environment sector in England. It follows the requirements laid out by the government to contain: (1) "a summary of the statutory and other functions of the organisation", (2) "an assessment of current and future risks presented by climate change to the organisation and its functions", and (3) "a programme of measures to address the risks, including policies and practices that are already being implemented"(Historic England, 2016a, p. 6).

One of the key outcomes of the report is a list of the identified risks and opportunities, summarised in Table 3 below. What comes forth from this list is that the identified risks show that climate change as a risk is limited to a weather phenomenon creating a risk of negative physical effects on the historic environment. Here, heritage is the victim of a raging storm, not an agent itself in the drivers and consequences of the environmental crisis. Of course, the request for a climate change adaptation report is in itself a request to respond to climate change as an external impact, heralding change and caution. As such, it answers to the framing of climate change as presented in chapter 1.

The CCAR also makes an effort to emphasise the opportunities that may result from a changing climate, finding the silver lining in the uncertainty to come. One example of this is the opportunity for new discoveries ('opportunity 1'). The discovered 'oldest footsteps of Europe' in Norfolk are a popular example of such a new discovery (Hendry, n.d.). These imprints of our ancestors were revealed due to 'dramatic erosion' after a heavy storm (ibid.). Opportunities 2,3, and 5 will be included in chapter 6. Overall, the opportunities listed in the CCAR mainly engage with the social engagement and communication aspects of heritage work. This is in contrast to the presented heritage risks, which are all a direct result of environmental impact – note the recurrent use of 'damage'.

Risk/Opportunity		Corporate Aims affected
Heritage Risk 1	Inadequate or insufficient information or experience preventing or impeding appropriate action	ALL
Heritage Risk 2	Damage to or loss of heritage assets	Aims 1, 2 & 3
Heritage Risk 3	Difficulties in planning/undertaking fieldwork	Aims 2, 6 & 7
Heritage Risk 4	Harm to heritage assets from maladaptation.	Aims 3, 4 & 6
Heritage Risk 5	Damage to reputation from inappropriate, inconsistent responses or failure to respond to climate change related impacts.	ALL
Heritage Risk 6	Harm to/loss of plants within designed and historic landscapes	Aims 1, 2, 3 & 5
Heritage Risk 7	Damage to buildings from poor/inadequate rainwater goods.	Aims 1, 2, 3, 4 & 6
Heritage Risk 8	Geological shrink and swell causes damage to historic structures.	Aims 2, 4 & 6
Heritage Risk 9	Damage to or loss of historic and archaeological collections and archives	ALL
Heritage Risk 10	Harm to heritage structures from frost fracture	Aims 2, 4 & 6
Heritage Risk 11	Harm to heritage assets from wildfire	Aims 2, 4 & 6
Heritage Risk 12	Damage to, loss of, or changes to visibility of maritime heritage due to changing depositional processes	Aims 1, 2, 3, 4, 5 & 7
Business Risk 1	Damage to Fort Cumberland office and facilities from flooding (coastal and surface water)	Aims 1, 2, 3, 4 & 7
Business Risk 2	Disruption to staff travel and ability to undertake work (especially fieldwork.)	ALL
Business Risk 3	Damage to Historic England facilities and their contents from rainwater incursion.	Aims 6 & 7
Business Risk 4	Damage to Historic England facilities and their contents from flooding	Aims 6 & 7
Business Risk 5	Harm to staff from pests & diseases	Aims 6 & 7
Opportunity 1	Opportunity for new discoveries	Aims 1, 2, 4, 5 & 7
Opportunity 2	Learning from the past - the historic environment can inform integrated solutions	Aims 1, 5, 6 & 7
Opportunity 3	Making the case for heritage: advocacy for the positive role the historic environment can play	Aims 1, 3, 4, 5 & 7
Opportunity 4	Possibility of prolonged fieldwork season	Aims 2, 6 & 7
Opportunity 5	A role for heritage in helping to communicate change	Aims 1, 5 & 7
Opportunity 6	Increased opportunities for community engagement and broadening access to heritage	Aims 1, 5 & 7
Opportunity 7	Extended tourist season, increased interest in heritage	Aims 1, 4, 5, 6 & 7
Opportunity 8	Greater collaboration with existing and new partners for knowledge, expertise & data.	ALL

Table 3 "Climate change-related risks and opportunities to/for Historic England and the Corporate Aims affected" source: Climate Change Adaptation report, p. 18.

Interestingly, the report also claims that climate change is not an isolated issue within the organisation. Instead, it states (Historic England, 2016a, p. 28, my emphasis):

> The most effective way for Historic England to adapt to climate change is *to embed consideration of current and future climate-related impacts into all strategic plans, processes and everyday practice.*

And HE should (ibid.):

> […] begin to debate how to include consideration of climate change impacts in corporate policies and strategies, technical guidance and advice and strategic and development management planning advice, particularly where inevitable loss is a factor.

Hence, it argues for including climate change in the organisation's operational thinking, an approach that can be interpreted as an interlocked hyperobject-like understanding. However, when asking a member of staff who worked on the document about the effects it has had on the organisation's strategy to climate change, there was no clear answer to this:

> IV[9] Did anything happen after that [the publication of the CCAR]?
>
> IE Well, it kind of did. But slowly. This is the thing. It takes such a long time. I think that's still an aspiration.
>
> IV Do people read those reports?
>
> IE Yes, they did, and ET [executive team] signed it off. But actually, it's one of the reasons for making it that general was because it was our first [unclear] principle. So I still believe that we should be embedding it. Because I also don't want… It would be very easy to make a little team, but actually… There's more. So I'm the one with the oversight responsibility. […] there are these champions scattered around who are pushing it in their own agendas. What I've been trying to do is to bring that together and spread it out. […] It's a process.
>
> (interview transcript, 23 September 2019, London)

[9] IV = Interviewer, IE = Interviewee

The speaker refers here to the needed efforts and difficulties to include climate change with a *hyper*presence into the work of everyone – i.e. like a hyperobject – at HE by getting colleagues across the board engaged. This is a topic I will further discuss in chapter 6.

4.2.6 Creating a climate change risk assessment template for the UK heritage sector

The 2016 CCAR came forth from a response to the government's second climate change adaptation reporting power. For the next and third round of reporting, scheduled for 2020-2021, Defra intends to ask the whole heritage sector to submit a report (*A consultation on the government's proposed strategy for the third round of the climate change Adaptation Reporting Power*, 2018). This requires a systematic and coordinated sector-wide approach to the reporting process. HE and members of the Historic Environment Adaptation Working Group (HEAWG) were asked to investigate the possibilities for this standardised report template.

My initial presence as a researcher was to assist in this process through exploratory research on creating a template for a climate change risk assessment for the UK heritage sector as one element of a broader adaptation strategy and reporting. In addition to giving me access to HEAWG meetings, it provided me with a chance to familiarise myself with the concept of the risk assessment and what it entails. For this assignment, I went through a multitude of examples from various sectors in the UK that had previously reported to Defra to learn in what formats risk assessments come and what might create an interesting template for the heritage sector. In the following, I want to point out how setting up risk assessments feeds into the externalisation of climate change as an environmental impact, in need of a conservation-based response from the heritage sector.

Central to a risk assessment is the assessment of the impact of a specific climate scenario (e.g. rise in summer temperatures) on a particular business aspect (or heritage site) in relation to what the likelihood of this impact on that aspect is (Rausand, 2011; ULI - Urban Land Institute, 2015). By contributing a quantitative score to both of these factors and multiplying them (likelihood x impact), the risk is calculated, and a comparison can be drawn between the impacts of several threats on an organisation or heritage site. These scores can be set out in a risk matrix (see Figure 23). The resulting hierarchical overview

can help the organisation's decision-making processes for both the short- and the long-term.

Due to the assessment's quantifiable approach and by creating a sense of certainty towards the uncertain, risk assessments fit into the 'scientised' framing of climate change I discussed in chapter 1, where climate change is approached as an objective issue within scientific discourse. Risk assessments provide a basis for prioritising and listing those places most at risk, feeding right back into the conservation paradigm. Furthermore, they provide a method to engage with uncertain futures through scenario thinking as part of a risk preparedness strategy.

	Likelihood / Impact		Rare	Unlikely	Possible	Likely	Almost certain
			1	**2**	**3**	**4**	**5**
Risk	Catastrophic	**-5**	-5	-10	-15	-20	-25
	Major	**-4**	-4	-8	-12	-16	-20
	Moderate	**-3**	-3	-6	-9	-12	-15
	Minor	**-2**	-2	-4	-6	-8	-10
	Slight	**-1**	-1	-2	-3	-4	-5
	No change	**0**	0	0	0	0	0
Opportunity	Slight	**+1**	1	2	3	4	5
	Major	**+2**	2	4	5	8	10
	Moderate	**+3**	3	6	9	12	15
	Major	**+4**	4	8	12	16	20
	Great	**+5**	5	10	15	20	25

Figure 23 Example of risk assessment matrix as proposed in author's report for HE. Source: *author's own.*

This work also fits into HE's work on climate change preparedness and the organisation's dedication to creating evidence and data to support their climate change work. It is also similar to the previously discussed HAR, which prioritises resources through the level of risk posed to a heritage site. This work is also at the core of the SRP team. One of its members described their primary task as follows:

> So this is our core purpose as a team, understanding threats to the historic environment. What are they? How big are they? When they are likely to happen, and obviously, how much do we need to care about that?
>
> (SRP meeting transcript, 28 march 2018, London)

At the time of the fieldwork, those staff directly tasked with climate change were situated in this team. Therefore, it is understandable that climate change work also has a strong focus on gathering evidence. However, the positioning of this member of staff in this team essentially is based on an understanding of climate change as an additional risk and an issue of conservation-strategy. As a consequence, data is necessary to build a case and to be taken into account in the organisational strategy, as pointed out by a SRP-team member:

> I also think things like gathering information relating to the risks to heritage and how those might change—gathering information about the values of heritage in terms of our adaptive capacity for climate change. But it's the data, the structures of the data, and the information and evaluating of the data that we have, and reporting on that, that either make use of … in terms of that then informs the strategy or the strategy informs what data is gathered.
>
> (interview transcript, 23 September 2019, London)

4.2.7 Discussions on loss

The last subtheme of this chapter, discussing 'heritage at risk', is 'loss'. This theme mainly came up in interviews with staff on heritage conservation in a changing climate and discussions between colleagues held at HEAWG meetings.

That climate change forms a risk to the state of heritage sites and landscapes is a fact. However, sites and landscapes have always been affected by weather and environmental impacts. The difference caused by risks linked to climate change is how its impact more likely leads to the loss of sites. For example, climate change is related to increased coastal erosion and extreme weather events, both of which can cause the inevitable loss of heritage assets. Henceforth, discussions around the management and acceptance of loss have gained prominence in the conservation discourse over the past years. Already in the 2016 Climate Change Adaptation Report (Historic England, 2016a), loss of parts of the historic environment is presented next to risks, opportunities, adaptation, and resilience, as an integral part to HE's preparation for adapting to climate change: "[The need to] develop an approach for dealing with inevitable change, including loss" (Historic England, 2016a, p. 3). Thus, 'loss' is not an optional outcome but an

unavoidable consequence of climate change. Similarly, the online introduction to the most recent 2020 Heritage Counts (Forecast, n.d.) report writes:

> Conservation is the careful management of change. There can be the assumption that the things in our care will remain unchanged. In some cases this is right and others this notion is unsustainable.

Since the core aim of HE is to protect England's heritage, the loss of historic assets might seem contradictory. However, in HEAWG meetings, the notion of loss arose regularly, most frequently in discussions around the communication of 'loss' with communities or with colleagues in the members' own organisations. Regarding the communication of 'loss' with people on the local scale, a member of the HEAWG contributed the following dilemma:

> […] it's part of the heritage sector as a work to start vocalising that a bit more. It's certainly something that we are thinking about in [organisation's name], how do we manage the expectations of people that depend on some of our sites for income and tourism and whatnot, because you can't save everything.
>
> (HEAWG meeting transcript, 23rd Oct 2018, Swindon)

Internally, in the organisations participating in the HEAWG, 'loss' also does not seem to be an explicit topic, readily embraced by everyone. One of the members shared how conversations about 'loss' slowly gained acceptance throughout their organisation:

> We need to allow us to start having a conversation about how realistic it is that everything can be saved and managed. […] I think as an organisation, we are almost at the stage that we are ready to start having these more open conversations about the fact that stuff isn't going to be as it is right now in 100 years' time.
>
> (HEAWG meeting transcript, 16 April 2018, London)

Another attendee at the HEAWG meetings linked their own comfort with notions of change and loss to their archaeological background. They noted that archaeologists are familiar with 'deep time', looking at places beyond the human temporal perception that often constitutes one, two, or maybe three generations. Instead, taking a much longer timeframe is a great tool to make any loss seem relative. After all, many coastal communities and sites have been lost throughout history:

> But I think, actually, if you put it in context, I mean, on the New Forest coast, we are looking at loss since the Neolithic, and therefore it's only one phase of loss that we are seeing.
>
> (HEAWG meeting transcript, 23 October 2018, Swindon)

However, the sector's lack of a systemic approach was acknowledged through an anecdote shared during the HEAWG meeting in April 2018 in response to the publication of an IUCN report. The report warned that 8 of the 43 World Heritage-listed glaciers are likely to disappear entirely by the end of the century (Bosson, Huss, & Osipova, 2019). The HEAWG member pointed out that according to the terms of the World Heritage Convention, this would mean these sites would no longer be listed as they would have lost their unique value and authenticity:

> But does that really address the issue of no more glaciers? So they were talking about possibly a memory of glaciers initiative. That we would create holograms [unclear] and datasets. But we don't have a methodology for the systematic disappearance of all the protected glaciers on the planet.
>
> (HEAWG meeting transcript, 16 April 2018, London)

Similarly, during a meeting with a consultancy tasked by HE to map coastal change and its effects on historic sites, a HE staff member posed the rhetorical question: 'if monuments lose their context, is it still a monument? If a monument is lost, is its context still of importance?' (paraphrased from field notes, 31 January 2018).

Thus, dealing with loss is not yet an accomplished part of the heritage sector's discourse, plans and processes. That this is a concern for the sector itself is pointed out by the 2020 'UK heritage sector statement on climate change', which states as one of their aims: "Developing an approach for dealing with inevitable change, including loss" (Historic England, 2020b). However, as I will discuss in relation to my experience of the RAÄ, the topic of loss does not seem to be a taboo or problematic topic to discuss with staff. Still, it lacks an organisational approach or systemic management method, a lack that has recently gained increased attention in heritage studies, especially through the work of Caitlin DeSilvey (DeSilvey, 2017; DeSilvey et al., 2021; see also the special issue of the International Journal of Heritage Studies edited by DeSilvey & Harrison, 2020; Venture, DeSilvey, Onciul, & Fluck, 2021).

4.3 Riksantikvarieämbetet

The next sections will cover the topic of 'heritage at risk' in relation to climate change at the RAÄ. The first part (4.3.1) will set out the organisation's origins and its relation to the conservation movement. This section is based on written documentation from the organisation and other research on the lineage of RAÄ and heritage conservation in Sweden. The subsequent section (4.3.2) will shortly reflect on RAÄ's annual reports and how climate change features in these. This section also includes the reflections of staff shared in interviews on the climate change/heritage relationship. I will then move to more specific climate change-initiated work (section 4.3.3, 4.3.4). This then leads to the sub-topic of 'loss' in section 4.3.5, which will combine references to 'loss' in RAÄ's published work on climate change with insights shared by staff members. As the RAÄ needs to work with Sweden's national and international climate change commitments, the last section (4.3.6) will discuss the climate change/heritage relationship in reports published in response to Sweden's own environmental objectives and the international Agenda2030.

4.3.1 Origins of the Riksantikvarieämbetet

In chapter 3, I wrote briefly about the remarkably long history of Sweden concerning heritage conservation and legislation. In fact, according to the RAÄ's website, one of the first pieces of legislation for the protection of heritage objects originates in Sweden (Riksantikvarieämbetet, 2021h). The *Placat och Påbudh om Gamble Monumenter och Antiquitete* ('Placard and decree on old monuments and antiques'). It was issued in 1666, presenting the first law for the protection of old buildings and runic stones. This law was preceded by the designation of the first *riksantikvarie* ('national antiquarian') by the reigning King Gustav. The king tasked the *riksantikvarie* with the creation of an inventory of the Swedish runic inscriptions and literary remains at the beginning of the 17th century (Pålsson, 1981). Johannsson (2002) writes that this early interest in heritage preservation is directly linked to the imperial endeavours of the Swedish Kingdom, which competed with the Danes for rule over the Baltic regions. During the 17th century, Sweden was at its most powerful as a military nation (ibid.). The King regarded a heritage narrative as essential to support a strong and proud national identity and a history more glorious than that of the Danes (ibid.).

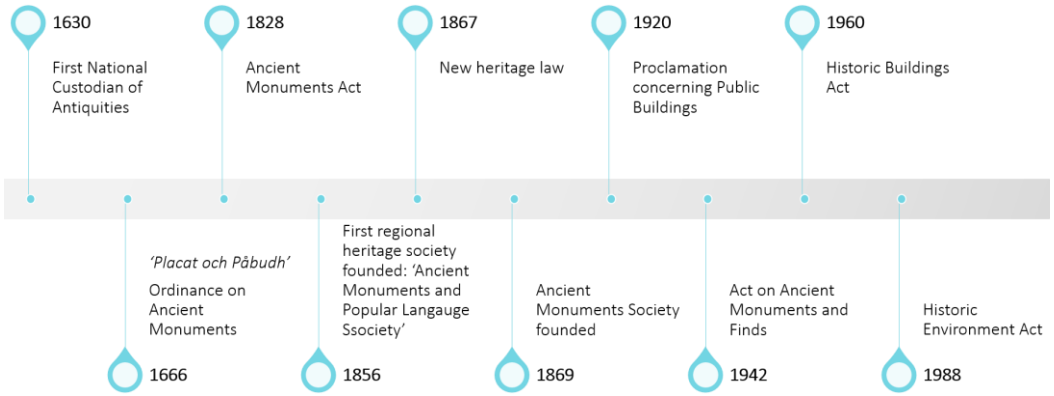

Figure 24 Key moments in the history of Swedish heritage legislation. Source: *author's own.*

The 1666 law made it for the first time punishable to 'destroy' historic sites (from the English translation of the 1666 law: Adlercreutz, n.d., pp. 3–4):

> No-one whoever he may be from this Day forward shall in any manner make asunder or destroy the Castles, Houses, Fortresses, Strongholds or Cairns, which still may remain in any or one place, regardless of how small these Remains may be, nor should he in any way waste Standing Stones or Stones with runic inscriptions, but should leave them altogether unscathed in their right former places, the same applying to all big amassed Mounds of Earth and Burial Sites, where many Kings and other Worthies have established their Tombs and resting Places, as We all such old Monuments on Our Land or on Land pertaining to the Crown, be it Our Property or taxable Property, regardless of whether it is now Our property or has been in the past and now surrendered, protect against all willful Injury as if it were Our private Property, and take it into Our Royal Custody and Trust.

The definition of heritage at this time is considered rather broadly, including buildings, burial sites and runic stones. More significantly, perhaps, is the inclusion of the surroundings of objects and the demanded *in situ* conservation. Also, and in contrast to the first heritage Acts in England, the law did not have a designated time period assigned to the definition of monuments to make them of historic interest, suggesting a wider acceptance of what entails a monument or historic valuable object or site. However, while

this first law is one of its first of its kind, unfortunately, there is no record of its practical impact (Pålsson, 1981).

In the preceding centuries, interest in ancient monuments in Sweden waned and impacted the official practice of heritage protection into the 19th century (Riksantikvarieämbetet, 2021h). A new interest in science and Antiquities overshadowed the study of Sweden's own past. However, in 1828, under the influence of romanticism and an interest in the lives and memories of 'ordinary people', a new heritage act was written that extended the concept of heritage "from the memories of the ruling class to more ordinary monuments that could give information on the nation's history at large" (Johansson, 2002, p. 34). This law also led to the establishment of the direct predecessor of today's Riksantikvarieämbetet as the public authority tasked with the conservation of cultural monuments (Östergen, 1981). In addition, the 1828 Act made it possible to order the systematic categorising, documentation and inspection of monuments (Johansson, 2002). The law was extended in 1867 with a new Ordinance that prohibited any interventions on immobile antiquities (Riksantikvarieämbetet, 2021h), regardless of whether they were registered or not: "Instead, the law enumerated which types of monuments should be included, a list that in principle prevails today. The Act has been changed and expanded several times but its main principles still exist […]" (Johansson, 2002, p. 36).

In 1920 a 'Proclamation concerning public buildings' made the RAÄ responsible for informing the government what publicly owned buildings should be listed as monuments. In 1942 this was extended to include privately owned property (Östergen, 1981). The 1942 Act on Ancient Monuments and Finds superseded the 1867 Ordinance by including the surroundings of monuments into its protective legislation (Östergen, 1981), returning to an extent to what was already included in the 1666 Act.

Considering the foundations and history of the RAÄ, its organisational values are rooted in its purpose to take care of and conserve heritage places. Furthermore, throughout the history of Swedish heritage protection and legislation, the inventory and categorising of sites goes hand in hand with the preservation of places at risk of demolition or loss. Pålsson notes: "The special laws on the protection of the national heritage are directly aimed at protecting, caring for and administering historical objects" (1981, p. 10).

Today, the 1988 Historic Environment Act (Kulturdepartementet, 1988b) forms the most important guideline for the RAÄ's work. This first section of this Act states: "The protection and conservation of our cultural heritage is a matter of national concern. Responsibility for cultural heritage is shared by all" (Kulturdepartementet, 1988b), and "the aim of the provisions in this Act is to ensure *current and future generations* have access to a diverse range of cultural heritage" (ibid., my emphasis). In addition, the RAÄ remains the keeper of the central inventory of historic buildings (*Bebyggelseregistret*), as stated in section 14 of the Historic Environment Ordinance, which accompanies the 1988 Act (Kulturdepartementet, 1988a).

As the state official body, the RAÄ is tasked with the conservation of official heritage for 'current and future generations', simultaneously actively creating this discourse through its power to designate heritage sites and places. Today, the mission of the RAÄ (Riksantikvarieämbetet, 2021d) has an equal focus on conservation and the promotion and sustenance of the relevance and role of cultural heritage within society as a whole:

> The *Riksantikvarieämbetet* is the national cultural heritage authority. We make cultural heritage a part of societal development by providing conditions for the cultural heritage to be preserved, used and developed.

Cultural heritage is defined by the RAÄ (Riksantikvarieämbetet, 2021c) as:

> All material and intangible expressions (traces, relics, objects, constructions, environments, systems, structures, activities, traditions, naming, knowledge, etc.) of human impact. Whether it is written in the indefinite or definite form […] it includes a diversity of cultural heritage.

Like the definition used by HE, it consists of an extensive term that is applicable to many different sites and places. Additionally, both organisations' definitions of heritage emphasise the human aspect of heritage, i.e. it is created by and for humans. Furthermore, there is a shared focus on conserving for future generations ("the aim of the provisions in this Act is to ensure *current and future generations* have access to a diverse range of cultural heritage" – as quoted above).

4.3.2 Heritage at risk in Sweden: Annual reports

RAÄ's approach to heritage and its task can be summarised in two strands: one is the conservation through protection, the second is the conservation through keeping heritage relevant for contemporary and future generations. The contributions made to the climate change debate in relation to the relevance of heritage will be discussed in the next chapter. Here, I will focus on the predominant interest in conservation and its subsequent practices (adaptation strategies, risk preparedness) to climate change work. That this understanding of the relationship between climate change and their work appears straightforward from the organisation's point of view is shown by, for example, the introduction to the webpage on climate change (Riksantikvarieämbetet, 2020a, my emphasis):

> The climate is changing. It means changing temperatures and precipitation patterns, rising sea levels, more extreme weather events and longer periods of persistent weather conditions. *Cultural heritage can be damaged* by sudden events, such as floods, but also by slower changes, such as higher moisture levels.

This framing also runs through the RAÄ's *årsredovisningen* (annual reports). These reports are equivalents to HE's corporate plans: they set out the organisation's general interests, values, and aims for the upcoming years. The annual reports give an idea of the overall agenda and the organisation's public discourse. In contrast to HE's corporate plans, the annual reports of the RAÄ are more extensive. Thus, a similar concise overview of climate change references is not practical.

The online back catalogue of annual reports goes back to 2008. Already in this report from 2008, climate change is mentioned in relation to a cooperation between Nordic countries, aiming to study the effects of climate change on cultural heritage (Riksantikvarieämbetet, 2008). In the following years, climate change and related work receive a recurring mention under the heading 'Climate adaptation work' (see e.g. Riksantikvarieämbetet, 2016b, p. 17, 2019c, p. 18, 2020d, p. 18):

> Climate change is one of the greatest challenges of our time. It affects and damages cultural heritage, for example, through fires, floods, landslides and pests.

In these reports, climate change is mostly framed as a threat to heritage and its conservation. As a response to deal with 'one of the greatest challenges' and from an understanding of climate change as a threat to heritage, risk assessments and adaptation

plans form a direct response to the management of threat. For example, in 2016, the report describes work that has taken place in the preceding years around the development of methods for risk assessments at the county level (Riksantikvarieämbetet, 2016b). The same report also writes of the need for management plans in response to climate change threats (ibid. p. 18):

> Long-term sustainable management is a crucial factor for a preserved cultural heritage. Care and maintenance planning with a cultural-historical approach is a way to prevent injuries that arise with a changing climate.

As argued in chapter 1, climate change adaptation – based on anticipations of future weather scenarios grounded in scientific data and the prioritisation of risks – is the most dominant response of the heritage sector to climate change. This approach is echoed in the annual reports and was confirmed by members of the conservation department when asked about their first association with climate change and its relation to heritage. In one interview, for example, the direct negative causal relationship between climate change and heritage was summarised into one word, 'mould':

> I think of a lot of things. One of the worst things that kind of popped into my mind is *mould* [laughter]. And of course, it is not only mould, but there are quite a lot of problems with it.
>
> (interview transcription, 14 May 2019b, Visby)

Here, climate change is framed as a problem with a direct impact. Next, a colleague commented on how to move further from this principle:

> And when it comes to the actual protection in the historical environments, there is very simple advice there that we are always pointing out. That as long as you have a good plan, and you have good information about what the values are of the place you are protecting, and you have a plan that you have for the nearest future, then you will also be possible to take care of this historic environment whatever the changes are causing and whatever causes the changes. But the worst thing is that they come as surprises to you and that you are not prepared: that you are

> reacting, not pro-acting. And when taking care of the historic environment that is absolutely the worst thing because you are making a decision when you don't have the facts and the background.
>
> (interview transcript, 14 May 2019a, Visby)

The above quote narrates the logic of responses based on risk preparation when climate change is a threat to the continuation of current practice. This approach – of adaptation and preparation – is further developed in three significant publications of the RAÄ that are a direct response to climate change, namely, the 2020 Climate Change Adaptation Action Plan, the collaborative Adapt Northern Heritage (ANH) project, and the report titled *Metoder för riskbedömning av kulturmiljöer utifrån klimatförändringar* (Methods for risk assessment of cultural environments based on climate change (Riksantikvarieämbetet, 2020c)). The latter presents three case studies executed by three different county administration boards. The general content and approach of this report are very similar to that of the ANH project. Therefore, in the following sections (4.3.2, 4.3.4), I will focus on the Climate Change Adaptation Action Plan and the ANH project.

4.3.3. *Kulturarv i ett förändrat klimat*: the 2019 Climate Change Adaptation Action Plan and guidance on risk assessments

Comparable to HE's assignment by the UK government to submit a climate change adaptation plan, the RAÄ was assigned by their government with a similar task as part of the Swedish Climate Adaptation Bill and Ordinance (*Nationell strategi för klimatanpassning Prop. 2017/18:163, and Förordning (2018:1428) om myndigheters klimatanpassningsarbete* (Löfven & Skog, 2018)). Staff in the 'cultural conservation support team', where I was based, was tasked with answering this government's call. The final report, titled *Kulturarv i ett förändrat klimat: Handlingsplan för klimatanpassning 2019–2023* (Cultural heritage in a changing climate: Climate change adaptation action plan (Riksantikvarieämbetet, 2019a), abbreviated to CCAA plan from here), was published in 2019.

The CCAA plan aims to integrate climate adaptation into the work of the RAÄ by implementing activities that will support climate work throughout the organisation, increasing climate change awareness, and supporting the government's goals for climate adaptation (Riksantikvarieämbetet, 2019a). The new plan is an updated version of the first-

ever action plan of the RAÄ published in 2014 that covered the period 2015-2017. This previous plan formed one of the first such plans by any Swedish government authority (Riksantikvarieämbetet, 2019a). This first plan was developed out of a personal concern of people working in the department at the time and was initiated from within the organisation (meeting transcript, 17 April 2019b, Visby). This is in contrast to the current CCAA, which the government explicitly requested.

The CCAA's introductory paragraph (Riksantikvarieämbetet, 2019a, p. 8) is a familiar opening, as seen on the 'climate change webpage' quoted before on p. 129:

> The climate is changing in Sweden, which results in changing temperatures and precipitation patterns, rising sea levels, more extreme weather events and longer periods of persistent weather conditions. Climate change varies in the country. The *Riksantikvarieämbetet* is the authority in Sweden that is responsible for cultural heritage and the cultural environment. Cultural heritage can be damaged by sudden events, such as floods, landslides and avalanches, but also by slower changes, such as higher moisture loads, which can lead to accelerated decomposition of materials.

The CCAA plan (Riksantikvarieämbetet, 2019a, p. 9) describes the overall objectives for the organisation's work on climate adaptation as follows:

1. Cultural heritage is used in the development of society when it comes to limiting risks, reducing vulnerability and adapting Sweden to a changing climate;
2. The RAÄ adds a historical perspective on sustainable societal development by making cultural heritage and its significance visible.

And continues (ibid. pp. 9-10):

> Following the implementation of the action plan, the following shall be achieved:

- The action plan for climate adaptation of the cultural environment is implemented in the relevant authorities' [the RAÄ's] cultural environment work;
- The instruments available to the RAÄ have a perspective on cultural heritage in a changing climate;

- The RAÄ's research and development program has led to an expanded field of knowledge about the impact of climate change on cultural heritage and methods for climate adaptation;
- The RAÄ ensures that the knowledge base on climate adaptation of cultural heritage is available, updated and relevant;
- The RAÄ has a national overview of the state of knowledge of the consequences of climate change for cultural heritage.

From this, it could be interpreted that the report's emphasis is on creating the basis for knowledge to understand the consequences of climate change for cultural heritage and to be able to adapt accordingly. The overall objectives provide what seems a broader vision of what heritage can contribute to the wider risks climate change poses on the whole of society. Therefore, the choice for the introductory paragraph quoted above is interesting, as it reduces the climate change-heritage relationship, once again, to one of vulnerability and impact. At the same time, while the aims suggest the intention for a wider understanding, the majority of the expected achievements narrow down this focus again towards the impact on the historic environment specifically, where heritage is seen as vulnerable to climate impact. It may be interpreted that there is a friction between how the authors interpret climate change and the limits of the tools they have available to translate this to their heritage work. Consequently, conservation and protection of heritage sites remain at the heart of their practice.

This approach is repeated throughout the report, especially in the more general background information underpinning the proposed actions. For example, the report writes: "Culturally and historically valuable buildings are in many cases particularly vulnerable to climate change and are often located in sensitive areas, for example along the country's coasts" (Riksantikvarieämbetet, 2019a, p. 15). From here, it expands on the need for risk assessments to engage with and prepare for uncertain futures: "climate work involves monitoring how cultural heritage is affected by climate change, mapping and prioritising risks, as well as preparedness for both extreme weather phenomena and slow damage processes" (Riksantikvarieämbetet, 2019a, p. 18).

For more specific advice on the practicalities of the creation of the risk assessments, I was pointed to two reports from 2014 (fieldwork notes, 13 May 2019). As part of the series titled *Klimat- och miljöeffekters påverkan på kulturhistoriskt värdefull*

bebyggelse ('The impact of climate and environmental effects on cultural historically valuable buildings' (Riksantikvarieämbetet, 2014a, 2014c)) these publications take a practical approach on how to predict the direct effects of a changing climate on the condition of built heritage and how to manage potential change. The report that focuses on 'slow damage' states as a message to homeowners that the first step of a risk assessment and possible adaptation measures is to: "Find out the building's cultural-historical values", and "Some buildings, parts of buildings or areas have such a high cultural-historical value that they should not be changed at all" (Riksantikvarieämbetet, 2014a, p. 11). As seen at HE in their advice on the introduction of renewable energy sources in or near historic buildings or landscapes: the first focus point is the acknowledgement and consideration of cultural-historic values of a place. Therefore, in this respect, neither organisation steps away from the central place heritage and its conservation take in their engagement with the world or society at large.

4.3.4 Adapt Northern Heritage: climate change risks in the North

Another critical climate change-related project the RAÄ has worked on is Adapt Northern Heritage (ANH). The RAÄ acts as an associate partner of this project, thus supporting the work of the four main project partners rather than developing it. The ANH project is a collaboration between the heritage boards of a group of Northern European countries that started in 2017 and finished in May 2020 (Adapt Northern Heritage, n.d.). The collaboration includes Historic Environment Scotland, *Minjastofnun Íslands* (the Cultural Heritage Agency of Iceland), the *Norsk institutt for kulturminneforskning* (Norwegian Institute for Cultural Heritage Research) and *Riksantikvaren* (Norway's Directorate for Cultural Heritage).

This project directly responds to the conservation paradigm as it starts from the outset of heritage being at risk of the changing climate and engages with this central notion. The project's outcome is an elaborate set of assessment and adaptation tools, knowledge, and communication materials, creating a step-by-step plan to perform site-specific risk assessments to base climate change adaptation plans on[10]. The project worked with nine case-study-sites suffering from climate change impact, providing pilot projects to test and develop tools to help with the conservation of these sites (both quotes from Boro et al., 2020, p. 5):

[10] see: https://adaptnorthernheritage.interreg-npa.eu/tools-results/

> Conservation of historic places aims at reducing or preventing damage to and deterioration of those parts of a place that are considered important culturally. Our changing climate makes this task ever more challenging. To help those managing historic places, the planning of conservation actions needs to incorporate the consequences of climate change more consciously and systematically.

And, continuing on the same page:

> This […] is a tool to support conservation planning, by integrating a process of risk management, so that decisions can be made in a more informed, objective and strategic manner.

Figure 25 "The risk management process described in this guide uses a circular approach, of which only the right half depicted in the figure is described in this guide". Source: *ANH Assessing Risks and planning adaptation, p. 9.*

The tools presented by the ANH project provide a systemic approach to creating a risk assessment and work with the planning of adaptation strategies. These risk assessments follow a tested and more universally used method. Risks are calculated by multiplying the

likelihood of a specific event and the consequential damage to an (element of a) site or its heritage value (as discussed earlier in this chapter). It provides a systemic way to handle the confrontation with an uncertain and complex hyperobject, creating a sense of certainty and control and an action plan to follow, see Figure 25.

4.3.5 Discussions on loss at the Riksantikvarieämbetet

I introduced the topic of loss in relation to climate change impact earlier in this chapter through the work of HE. Also, at the RAÄ 'loss' is a concept that appears in the above-described projects, projects that have the conservation of heritage as their focus. The CCAA plan (Riksantikvarieämbetet, 2019a, p. 18) includes the increasing importance of discourses around 'loss' as a consequence of creating risk assessments and prioritisation strategies:

> A more open discussion on selection and priorities is also needed, as we will not be able to save everything.

And (ibid. p.20),

> It may be that we lose certain ancient remains in the sea in connection with the sea level rising or that the vegetation in cultural landscapes changes as a result of changed climatic conditions. Many of the slow damage processes that eventually become catastrophic and where climate change adds to and accelerates the process can be sorted in here. The cultural heritage sector needs to understand, prioritize and plan for such losses.

Figure 26 "Six types of adaptation measures are used to help create a shortlist which offers a large variety of potential measures". Source: *ANH 'Assessing risks and planning adaptation guidance', p. 65.*

Similarly, in the ANH project, loss receives special attention. The project's main publication states that the possibility of loss is integral to the process of prioritisation and in the wake of climate change threats. Moreover, the project includes 'managing loss' as one of the six

types of adaptation measures suggested in response to climate change impact (see Figure 26 above). It explains it as follows (Boro et al., 2020, p. 66, emphasis in original):

> *Managing loss* as an adaptation measure is not concerned with retaining the material fabric of the place and aims instead at providing an opportunity for people to engage constructively with the loss. These measures include bereavement counselling for affected communities, creating and making accessible replicas, recording of the intangible aspects of the historic place, such as memories and stories, and the conscious do-nothing approach.

Furthermore, at both HE and the RAÄ, loss was not seen as an overly dramatic consequence. Instead, the heritage professionals seemed to be quite comfortable with its inevitability. For example, a member of the conservation department commented on the changes brought about by climate change on heritage:

> But also there, it might be that you need to accept that everything is not forever, or that … if there is something like algae growth, it doesn't cause damage, but it might be a little bit ugly. Sometimes, you also need to accept that this is its [a heritage site fabric's] new appearance.
>
> (interview transcript, 16 May 2019a, Visby)

Of course, this may be because professionals often may not personally feel connected to the heritage at risk of loss, which creates a certain emotional distance and non-attachment. Furthermore, the endangerment sensibility tells us that heritage sites may receive extra interest and care once under threat (Vidal & Dias, 2015). A similar potential engagement with loss as an opportunity was expressed in Visby:

> I think we need to talk about the loss of heritage in relation to climate change. And I think when we do that, people will be affected.
>
> (interview transcript, 17 May 2019a, Visby)

Drawing on the value people connect to heritage sites, the interviewee suggests here that loss, or the potential of loss, can become a motivator for climate change engagement and messenger of the climate crisis reality.

4.3.6 The RAÄ, Agenda 2030, and Sweden's environmental objectives

Apart from the work the RAÄ does that departs from the heritage perspective and/or is initiated by themselves, their work is also guided by governmental frameworks. The main frameworks for national climate-related work in Sweden are the UN's Sustainable Development Goals (SDGs), commonly referred to as Agenda2030, and Sweden's own environmental objectives (see chapter 3). The environmental objectives shape Sweden's present climate change framework and consist of sixteen environmental quality objectives and one generational goal (Naturvårdsverket, 2018), as described in chapter 3.

As a government authority, the RAÄ is required to contribute to these environmental objectives and the generational goal (Riksantikvarieämbetet, 2021d). Since 2018, the organisation also needs to back the government's climate adaptation work in its own area of expertise as set out in regulation 2018:1428 (*Förordning (2018:1428) om myndigheters klimatanpassningsarbete* (Miljödepartementet, 2018)). This regulation demands each government authority to examine "the impact of climate change on the authority's activities in a climate and vulnerability analysis." The new Climate Change Adaptation Action plan discussed above directly answers this regulation.

As a result of the RAÄ's responsibilities towards the government climate and environmental frameworks, some specific reports have come out that evaluate RAÄ's contributions to both Agenda 2030 and Sweden's environmental objectives. These reports are interesting for the purpose of this research, as they give more insight into the connections that are made between heritage work, climate change and environmental sustainability. The approach taken by the RAÄ echoes their position concerning the heritage-climate change relationship in the previously discussed work. Their main concern remains the impact of climate change adaptation measures taken by other sectors and agencies on the state and conservation of heritage and the historic environment.

4.3.6.1 RAÄ's contribution to Agenda 2030

As a government agency, the RAÄ is tasked to contribute to Sweden's implementation of Agenda2030. The 2016 report titled *Redovisning av regeringsuppdrag att bidra med underlag för Sveriges genomförande av Agenda 2030* ('Accounting for the government mandate to provide a basis for Sweden's implementation of the Agenda 2030' (Riksantikvarieämbetet, 2016a)), directly deals with the opportunities the RAÄ considers for their work to contribute to the Agenda 2030 sustainability goals. The report is divided

into three summary areas set by the RAÄ. They have then assigned the relevant SDGs to each of the three areas as follows (Riksantikvarieämbetet, 2016a, p. 4):

1. Cultural heritage work contributes to social cohesion and the development of an open and inclusive society	
This contributes to sustainable development goal number (number and description of SDG):	
16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
10.2	Promote universal social, economic and political inclusion

2. The authority acts in collaboration with other authorities responsible for environmental goals for the sustainable management of natural and cultural environments	
This contributes to sustainable development goal number (number and description of SDG):	
6	ensure access to and sustainable management of water and sustainable sanitation for all
8	promote sustainable, inclusive and sustainable economic growth, full productive employment with decent working conditions for all
9	build resilient infrastructure, promote sustainable industrialization and promote innovation
11	make cities and settlements inclusive, safe, resilient and sustainable
12	ensuring sustainable consumption and consumption patterns
13	*take immediate action to combat climate change and its consequences*
14	preserving and utilizing the seas and marine resources in a sustainable way for sustainable development
15	protecting, restoring and promoting sustainable use of land-based ecosystems, sustainable forest management, combating desertification, halting and reversing land degradation, and halting loos of biodiversity

3. The agency's archives, libraries, registers and databases provide open and free information that provides the basis for sustainable community planning and enables lifelong learning.	
This contributes to sustainable development goal number (number and description of SDG):	
4	ensure inclusive and equal quality education and promote lifelong learning for all
16.10	ensuring public access to information and protecting fundamental freedoms, in accordance with national law or international agreements

From here, zooming in to what the report writes concerning 'goal 13' (in *italics* above) on climate action, it (Riksantikvarieämbetet, 2016a, p. 13) elaborates:

> The consequences of climate impact on cultural environments are multiple. The effects of a changing climate – such as extreme rainfall, storms and floods – will directly affect the possibilities of preserving cultural-historical buildings. Increased vegetation, among other things, places higher demands on soil management and the biological cultural heritage will be affected by changing vegetation conditions.

And (ibid. p. 14),

> Climate adaptation measures in themselves can also directly affect cultural environments, such as embankments, dams, mills and other remains. Other measures aimed at reducing greenhouse gas emissions, such as energy efficiency improvements, may damage architectural values.

Considering this, the report situates heritage as vulnerable to external impacts. While there is a reference to the need for "increased knowledge" on mitigation through energy efficiency in historic buildings, the main issue goal 13 is related to are the potential negative effects of climate change and climate adaptation measures on the conservation of the historic environment (ibid. pp. 13-14). This more defensive approach sits in contrast with the RAÄ's interpretation of their relation to other goals, like goals 16 and 10. Here, heritage is seen as a contributor to achieving the goal: "The cultural environment is a source of knowledge, education and experiences that help to create a sense of belonging, participation and an understanding of our place in time" (ibid. 2016a, p. 9). This sheds light on the prevalence of the conservation paradigm in the face of a threat, in this case, climate change. In relation to other issues (social/economic), heritage is seen as a positive enabler and contributor to development.

Similarly, it also points to a limitation in understanding climate change as an environmental and equally a social and economic issue, i.e. as an outcome of the Capitalocene. As the report shows, its first area, "Cultural heritage work contributes to social cohesion and the development of an open and inclusive society", is not directly associated with goals related to any environmental aspects of the SDG system, including climate change. This may be influenced by the distinction the SDGs make between different aspects of sustainability: social, economic and environmental. As a consequence of this tri-partition, all goals that the RAÄ interprets to be part of the 'environmental' realm, are linked to a necessary collaboration between them and other sectors: "The authority acts in collaboration with other authorities responsible for environmental goals for the sustainable management of natural and cultural environments" (see table above). A possible explanation of this may be that the RAÄ sees themselves as solely part of the 'cultural environment' and thus needs to collaborate if it engages with what it defines as work belonging in the natural environment: waterways (goal 6), forests (goal 14 and 15), and climate change (goal 13).

The SDGs have been criticised as too anthropocentric and tied up in a neoliberal paradigm of economic growth, inept at addressing the ecological, social and ecological injustices associated with the Anthropocene era (see e.g. Adelman, 2018; Hickel, 2019; Kotzé, 2018). As a result, they continue the socio-economic cycles that Capitalocene and post-capitalist thinkers accuse of causing the ecological crisis in the first place (see e.g. Hickel, 2020; Malm, 2018). The RAÄ, as a governmental body, has assignments it needs to fulfil that are set by their government's agenda and the government's international obligations, in this case, the 2015 Paris Agreement that Sweden signed up to. However, by fitting their work into and aligning their work with frameworks like Agenda 2030 and the Swedish environmental objectives, there is little space to rethink their own work or their understanding of climate change outside of the previously mentioned paradigms that these systems are based on. At the same time, the anthropocentric essence of the Agenda 2030's goals suits the heritage discourse, as the presented heritage definitions of both the RAÄ and HE define heritage in terms that have humans and *their* values at its core (see also: Fredengren, 2015, for a critique on the anthropocentrism of heritage and the RAÄ specifically).

4.3.6.2 The RAÄ's contribution to the work on Sweden's environmental objectives

On the national level, the Swedish environmental objective system forms a framework and guideline for the work of the RAÄ to engage with the complications of a changing climate. Following the government's regulatory letter of 2014 and 2015, the RAÄ reported in 2015 on their expected contribution to Sweden's environmental quality objectives in a report titled *Riksantikvarieämbetets bidrag till arbetet med miljömålen* ('The Heritage Board's contribution to the work on the environmental objectives' (Riksantikvarieämbetet, 2015)). In contrast to the above discussed SDGs system, the Swedish environmental goals solely focus on aspects of the environment (see Figure 19). However, similarly to the above-discussed work concerning SDG 13 and climate change, the position the RAÄ grants itself in is mainly in the role of heritage guardian, making sure that heritage sites are not harmed or neglected by other authorities and agents in the process of working towards achieving the environmental objectives. Concerns related to this have to do with the possible negative consequences to the built historic environment due to adaptation measures implemented to protect ecosystems and the common gaps in knowledge about the location and presence of historic remains in landscapes.

This concern is reiterated in a follow-up report published in early 2020, titled *Kulturmiljön i Miljömålssystemet* ('The cultural environment in the environmental goals system' (Riksantikvarieämbetet, 2020b)). The report expresses concerns about the low number of references made in the indicators that review the progress and achievement of the environmental goals. The historic environment only appears in three sets of these as a point of concern: 'Living forests', a 'varied agricultural landscape', and a 'good built environment' (Riksantikvarieämbetet, 2020b). The report reviews the state of each of the 16 objectives concluding that: "Based on the environmental target follow-up, it can be seen that the conditions for preserving the cultural environment continue to look negative" (Riksantikvarieämbetet, 2020b, p. 6). This comment refers to the lack of improvement in the well-being of the studied ecosystems, making the cultural environment in it equally more vulnerable to degradation or neglect, as both environments are perceived as interconnected. The report concludes that a lack of follow-up and clarity about the position of the cultural environment within the objectives-system makes it difficult to analyse the impacts on the cultural environment over longer timeframes in conjunction with the other objectives.

Again, as in the report on the contribution of the RAÄ to the goals set out in Agenda 2030, the conservation and protection of the historic environment is the major guideline to evaluate the relation between heritage and other frameworks that include climate change action for the RAÄ. It starts from the premise that the historic environment under their professional guardianship is vulnerable and under threat of the negligence and ignorance of others.

4.4 Conclusion and discussion

In this chapter, I have discussed the main work in response to climate change and the references made to climate change in the work of HE and the RAÄ. I have shown how for both, their most dominant response to climate change is based on the idea of climate change as a *threat* to heritage sites, heritage conservation and the stable continuation of heritage management (RQ 1). This response is founded on framing climate change as an external environmental risk and heritage as vulnerable (RQ 3). As a consequence, and throughout the work of both organisations, heritage is presented as in need of professional help and care (RQ 2). This approach follows the ideas of an endangerment sensibility, as explained in the introduction of this chapter. It is also promoted by calls of the governments of both Sweden and the UK to create adaptation reports. These reports have the management of undesired change at their core and thus ask for defining a baseline situation that is at risk of change. The preparation for future change paired with the above approach finds its shape in said climate change adaption plans and risk assessments. Both of these create a sense of control based on weather data and future climate scenarios as created by natural science (RQ 4). This approach and the framing of climate change on which this approach rests fits the scientific framing of climate change I described in chapter 1 (RQ 3).

This approach also aligns with the work introduced by Rodney Harrison in the introduction, as well as with what Holtorf and Ortman write on heritage and heritage conservation: “We prefer . . . a past that is fragile, cannot be replaced, and needs our help. . . . One might even say that archaeological sites are not being saved because they are valued, but rather they are valued because they are being saved” (as quoted in: DeSilvey, 2017, p. 178). From the perspective of the conservation paradigm, climate change becomes an asset in the risk toolbox, creating an increased neediness of places to be taken care of and another reason to extend conservation practice to more places (DeSilvey,

2017). Consequently, such an understanding of climate change reinforces the focus on the materiality of heritage, as it directs the focus of heritage management to the physical fabric of places and memories. A problematic focus when climate change inevitably leads to the material loss of places. As Caitlin DeSilvey (2017, p. 4) wonders in her book *Curated Decay*:

> But what happens if we choose not to intervene? Can we uncouple the work of memory from the burden of material stasis? What possibilities emerge when change is embraced rather than resisted?

Climate change seems to push these debates and questions more to the foreground and makes them more urgent. However, an organized response to such questions by the heritage boards is thus far lacking (but see the very recently published report by DeSilvey et al., 2021; and also the special issue of the International Journal of Heritage studies edited by DeSilvey & Harrison, 2020).

Altogether, the organisational responses that take shape suit the 'scientisation' of climate change as described in chapter 1. However, this approach has significant limitations. The framing of climate change as a weather phenomenon limits the anticipation of future scenarios to a change in weather patterns and environmental change and stresses its material impact. Consequently, it leaves out the other changes that the Swedish or English society might encounter in the near and distant future due to the climate crisis, let alone the option of complete societal collapse (Bendell, 2018). On the one hand, it is accepted that conservation circumstances and weather impact will change. But on the other hand, the acceptance of change remains here limited to the physical realm and the realm of physics. In line with the chosen framing, the changes in society as a whole or the make-up and values of future generations remain unquestioned.

Other questions may gain significance when considering this critique while also focusing on heritage conservation, as for both organisations, heritage and conservation are closely connected, if not interrelated. When the understanding and framing of climate change would take place within a Capitalocene framing, as I discussed in chapter 2, the concerns regarding conservation may shift to 'what places should be conserved at all?'. A topical opinion piece in the UK newspaper The Guardian, for example, questioned the necessary conservation work on a slowly degrading Scottish castle, deemed essential from the perspective of the material fabric (MacDonald, 2021). However, within a changing climate, one may wonder if it is necessary to put resources in the conservation of another

heritage site representing the individual riches of a historical family, earned through (now) doubtable practices. A place that, according to the author, screams "wealth, power, and domination" (ibid.). It is these questions that I did not encounter at either of the heritage authorities. However, as mentioned, I regard this as a consequence of how climate change is understood and approached. There is no relation between a Scottish castle and climate change when there is no link between the underlying (historic) socio-economic power relations and climate change. Considering their own heritage and origins, both organisations thus stick to their most tested practices, while climate change provides them with a reinforced '*raison d'être*'. As one of the staff members of the conservation department in Visby commented on the limitations of their climate change engagements:

> One thing, of course, is the traditional position of heritage protection. That we are a protection field in society. We protect, we don't develop.
>
> (interview transcript, 14 May 2019a, Visby)

To return to the research questions, in this chapter I argue that climate change is first and foremost understood as an external environmental threat to the conservation of heritage sites and a risk to manage (RQ 3). The effect of this understanding allows both organisations to continue with their work as they are familiar with, i.e. to carry on with 'business-as-usual' (RQ 1). In other words, the understanding of climate change as a risk presented in this chapter further territorialises (cf. DeLanda, 2016) the identity of the organisation as champions of the historic environment through conservation work and by looking after the historic assets of their respective countries, *albeit with renewed moral authority* (RQ 2). Here, the future at the centre of their conservational aims seems likely to be a continuation of the present (RQ 4). This refrains them from radically rethinking what future generations may value. Furthermore, it limits the reconsideration of what heritage actually means in an era of climate crisis or what heritage is needed, so to question what futures are desired proactively and to be able to engage in their creation.

Chapter 5 – Heritage and net-zero: the historic environment as agent for mitigation

5.1 Introduction

This chapter will discuss the second theme representing the climate change work of Historic England and the Riksantikvarieämbetet: 'heritage as mitigation agent'. The IPCC describes climate change mitigation as practices that either reduce or prevent the emission of greenhouse gases or that actively remove them from the atmosphere (IPCC, n.d.-b). Chapter 1 described how scientists and fossil fuel corporations have been familiar with the consequences of climate change and the scientific underpinnings of this knowledge since the 1950s. This science has exposed the direct relation between the combustion of fossil fuels, the emissions of carbon dioxide and methane, and the warming of global temperatures. Following this knowledge, most national and international climate change frameworks and action plans are based on mitigation efforts to limit further warming. This is most clearly illustrated by the greenhouse gas mitigation targets set by the Paris Agreement, created to keep the warming of the world's climate under 1.5 ^{o}C (United Nations/Framework Convention on Climate Change, 2016). Both the UK and Sweden have ratified this agreement, and it forms a guideline and framework for their national climate change work. Based on the importance of these mitigation targets, the UK and Sweden aim to reach net-zero in 2050 and 2045, respectively (Committee on Climate Change, 2019; Ministry of the Environment and Energy, 2018).

In the previous chapter, I argued that climate change is primarily understood in the heritage sector as a risk and how this response fits into the conventional 'scientific' policy response to the climate crisis that I explained in chapter 1. This response contains the climate crisis within clear boundaries, mostly limiting it to an external environmental problem. In this chapter, I will expand on this approach to climate change by discussing another set of responses, moving from adaptation to responses based on efforts to mitigate emissions. In chapter 1, I also wrote that the mitigation discourse is directly related to understanding climate change as a carbon problem framed within the knowledge of science. In this way, the crisis becomes a quantifiable problem with 'net-zero'

as the ultimate desirable long-term end-result of the sum of emissions and mitigation efforts.

This chapter will look into how both case study organisation are moved to action by the mitigation discourse (RQ 1). It will discuss how HE and the RAÄ engage with heritage as a mitigation agent in the climate crisis. By understanding the climate crisis as a carbon issue, mitigation is understood as a vital part of the 'solution' (RQ 3). Both HE and the RAÄ have worked on incorporating carbon mitigation into their organisational practices. Furthermore, they have combined their role as champions of heritage and heritage conservation with the mitigation argument (RQ 2). The built environment creates a significant part of the national emissions in both Sweden and the UK through energy use in homes and offices and new development projects (FOG Innovation, 2021; UK GBC, n.d.). Therefore, both HE and the RAÄ have worked on framing the historic built environment as a positive player in the mitigation debate, rather than an obstruction to reach net-zero. However, it will become clear that the latter appears to be the role assigned to historic homes by other sectors in planning for net-zero. I will argue that by repositioning the historic environment in the mitigation discourse, the case-study organisations also find an argument in favour of the conservation of historic buildings and their relevance for low-carbon futures (RQ 4).

5.1.1 Outline of the chapter

To show how fossil fuels and mitigation create a thread throughout the understanding of climate change for both the staff and the organisations, I will first discuss what came forth from staff members' accounts on their own main understandings of the climate problem. As the work done by the organisations influences the understanding of staff and the other way around, it is relevant to briefly reflect on what associations staff have when asked about climate change. This is important because climate change, due to its nature as a hyperobject, is not a 'thing' you can leave on your desk to pick up the next day. It follows everyone throughout the different roles they play in their lives, and people tend to feel personally concerned about it.

Secondly, I will show how energy efficiency in historic buildings as a topic emerges from a focus on carbon and mitigation. I will follow this by discussing one of the main arguments that both organisations put forward in favour of the significance of historic buildings in climate change work and action: namely, that 'the most sustainable building is

the building that already exists'. This argument consists of two threads. The first concners the improvement of energy efficiency of historic buildings. The second engaes with the embodied carbon these buildings hold. This argument is based on the life cycle analysis of historic buildings. Throughout this chapter, I will argue that as a response to a new understanding of their own work through the climate change mitigation lens (RQ 1 and 3), both organisations have found a stronger foothold for the relevance and significance of heritage conservation in a changing climate and low-carbon futures — all along, adding an increased moral authority to their work (RQ 2 and 4).

This chapter heavily relies on the accounts of staff as they share their associations with climate change, how they understand it, and how this impacts how climate change is framed within the organisations' work. In addition, specific published work by both HE and the RAÄ will be discussed that directly relates to energy efficiency and embodied carbon. As with the previous chapter, I will first discuss the work of HE and the information gathered during fieldwork there before continuing to the particularities of the RAÄ in Sweden. In the concluding sections, I will return to the research questions.

5.2 Historic England

5.2.1 How do you understand climate change? Associations with the hyperobject at Historic England's office

In 2004 a communication agency hired by oil giant British Petroleum (BP) introduced the 'carbon footprint calculator' (Kaufman, 2021). This software allows individual consumers of BP's and related fossil products to get insight into their energy usage and, more importantly, take on the responsibility to go carbon neutral in their own hands. It turned out to be a remarkably effective marketing piece as the tool still holds up today, and most people will be familiar with the concept. Moreover, its rationale found particular purchase with environmentally concerned individuals (ibid.). It told them that it is the consumer's responsibility to reduce their negative impact on the earth system and divert catastrophe. BP itself continued with its business-as-usual.

This BP campaign regularly came to mind when talking to people at HE or when thinking about climate change with them. Almost everyone in the office would bring up carbon mitigation as essential and the main action to be taken, often not only within their work but also in relation to their personal lives and decisions. An illustrative moment for

this occurred when an interviewee apologised for the many paper copies they were making when I walked into the print room ahead of our meeting (field notes, 6 February 2020). Although this particular moment did not explicitly involve fossil fuels as such, it was the awareness of one's natural resource usage that was brought up by the looming presence of a conversation on climate change and a climate change proxy (me).

The association of resource usage – paper, milk, electricity, fuel, etc. – with climate change shows how it is experienced as a problem with *material* drivers. It also provides a sense of tangible agency within this hyperobject, something one can take action on and responsibility for while acknowledging one's understanding of the situation. This association and urge to take action is well represented in HE by the 'Green Group', founded by a concerned staff member and repeatedly mentioned by their colleagues as a good initiative and representative of the general climate concern people felt, for example in the following interview:

> IE[11]: She's [the founder of the Green Group] fantastic. She helps out the Green Group within the organisation. And I think they've got 80, 80 and…
>
> IV: 1 – 8? Or 8-0?!
>
> IE: 80 members! Which is fantastic. That's like 10% of the organisation's number, something like that, so straight away across the board as well.
>
> (interview transcript, 6 March 2020, London)

The Green Group was further described as a group of individuals from across the six offices of HE that meet online every other month to discuss how to live and work greener. In this context, 'greener' primarily represents a reduction in carbon usage (interview transcript, 5 March 2020, London). The group was initiated to share concerns and create a group of likeminded people to support one another:

> It's like a therapy session, but it's also a chance for us all just to come up with ideas and be positive and stuff. It's mostly just people like me who are just worried about the world and want to try and do something in tiny ways to live.
>
> (interview transcript, 5 March 2020, London)

[11] IE = Interviewee, IV = Interviewer

Mitigation of carbon and resource usage provides a sense of individual agency in the complexity and *hyper*ness of climate change. The fact that the Green Group is set up by someone working in the communications department at HE – someone not responsible for any specific climate change initiated work – shows the need to feel more supported in their growing concerns and create a sense of active engagement. Although the idea started with the intention to be a sounding board for the origination to question HE's own policies regarding resources and energy use, e.g. paper, coffee, milk, in an interview, it was acknowledged that for the moment, it is mainly about the attendees' personal lives (interview transcript, 5 March 2020, London).

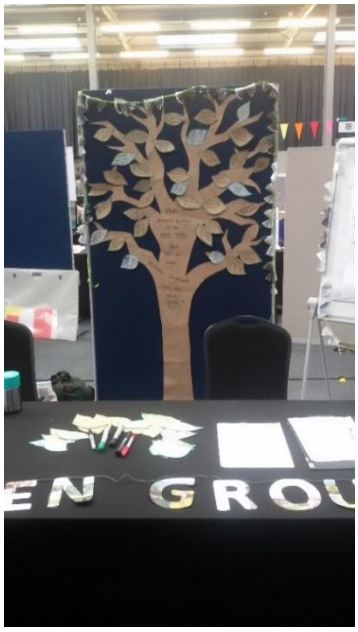

Figure 27 Stand of the Green Group on HE's staff conference. The text on the tree reads: 'Make a personal pledge to be more green'. Source: *author's own.*

The group-members share ideas and inspiration to change things on an individual scale, focusing on the positive contribution everyone can make. However, eventually, it is meant to return to a more grassroots body that tries to create change from the bottom-up:

> But through conversations with various different people, I feel as though we're putting ideas in people's heads about what we can do in terms of… I'm talking very much like our internal carbon footprint, how much paper we use and that kind of thing. Which we already look at as an organisation, but we just don't really share

> it that much internally.
>
> […] It's just about pooling those messages together and making sure that they're communicated properly to the organisation and that we all feel brought into a greener way of thinking. That's how I see it, anyway.
>
> (interview transcript, 5 March 2020, London)

In the above quote, the speaker makes the transition from the personal concern to the organisation's responsibility to engage not only through their heritage work but also as a consuming, *real* entity contributing to emissions itself.

Similarly, when interviewees choose to not engage with the topic of climate change from their personal point of view and their personal carbon footprint, they would mainly reflect on their concerns of the carbon footprint of HE as an organisation, ultimately sharing a similar association. For example, on the topic of commuting, a conversation that took place only a few weeks before the first COVID-19 lockdown that made the commute-free working arrangement a reality for an extended period:

> So, in an ideal world, when you're thinking of reducing emissions and stuff like that, you'd live close to where you work. […] I suppose if everybody worked at home, which I don't think would work, but if everybody worked at home, then you wouldn't have the emissions associated with this building, with keeping it at the right temperature.
>
> (interview transcript, 6 March 2020, London)

And similarly from another member of staff:

> Our big issue, if we look at ourselves, will be staff travel. We encourage staff to use trains. We look at remote working, but there are all sorts of challenges. But the primary one we need to look at is our own estate and how we're operating the estate that it's being done as greenly as possible.
>
> If you've been down to Swindon, we've got a huge archive building with the biggest collection of architectural drawings in the country, a huge archive that has huge energy implications.
>
> (interview transcript, 6 February 2020, London)

I want to show that for most people, their understanding of the climate crisis is primarily based on the mitigation discourse. This does not mean that this is their only understanding of the issue, but it is the most guiding one and the one that comes first to mind.

However, looking at climate change from this angle easily makes it into one ultimate calculation of positive and negative emissions. Then, the focus on emissions and the compartmentalisation of the climate crisis as a carbon problem risks creating a black and white understanding, where some behaviour and actions are considered morally 'good', while others are 'bad', based solely on the resulting emissions:

> I find it really hard to separate my own selfish life decisions from the big stuff. So I believe in the big picture, but actually doing the big picture in your own life is really very hard. And you can do lots of small things, but then you do some big bad flying around the world type things. And it's a really complex calculation, and you can't… You just made the point to try and connect everything. But you can't really do that with every single decision. Well, you can, I suppose, if it becomes a way of thinking.
>
> (interview transcript, 31 January 2020, London)

Much of HE's work in response to climate change results from this reductionist dichotomy between 'problematic' and 'good' practices, labels that reflect the greenhouse gas emissions connected to one or the other. HE has spent many of its resources in the past years to include the historic environment on the 'good' side of the mitigation discourse. The following sections (5.2.2) will focus on the resulting work of these activities.

Section 5.2.2.1 will discuss published documents on energy efficiency, while section 5.2.2.5 will discuss the outcomes of work around embodied carbon in the historic environment. In addition, the information shared by staff members in interviews shapes three more sub-themes: (1) conservation *for* future generations (section 5.2.2.2), (2) conserving built heritage in a capitalist marketplace (section 5.2.2.3) and (3) the communication of the relevance of mitigation to HE's audience (section 5.2.2.4). These sections contextualise the mitigation work within HE's conservation agenda and the friction staff encounter when introducing energy efficiency work as climate action.

5.2.2 "We need to be part of the solution, not the problem"

To the backdrop of the increasing presence of the climate change discourse in public opinion, individual concern, and national and international politics, one of the main

concerns for the historic environment sector turns out to stay relevant within this new climate reality. Especially when climate change is mainly approached as a problem based on carbon emissions and calculations, it is easy for outsiders to see old homes and buildings as inefficient in terms of energy usage and outdated in terms of insulation standards:

> I think often heritage people are seen as the bad guys in climate change in this country, because I've been in a number of places, in the kind of green building end of climate change issues, where the perception is old buildings are inefficient; therefore you get rid of the old buildings, and you build new buildings which are energy efficient.
>
> (interview transcript, 31 January 2020, London)

And in the account of another member of staff:

> Well, we want the historic environment to be seen as a constructive part of the solution, and that is the main message rather than blocker. Rather than people who stand in the way of progress and want things to remain the same that we are a constructive part of the future because we have useful knowledge, useful assets, and useful perspectives and expertise.
>
> (meeting transcript, 12 December 2019b, London)

Their current work on mitigation can be interpreted as part of this search and urge for relevance. The previous chapter (chapter 4) described how climate change is mainly seen as a risk to the historic environment, representing work that drives a business-as-usual approach for HE. The work presented in this chapter is more proactive. It tries to include the historic environment in the mitigation response to the climate crisis. In doing so, it creates a space for both HE and their work and the historic environment itself to be a positive agent in the climate change discourse. Essentially, it keeps their own work and purpose as an organisation relevant in a time where climate issues are finding their way to the top of political and public agendas, in the organisation's own words: "At Historic England, we recognise the urgent need for climate action and we believe that England's existing buildings have an essential role to play in fighting climate change" (Historic England, n.d.-f).

This work, which focuses on mitigation, can be divided into two parts: (1) energy efficiency in historic buildings and (2) embodied carbon in historic buildings. Both will be discussed separately in the following sections. These two arguments have a significant overlap as they promote repair and conservation over replacing elements of or replacing whole historic buildings. Both represent two sides of the same coin, as they support an approach that claims historic buildings are inherently sustainable. HE argues that these buildings owe this environmental sustainability to their embodied carbon and the efficiency of their building structure and materials specifically suitable for local English climates.

5.2.2.1 Mitigating climate change: Energy efficiency in England's historic buildings

> What I tend to say when I'm lecturing to people who don't really know who we are or who have, I know, a preconception of what we do is to say that… I show them a picture of Lloyd's[12] and say, this is a listed building. And I'll often put it up against a picture of St. Paul's [cathedral]. And I'll say, I'll tell you which one's really hard to deal with. It's not St. Paul's that I lose sleep over.
>
> Because there's a tendency that the enlightenment rush towards measurement, models and theories has meant that we're quite sure that we're better at things than they were in the past. And I'm sorry, proof of the pudding is in the eating. We're clearly terrible at just about everything we do. In fact, we've just about trashed the planet in 200 years, which is really quite good going. It's a big planet.
>
> (interview transcript, 12 December 2019a, London)

The above is an anecdotal account shared in an interview to make the point that historic buildings have paid their dues to claim their place in the built environment. The interviewee used St. Paul's cathedral to promote the sound architecture, the durability and resilience to their local climate, and the adaptability of historic buildings to last for much longer. This is in contrast to a contemporary building like the referenced Lloyds Banking Group headquarters in London, one of the youngest buildings to receive a Grade I listing by HE (Historic England, n.d.-e). Notably, also a bank investing billions a year in the fossil fuel industry itself (Kirsch et al., 2021).

[12] Lloyds Banking Group London HQ building on Lime Street in The City of London, designed by Richard Rogers and opened in 1986

Part of HE's climate change work tries to oppose the idea that traditionally built houses and buildings are by definition outdated and obsolete, especially against the popularisation of low emissions innovations like passive houses and new technologies like triple-glazed windows.

Instead, they provide homeowners with a rapidly expanding number of freely available reports and web pages advising on the adaption of historic homes to increase their energy efficiency while also promoting traditional homes as highly adaptable to today's standards and resilient to the changeable and changing English weather. For example, thoughtful retrofitting of traditional homes to increase their energy efficiency is a topic of one of the most proliferate resources available on HE's website, from a general 'how to' guide (Historic England, 2018a), to specific guidance on, for example, the insulation of pitched roofs (Historic England, 2016c), flat roofs (Historic England, 2016b), solid walls (Historic England, 2012a) or timber floors (Historic England, 2012b). For example, the webpage (Historic England, n.d.-f) that poses HE's statement on 'Modifying Historic Windows as Part of Retrofitting Energy-Saving Measures' promotes a 'repair not replace' approach as an act towards creating a sustainable society:

> It contributes to sustainability in its widest sense, and has been the preferred solution of our predecessors. Proper maintenance and repair will ensure our old buildings continue to function effectively. This approach is in the interest of owners, society more generally, the environment and future generations.

At the basis of the advice around improving the energy performance of buildings is the so-called 'whole building approach'. The 'How to Improve Energy Efficiency' guidance report (Historic England, 2018a, p. 9) defines this approach as:

> One that uses an understanding of a building in its context to find balanced solutions that save energy, sustain heritage significance, and maintain a comfortable and healthy indoor environment. A whole building approach also takes into account wider environmental, cultural, community and economic issues, including energy supply. […] Most of all, it deals with specific situations as opposed to generalities.

Basically, the whole building approach encourages the homeowner to create a relationship with the small locality of one's own house. For example, to understand potential issues in

the context of the properties of the materials and to work with these properties rather than against them. HE's reports frame this relationship as one based on technical knowledge and almost as a matter of fact list of checkpoints (i.e. sun exposure, the performance of used materials, construction, historic significance) to fill out. However, as I will write in the discussion chapter, one of the main arguments proposed in response to the climate crisis is the retrieving and building of a lost connection with our surroundings and our environment (e.g. Krznaric, 2020; Vaughan-Lee, 2013; Wall Kimmerer, 2013). From HE's 'whole building approach', a similar encouragement can be taken to connect to and pay interest to one's immediate environment: to the naturally available local materials and traditional techniques used by ancestors in close collaboration with their surroundings to adapt a place to its specific local circumstances.

5.2.2.2 Changes in values and conservation choices: Heritage *for* future generations

HE defines conservation as the 'management of change' (see chapter 4). However, one may wonder whether this notion of change also includes the potential far-stretching adaptations made to historic homes to improve energy sufficiency or include green energy technology. A long-term staff member reflected on this and revealed the internal friction associated with these new energy-efficiency measures. They shared that there had been a shift in the organisation's advice and their acceptance of adjustments and retrofits in historic homes to increase their energy efficiency. Here, climate change awareness opens up debates on changing conservation practices standards. However, they also acknowledged that it is a painful and lengthy debate, illustrated by the example of the potential replacement of single glazed windows for double-glazing:

> So, if there's an original window or old window, so maybe a 200-year-old window, is it acceptable to take that window out to put in double glazing to improve the performance? So the answer, probably not, in most [situations]. […] If it's 100 years old, it becomes [negotiable]… So our position on that has subtly changed over the years. So, we're less anti-double glazing in certain circumstances. And that's a very hard thing for quite a few people in this organisation and in the heritage sector because they say, but this window is old, if we can repair this window, we should reuse this window. Some people are anti-secondary glazing as well because it affects the appearance of the window.
>
> (interview transcript, 31 January 2020, London)

As stated before, conservation of heritage is generally regarded as essential because of our responsibility to 'future generations' (Historic England, n.d.-d and see chapter 4). However, the designation of climate change as a climate crisis implies a future that could be radically different from what we know today (Ripple et al., 2020). Therefore, future inhabitants of the earth may have different values and concerns than can be imagined today. What remains is to see the future as a continuation of the present and, therefore, the conservation values today as the conservation values of future generations. This is at least the experience I had at HE; that the values of future generations seem not to be explicitly questioned and are based on assumptions of a set of values to be held in the future equal to the present.

However, the 'Greta Thunberg generation' shows that their trust in the decision making and responsibility of the current generation of leaders is missing and lacks the inclusion of the timelines relevant to them. Their concerns make it increasingly important to question whether the standards of decision-makers still hold up in the uncertainty of today's climate futures. For example, Andreas Malm (2021, p. 105) questions what our future relationship will be to fossil economy or carbon culture heritage:

> Will those in school today or born next year group up to think that the machines of the fossil economy were accorded insufficient respect? Or will they look back on this moment in time rather like we, or at least those of feminist leanings, look back on the suffragettes and see smashed windows as a price worth paying? But when suffragettes broke panes, torched letterboxes and hammered on paintings, these things had, in and of themselves, at most a tangential relation to the problem of male monopoly on the vote. Now the machines of the fossil economy *are* the problem.

Heritage sites where one may expect such a change in values are those affiliated with the fossil economy and carbon industry. Especially in the UK, a nation considered the birthplace of the industrial revolution (Malm, 2016a). When asking staff working closely with such heritage sites on their expectations of a change in attitude towards industrial heritage sites by younger generations, prompting the idea of calling these places 'dark heritage', they responded:

> I wonder if perhaps there's a reluctance to celebrate their heritage because it may not be a heritage they want to celebrate anymore. Perhaps companies who are

> moving towards the generation of green energy will want to distance themselves from their old carbon past, as it were.
>
> (interview transcript, 28 February 2020, London)

However, they also admitted to having not seen such a change yet. Ironically, for industrial sites linked to carbon energy, they mentioned climate change brings another unexpected risk. The surge for green energy and the new commitments of the government to work towards becoming carbon neutral have led to the acceleration of the closure of coal power plants. Upon closure, these plants are regarded as industrial heritage sites. Consequently, as heritage sites, these plants are at risk of being lost because of their redundancy:

> You know, where we thought we had five years, we may only have two years now to do any recording work before they're demolished.
>
> (interview transcript, 28 February 2020, London)

Conservation, again, stays at the centre of HE's concerns, and climate change remains a threat to this practice. Here, not due to its direct physical impact on heritage sites, but because of a change in society's energy needs and morals towards its use of energy resources.

Linked to the previous discussion on the replacement of windows concerning the friction between climate change mitigation measures and the impact on the historic environment, another member of staff remarked:

> It would be so easy to say, well, climate change is a big problem, but your proposal for mitigation or adaptation will have an adverse impact upon heritage, so you shouldn't do it. It would be so easy to say that and to be perceived as blockers to climate action.
>
> Now again, taking the long view as archaeologists, we understand how much the landscape has changed and will always change. […] policy statements I think have to acknowledge the fact that it's a very real issue and a real concern but that mitigation and adaptation are also an opportunity for us to enhance and reinforce the historic character of our landscape.

> And an example of that is woodland and forestation because we have more trees than we've had in a few centuries, actually.
>
> (interview transcript, 16 March 2020, phone)

However, the example that is given describes a situation where there are no new additions to the landscape. Instead, it concerns the recreation and re-enforcement of historic landscapes. Similarly, the published guidance on the impact of commercial renewable energy development on the historic environment (Historic England, 2021) does not consider the option that windmill farms may be the next layer of fabric added to the historic landscape. As train lines once dramatically changed the landscape and are now a common feature, windmills may have the same place soon. Even more so, today's generations who grow up in the constant awareness of the climate crisis may create a positive attitude towards these developments. Here, the ambiguity of the notion of 'future generations' in heritage management and conservation becomes clear. A topic that has been discussed by Högberg et al. (2017), who write: "The future tends to remain implicit in daily practice which operates in a continuing, rolling present" (ibid. p. 639). Furthermore, they argue that current trends and "drivers of change" in policy documents are mainly approached to the extent they "may impact on the preservation of the historic environment" (ibid. p. 640), instead of "how preserved heritage might actually affect future societies" (ibid. p. 644).

Reference to the discrepancy between what future generations may want and what is valued today is made in the English Heritage's Conservation Principles from 2008 (English Heritage/Historic England, 2008)[13], which still forms a guiding document for HE's work today. One of the principles states that change is part of conservation. It adds that change "is the means by which each generation aspires to enrich the historic environment" (English Heritage/Historic England, 2008, p. 15). Further on in the document, in regards to making decisions today for future generations, it reads (ibid. p. 46, my emphasis):

> In reality, our ability to judge the long-term impact of changes on the significance of a place is limited. Interventions may not perform as expected. As perceptions of significance evolve, future generations may not consider their effect on heritage values positive. It is therefore desirable that changes, for example, those to

[13] There exists a draft document from 2017 that should follow up the 'Conservation Principles' from 2008, but this document is still undergoing a process of review internally.

> improve energy efficiency in historic buildings, *are capable of being reversed*, in order not unduly to prejudice options for the future.

Reversibility has been a central concept to heritage conservation since the 1964 Venice charter (ICOMOS, 1964). It is a noble principle, but a focus on reversibility can also free one from taking responsibility for the possible necessary changes to conserve *for* future generations. It allows not to make a decision on what futures should look like. In this sense, while heritage conservation creates futures as a consequence of the choices made today (R. Harrison, 2013), in the practice of HE, the organisation does not seem to actively choose and take accountability for what these futures may (perhaps should) look like or what scenarios are supported by today's conservation decisions (cf. Högberg et al., 2017).

5.2.2.3 Conserving built heritage in a capitalist marketplace

However, there is another point of friction that comes forward in discussions on retrofitting historic homes or promoting the 'whole building approach'. It turns out that this can be a complex message to bring across in a society run by a market economy based on efficiency and productivity. This issue was brought up by HE staff, as they described how historic homes and their conservation are under threat of today's ruling fast-paced convenience-led economic system:

> You know, there are other issues here because people are time-poor, potentially cash-rich. So, they want the job done for them. So, it's a lot simpler for a homeowner to say, yes, replace my windows, and they think repairs should be that transactional that it would be that easy. And so, there are actually perverse incentives not to retain and repair traditional fabric because it's easier and the market is set up, basically, to deliver a new unit.
>
> (interview transcript, 6 February 2020, London)

Similarly, another issue that was pointed out is the fast turn-over of homes:

> People were moving house and upscaling, for want of a better world, on such a tight cycle, less than seven years, that people, there wasn't any incentive to make a long-term investment in the house, i.e. you put a new kitchen in because that would make it attractive to sell it, but actually, you wouldn't put a new roof on because you wouldn't recover the cost of the new roof. You might patch it. […]

> Therefore, the way the market was operating basically encouraged short-termism.
>
> (interview transcript, 6 February 2020, London)

This means that the relationships one has with a place are short-lived, potentially already considered to be so from the moment people move into their homes. This makes it less likely someone 'understands' the workings of the building fabric of their old home or has an interest in getting to know it. It was also said that, from the conservation perspective, this creates a risk for maladaptation, as non-designated historic homes can be adjusted without prior official approval (interview transcript, 6 February 2020, London). This means that often, short-term economic considerations make up the decision model of homeowners, instead of perhaps more long-term durable, but more costly interventions – e.g. conservation of traditional wooden window frames instead of replacement with PVC frames (as shared by interviewees, see transcript interviews on 12 December 2019a and 6 February 2020, both conducted in London).

In addition, their encouragement and interest in reusing and conserving over replacing are counterproductive to a capitalist system based on growth. A system that relies on a continuous input of new materials to create an ongoing influx of commodities into the marketplace (Hickel, 2020). One member of staff commented on this directly when speaking of thermal comfort in traditional homes: "obviously it's all being driven by the commodification of comfort" (interview transcript, 12 December 2019a, London). According to them, this commodification creates an expectation by people to experience levels of comfort associated with modern houses, which are standards unreasonable to expect for a traditional home. However, as there is a whole profit-based industry to feed into this desire, the risks of maladaptation are high. In some ironic way, it turns out the heritage sector suffers from the same economic system that the climate suffers from when understanding the climate crisis in a Capitalocene framing.

5.2.2.4 From costs to the homeowner to costs to the climate

Following the above, and in response to the modern economic paradigm, HE framed adaptation measures meant to increase energy efficiency as economically beneficial to the homeowner. However, this was not the original framing of this topic, as energy efficiency

first became a primary point of concern between 2012 and 2015 as part of the failed UK government's Green Deal scheme[14]. A long-term staff member reflected on this as follows:

> If you look under the advice section under 'Your Home' [on the HE website], there is a whole section, for instance, on saving energy […]. I think part of the issue is understanding how things are badged because, as I said, the driver that time was very much, yes, the reason why they were pushed from the government about the Green Deal and energy was being driven by climate change.
>
> But, from our consumer point of view, the reason why they were making changes or being interested in changes was about saving money. It wasn't about saving the planet. And I think there has been a change, and it's happened very rapidly.

And:

> IV[15] Okay. You mean this change from people being now interested in…
>
> IE A wider perception, yes, and it's interesting how quickly, I think, relatively that has changed in this country.
>
> IV Yes. Now, are we talking about the past year then?
>
> IE Oh, yes, I think about the last six months. I think it's very recent. I think it is very, very recent.
>
> (interview transcript, 6 February 2020, London)

On today's website (August 2021), the web pages on energy efficiency have direct hyperlinks to HE's 'climate change impact statement'. And where the 'how to' guide from 2018 (Historic England, 2018a) for energy efficiency named reducing carbon more tentatively as one of several reasons to pursue mitigation measures, the most recent report from 2020 titled *Energy Efficiency and Traditional Homes* (Historic England, 2020a, p. 1) states in its introduction:

> The UK has declared a climate emergency which demands a new approach to managing change to the built environment. Taking a whole life approach to

[14] The Green Deal was a government scheme that ran between 2013 and 2015, which provided homeowners and tenants with loans to use for improving the energy performance of their property. However, the deal failed and was used in very few cases (https://en.wikipedia.org/wiki/The_Green_Deal).

[15] IV = Interviewer, IE = Interviewee

> buildings means prioritising our existing buildings by making refurbishment and reuse worthwhile.

So, initially supported by the government economic incentives of the 'Green Deal' to encourage homeowners to improve the energy performances of their homes, rooted in a climate change mitigation agenda, HE has adjusted to the expectations of their public, i.e. traditional homeowners. Only with the recent increase in public awareness and concern of climate change matters are mitigation measures directly linked to climate action again. And with the public awareness and the UK government's mitigation pledges, HE seems to feel more confident to frame their work increasingly so as climate action:

> In terms of the government coming to net zero, you're not going to be able to build your way out of this. You've got to deal with existing housing stock.
>
> (interview transcript, 5 March 2020, London)

5.2.2.5 Mitigating climate change: embodied carbon in historic buildings

In addition to promoting the adaptability of historic homes to retrofitting and adjusting them to new energy standards, HE has conducted significant research on the so-called embodied carbon captured in the historic environment. Embodied carbon consists of the CO_2 emissions released during the whole lifetime of a building: from the mining of its materials until its demolition (Historic England on behalf of the Historic Environment Forum, 2020b). This information is relevant within the mitigation framework, as it allows to make a comparison between the carbon sustainability of existing homes and new development projects. The energy necessary to build new buildings – from creating and processing materials to their transportation – and the emissions released during the process make up a significant part of the UK's total national emissions each year. In fact, 55% of all the materials in the UK economy are used to make products for the construction industry, and the construction of new buildings in England emits as much carbon dioxide as the whole of Scotland (ibid.). However, the embodied emissions of new developments, i.e. the emissions that went into the production and processing of the used materials, are often not included in the building's carbon footprint. Instead, new buildings are now often promoted as 'fossil fuel free', but this only counts for the energy they use (or do not use) once in use (Wainwright, 2021). In a meeting of the HEAWG, a member of the group reflected on this difference in standards:

> So, the existing historic buildings stock, you're looking at a lifespan of 300, 400 years, whereas what we're building, what we're delivering now, because of the conditions on the developers aren't strict enough, in 30 years' time, we're going to have to be retrofitting them again.
>
> […] I think it is worth exploring how with a historic building, it's not just the embodied energy [i.e. carbon] since it's been built, but it's also the fact that you're not going to have to go back to that building. If you do it right, if you put in the right measures or do the right thing, you're not going to have to go back and revisit that again like you are going to with the stuff we're putting up now.
>
> (HEAWG meeting, 16 January 2020, conference call)

HE's interest in the question of the amount of carbon involved in the lifetime of a traditional home is not an entirely new interest. A long term staff member pointed out that work on embodied carbon has been conducted before (interview transcript, 31 January 2020, London). They shared that in the early 2000s, HE (then: English Heritage) calculated the carbon stored in the materials used to build a Victorian house. However, soon after, the Brick Association commented on the study on economic grounds. They claimed it did not make a fair comparison with today's building practices, as techniques to make bricks have become much more energy-efficient compared to Victorian times. Again, the profit-based marketplace caused friction here. Naturally, the Brick Association and its partners benefit more from the delivery of a set of new bricks than the conservation of an existing set. However, HE accepted the critique, and according to the memory of that staff member, the conclusion was that for such detailed and specific calculations, the in-house expertise was not sufficient:

> So I think on that side [energy efficiency, responsible retrofitting], we were comfortable. I think it was the big embodied energy arguments we were not comfortable on, so we eased off on that.
>
> (interview transcript, 31 January 2020, London)

Since the 2000s, this position has changed, as a change in the composition of teams and internal expertise, combined with new and more in-depth research on these same topics, has led to the publication of several reports on the embodied carbon in the historic environment by HE (interview transcript, 31 January 2020, London).

In 2019-2020 HE published two research reports and a themed 'Heritage Counts' issue on this topic (Duffy, Nerguti, Purcell, & Cox, 2019; Historic England, 2020c; Historic England on behalf of the Historic Environment Forum, 2020b). Together, they create quantitative evidence to argue in favour of the inherent sustainability of the historic environment. It provides HE with the foundations to keep hold of this argument and avoid the situation described in the above account from 20 years before.

Figure 28 Carbon emissions are reduced by 60% in the Victorian Terrace case study as a result of energy efficiency interventions and by 62% in the Chapel Conversion case study by 2050. Source: *Heritage Counts 2019, p. 34*.

The work on embodied carbon starts with a scoping study titled *Understanding Carbon in the Historic Environment*, a piece of research commissioned by HE and executed by *Carrig Research* (Duffy et al., 2019). This study aims to create a method and provide exemplary data to perform life-cycle analyses on built heritage. It does so by calculating the whole life carbon of two case studies: a chapel refurbished for residential use and a refurbishment of an end-of-terrace Victorian house – a very common dwelling in English towns and cities. The study compares the energy performance and carbon sequestered in these two examples to a newly built project and includes the carbon costs of demolition and construction (see Figure 28). From this comparison, they (Duffy et al., 2019, p. 54) conclude that:

> The findings highlight that the energy-efficient refurbishment of historic buildings is necessary to achieve performances similar to new buildings. It was found that existing regulations, which consider operational emissions only, disadvantage historic building refurbishment in terms of carbon emissions assessment. In the case of the New-build, the omission of embodied carbon emissions would underestimate the total emissions by nearly 30%. The prioritisation of refurbishment over demolition is inherently sustainable, as the waste of many materials with carbon already embedded in them would be avoided.

This argument is supported by the research laid out in the paper titled *Valuing carbon in pre-1919 residential buildings* produced by HE that builds on the work done by *Carrig Research* (Historic England, 2020c). It takes the carbon calculations from the latter and generalises them to apply them to the full UK building stock dating from pre-1919. It uses this data to compare the carbon saved in three different scenarios, each representing a different scale of refurbishment projects over the next 10-25 years period. Together with the *Carrig Research* paper, this work shifts the focus from historic buildings as carbon emitters to providing carbon storage.

Both pieces of research described above form the basis for the 2019 'Heritage Counts' report (published in February 2020), titled T*here's No Place like Old Homes: Re-use and Recycle to Reduce Carbon* (Historic England on behalf of the Historic Environment Forum, 2020b). Heritage Counts publications' target audience consists of the UK historic environment sector at large. The reports provide background research to vocalise and support the value of the historic environment to society as a whole (Historic England, n.d.-g). The 2019 report presents both the work of both reports discussed above in a more friendly way for a larger audience; by omitting the formulas from the methodologies and presenting the results in easily readable infographics (see Figure 28 and Figure 29 for examples). Eventually, it concludes that "traditional buildings are inherently sustainable" (Historic England on behalf of the Historic Environment Forum, 2020b, p. 45). Their baseline for this work is the comparison between the needed carbon for a newly built house and (refurbished) buildings from pre-1919 over the period until 2050. The focus on 2050 is a consequence of the UK policy goal to reach net-zero by then (ibid. p. 8):

> If we are to meet the UK Parliament's legally binding commitment to become carbon neutral by 2050, then addressing the embodied carbon of the built environment must become a priority.

The Heritage Count research is framed as a direct response to the climate crisis, "the biggest challenge facing us today", with the historic environment offering "practical and effective solutions to the real and present danger posed by climate change" (both quotes from 2020b, p. 4). These 'practical and effective solutions' are presented in terms of embodied carbon and the understanding of sustainability in terms of carbon usage. Thus the research is firmly grounded in a carbon understanding of the climate crisis. As a result, there is an identifiable 'solution' for the problem: mitigation.

Moreover, this solution simultaneously is an argument in favour of the conservation and championing of the historic environment. For example, one of the main recommendations of the report links the results to a favourable context to conserve heritage sites at risk (ibid. p. 48):

> Around the country there are so many examples of historic assets currently neglected, underused and even at risk of demolition. According to official estimates from the Historic England Heritage at Risk dataset there were over 4,612 designated heritage assets 'at risk' in 2019 […]
>
> On the other hand, there are also inspiring examples of 'at risk' historic buildings being brought into use, now providing much needed homes, working spaces, leisure and community spaces.

Altogether, supported by the detailed quantitative research, HE seems to find increasing strength to present themselves as essential in moving forward to avert the consequences of the climate crisis. In the organisation's own, slightly dramatic, words: "We must move towards a whole life carbon approach for buildings otherwise we may meet carbon targets without actually reducing carbon emissions and in the process *lose the war against climate change*" (Historic England on behalf of the Historic Environment Forum, 2020b, p. 9, my emphasis)

Figure 29 "The stages of a whole life cycle of a building and the respective processes included in Life Cycle Assessment. Different energy and emissions types (embodied or operational) are associated with the processes." Source: *Heritage Counts 2019, p. 25.*

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5.3 The Riksantikvarieämbetet

The following sections (5.3 onwards) discuss the work of the RAÄ concerning climate change mitigation. They follow a similar outline as the description of HE's work above. I will first refer to staff's accounts of their associations with carbon when thinking about climate change (5.3.1.). I will then discuss projects and reports shaped around energy efficiency

and embodied carbon in historic buildings (5.3.2 and 5.3.3). In comparison to HE, these sections include a more substantial component of interview data, as the RAÄ has published less on these topics. Still, from the accounts of staff, it could be interpreted that the presence of this theme and interest in this work is significant. Section 5.3.2.1 will shortly reflect on how the energy mitigation agenda fits into the conservation goals of the RAÄ in the experience of RAÄ's staff.

5.3.1 How do you understand climate change? Associations with the hyperobject at the Riksantikvarieämbetet

To the backdrop of Greta Thunberg's train tour through Europe and the fuelling of the Swedish *flygskam* (shame to fly) this created (Coffey, 2020), travel turned out to be a popular topic at the RAÄ offices on Gotland. Most of the conversations on climate change shared with staff would at some point turn to the subject of transportation, the emissions that result from the means of travel and their effect on the unfolding climate crisis. As such, indirectly, the first association people tend to have when it comes to their understanding of climate change is the framing of a problem of emissions. This interpretation is likely influenced by how the issue is predominantly framed in media, public discourse and politics (see chapter 1).

But the fieldwork in Sweden was not only set to the background of Greta Thunberg's train journeys to important climate conferences; it was also set to the longer-term context of the island location of the offices. The location of the Visby offices (see Figure 30) cannot be ignored in the particular experience of RAÄ's staff living and/or working on Gotland, as it affects their personal and professional lives on a regular basis:

> The board [RAÄ] is divided into two offices, and we do have to travel in between them. They situated us on an island with the only way to get from the island is by boat or plane, which are both really, really polluting. But you can lighten up your conscious by claiming that it [the ferry] is also the motorway to Gotland. So all the goods that need to be transported are also going by boat. […] But the boats themselves are very polluting. But it's not them; it's the goods on the boat – it is the way to transport things to the island. And if there're people there as well, the better. But they don't add any effect to the polluting side of it. While the flying

does. But that's the other way to get here, and if you want to do work, it's the quickest way.

(interview transcript, 7 May 2019, Visby)

Figure 30 The island of Gotland in the Baltic Sea. Indicated are the ferry routes to the Swedish mainland. Each journey takes about 3-3.5 hours single-way.
Source: *https://archive.nordregio.se/.*

The move of parts of the organisation to the island of Gotland results from a decentralisation process of government departments (SVT Nyheter, 2005). Part of the Swedish army used to be stationed on Gotland until the early 2000s. When this was no longer deemed necessary, a significant number of job opportunities were lost with the army's departure (ibid.). Hence, the government chose to relocate some of its offices and work opportunities to Gotland. As a result, the RAÄ is now divided into two locations that require a ferry or plane to travel between them. Henceforth, it is a popular topic of discussion (and frustration) at the RAÄ, fuelling discussions on the effects of travel on the climate:

> The way we choose to travel; I have heard that a lot of people think about it. Unfortunately, we live on an island [laughter]. The ferry is not great either. […] So I mean, especially around travelling there is a discussion, that is definitely the case. Both for private travels and work… job-related [travels].
>
> (interview transcript, 16 May 2019a, Visby)

Figure 31 Meeting room equipped for hybrid meetings, Visby. Source: *author's own.*

In contrast to HE, the emissions related to the organisation's travel are officially tracked as part of the internal climate emissions of the organisation (Miljö-departementet, 2009). These numbers are reported every year to the *Naturvårdsverket* (Swedish Environmental Protection Agency), which reports to the government in its turn. The government requires this accounting as part of the *Förordning (2009:907) om miljöledning i statliga myndigheter* ('Ordinance (2009: 907) on environmental management in government agencies' (Miljö-departementet, 2009)). Although it is a governmental requirement, in an interview, the accounting was described as well-received across the board and creating a positive effect in general:

> Every year, we provide an environmental assessment about our own emissions and how we work. And that, I think, engages a lot of people, so it makes it visible that this is a serious issue. We need to report to the government on how we are doing, or at least to the National Environmental [Protection] Agency [*Naturvårdsverket*], and they report to the government.
>
> (interview transcript, 17 May 2019a, Visby)

Thus, the government's focus on emissions calls for climate awareness, while the location of the RAÄ offices on Gotland further emphasises the emission-climate relationship. In the

annual report of 2018, *Riksantikvarieämbetets årsredovisning 2018* (Riksantikvarieämbetet, 2018a), this emission data is presented in the diagrams below (see Figure 32). The report describes small changes that are made in response to the accounting of their work's 'environmental impact', like replacing light sources with led-lights to lower power consumption (Riksantikvarieämbetet, 2018a). However, it shows that the travel related to business trips makes up most of the organisation's carbon emissions. As a result, videoconferences and web meetings are encouraged (ibid.). To accommodate and promote this transition, there are well-equipped rooms installed in the offices in both Stockholm and Visby:

> So, they have this idea of, and this is a direct translation, 'travel-free meetings'. This means that you should try to have meetings without travel, if possible. So, you need to use video conferencing as much as possible, and that is due to climate change and care for the environment.
>
> (interview transcript, 23 May 2019a, Stockholm)

Figure 32 From left to right, it reads: Flights under 500 km (green), Car (blue), Flights over 500 km (red), Boat (yellow), Taxi (white). Source: *Riksantikvarieämbetets årsredovisning 2018, p. 58.*

Figure 33 Number of videoconferences (dark red) and web meetings (light red). Source: *Riksantikvarieämbetets årsredovisning 2018, p. 58.*

The diagram on the right (Figure 33) shows the significant increase in online meetings over the past three years. Likely, this number will have surged even more over the pandemic in the following years.

5.3.2 Mitigating climate change: Energy efficiency in Sweden's historic buildings

Like England, the Swedish government puts a lot of emphasis on reducing carbon emissions in its climate goals. In fact, all four 'climate goals' set by the *Riksdag* (Swedish government) relate to mitigation efforts (Ministry of the Environment, 2021). The above-described accounting of their organisation's environmental impact illustrates this carbon-based understanding of the climate crisis and how a similar focus echoes into what individuals associate with climate change and climate action. In the following sections, I will show that also in relation to heritage, mitigation and emission-related activities made up a recurring theme when discussing the relationship between heritage and climate change. As seen at HE, these references mostly were framed around creating energy efficiency in historic buildings and the new interests in life cycle analysis of the built environment and renovation or retrofitting measures. The latter interests resonate with HE's work on embodied carbon in historic buildings. This work emanates from a concern that the historic environment will be seen as an obstruction to net-zero futures and emission targets:

> We can't just preserve the buildings the way they are. We need to take action in order to make sure they're not a problem for future generations but an asset for future generations.
>
> […]
>
> And of course, there is a lot of new possibilities in technology. I'm not saying that, but I'm saying that there is a tendency that we do not realise the potential of what we already have in what we have in, for example, buildings, and how to adapt them and use them in a new way or to realise that these buildings in many ways are as usable or efficient as new ones.
>
> (interview transcript, 17 May 2019a, Visby)

According to the RAÄ's website (Riksantikvarieämbetet, 2020g), updating the energy efficiency of historic buildings is considered to be an essential part of keeping them relevant and using their potential:

> In order for the culturally and historically valuable buildings to continue to be used and preserved, energy efficiency is a prerequisite […] How can we reduce energy use and environmental impact without destroying the buildings' cultural-historical values?

As the maintenance and management of historic buildings are decentralised in Sweden, its responsibility and practical implications are the responsibility of the local county administrative boards (Compendium: Cultural policies and trends, 2021). The role of the RAÄ is less leading in this respect in comparison to the detailed guidance on all sorts of energy efficiency measures provided by HE (see the section on HE in this chapter). Instead, they mainly offer guidance to projects taking place on the county level. As a result, their very contained webpage on *Energieffektivisering i kulturhistoriskt värdefulla byggnader* ('Energy efficiency in culturally and historically valuable buildings'), for example, mainly consists of a list of links to external reports and guidance from other authorities and research projects (see also Riksantikvarieämbetet, 2021f). These links provide help to homeowners on what action they can undertake to improve the energy performance of their homes. The web page that gives a concise introduction to what 'careful energy efficiency measures' (Riksantikvarieämbetet, 2020g) mean even shows a link to HE's webpage and report on 'Energy Efficiency in older Houses'. Two further links to reports from the RAÄ itself from 2012 (Riksantikvarieämbetet, 2012) and 2014 (Riksantikvarieämbetet, 2014b) show a longer interest in the energy performance of traditional homes.

The work from 2012 is the outcome of a workshop organised as part of the European collaborative project called *Co_2olBricks* the RAÄ has been involved in (Riksantikvarieämbetet, 2012). This is an initiative with a specific focus on energy efficiency in historic buildings (Riksantikvarieämbetet, 2021b). Co_2olBricks came up in conversations, as it formed one of the first projects of the department that engaged them with international partners, and it also shaped their departmental climate change awareness:

> We joined [Co_2olBricks], an energy-saving project in historical buildings. […] So there was an awareness that there was a problem that historic buildings were

> consuming too much energy. So I think we entered this project somewhere in 2011-2012. And that was actually the first clear international project [we participated in]. And I think, in taking part in that project, we also became more and more aware of the climate change question. So the awareness developed on the departmental level, the conservation department level, but not in the whole of the organisation. We still had a lot of problems with that.
>
> (interview transcript, 14 May 2019a, Visby)

Co2olBricks was a project funded by the European Union focused on the Baltic Sea region that ran between 2007 and 2013 (Co2olBricks, 2013). It is a direct response to the CO_2-reduction aims of countries and asks, "How to push forward the energy upgrading of historic buildings without destroying their cultural value and identity?" (ibid. p. 23). The project aimed to create methods and best practice case-study examples to improve energy efficiency in cultural-historical buildings while minimally impacting their heritage values (Riksantikvarieämbetet, 2021b).

A similar, more recent and ongoing project on the national level, in which the RAÄ is involved, is titled *Spara och Bevara* ('to Save and Preserve'). This collaborative project has been initiated and is led by the *Energimyndigheten* (Swedish Energy Agency). It started in 2007 and will be running on a continuous basis until at least 2024 (Riksantikvarieämbetet, 2021i). The project studies the energy efficiency of buildings with significant heritage values from a variety of time periods. The aim is to develop technological solutions to improve energy efficiency with minimal interference in the unique values of sites (Energimyndigheten, 2019). In this way, the project combines both the sustainability goals of Sweden on energy usage and the environmental objective of a 'good built environment' (ibid.). As such, with the initiation of this project, the Swedish government acknowledges the need to include the traditional building stock in their climate plans (ibid.).

In terms of energy usage, Sweden has set the aim to be 50% more efficient in its energy usage in 2030 compared to 2005 (ibid.). According to the project, about 20% of Sweden's housing stock consists of buildings from before the Second World War. These homes are, in general, not conforming to today's energy standards; consequently, to achieve Sweden's energy goals, these are an important element to include in the national

mitigation efforts. Therefore, the project shares the argumentation put forward in HE's 2019 Heritage Count report (Historic England on behalf of the Historic Environment Forum, 2020b). As both countries' existing building stock consists of a high number of older homes, these buildings need to be included in the net-zero agendas of their governments (see Figure 34).

Figure 34 Source: *Historic England, 'There's No Place Like Old Homes: Re-use and Recycle to Reduce Carbon', 2019, p. 16.*

The above two projects are the main outcomes of the RAÄ's involvements with heritage and mitigation and exemplary of what it means to keep their work relevant heading towards low-carbon futures:

> [I] think sustainability is an issue for us when we work, and we try to think long term, we don't preserve a building just for the next five years. We really need to look at how to be sustainable in that way. And so, for instance, I told you about this research money from the Swedish energy authority [funding *Spara och Bevara*]. That is an excellent way of thinking of long term and for future generations. We really need to make sure that historical buildings are sustainable. And sustainable today includes the fact that they cannot transmit too many emissions.
>
> (interview transcript, 17 May 2019a, Visby)

5.3.2.1 Accepting change: impacts of mitigation on the historic environment

The earlier reflections on the work of HE described the presence of friction, for example, between change due to green energy infrastructures and the conservation of heritage values. Similar experiences were expressed at the RAÄ. For instance, like at HE, in relation to window replacement:

> And this is something where there is a lot of conflict around that you don't… we state, maybe not the organisation per see, but we who work with heritage buildings, or historic buildings, or existing buildings even, we usually don't like people changing their windows. But we want to spread the word about improving the existing windows instead.
>
> (interview transcript, 16 May 2019a, Visby)

Similarly, in relation to the installation of photovoltaic panels on historic buildings:

> For listed stately owned buildings, we have given permission. For example, for Stockholm castle, but it's hidden; not visible from the ground at least. We have a research programme trying to develop a method for larger [projects]… looking at the city level. Looking at where it is possible, where is the best side to put solar panels and compare that to where heritage buildings are and where can we put it and where not, but we don't have the results yet. […] But we now say we decide it on a case by case basis. […] There are a lot of feelings that go into this. Because you want to be part of sustainable solutions and then we come and say 'no no' […] But we want the best solution and look for alternatives or possibilities. […] It doesn't have to be a conflict with energy efficiency, but it will be a compromise.
>
> (interview transcript, 17 April 2019a, Visby)

Underlying the shift in what counts as acceptable alterations for historic buildings is also the positioning of the organisation and the heritage discourse it represents in the societal debate and public opinion. This is already expressed in the above and elaborated on by another staff member:

> […] there are many things you can do with the historic environment. They are not vulnerable, life-threatened environments as such that will just go away if you don't treat them right. They are always dependent. There is an awareness in society that

> they are usable. If society thinks they only have it [heritage sites] because they are forced to have it, they can disappear.
>
> (interview transcript, 14 May 2019a, Visby)

Thus, while the historic environment is under threat, the organisations' continued existence is also dependent on the relevance it has for every new generation. So, a certain degree of (increased) adaptability and flexibility is necessary. One of the ways both HE and the RAÄ do this is through engagement with the mitigation debate. However, as with HE, a discussion on what these future generations need or value is a topic that the department did not explicitly question.

5.3.3 Embracing the older building stock: embodied carbon and the circular economy

Earlier in this chapter, I described how one of HE's central climate change-related endeavours is their research on the embodied carbon in historic homes. Although not as extensive as the recent research and reports done by HE, the same positioning of historic homes as inherently sustainable in the mitigation discourse is present in the RAÄ's work. Illustrative of this is, for example, a reference in their strategic plan (Riksantikvarieämbetet, 2020e, p. 5), linking conservation practices to the circular economy:

> The preservation, use and development of cultural heritage also lead to increased recycling of buildings and other cultural environments, which in turn contributes to a circular economy and reduced climate impact.

A circular economy "promotes the elimination of waste and the continual safe use of natural resources" (Word Economic Forum, n.d.). This is an exciting reference, as it promotes an economic framework based on reuse instead of the exploitative capitalist paradigm of growth. It does not receive much further attention, but it is an indication of an awareness of alternative systems to organise the economy.

The Climate Change Adaptation Action Plan (Riksantikvarieämbetet, 2019a, p. 19) creates a similar contextualisation of buildings' conservation as a necessary part of the climate change work of the RAÄ, but instead of a 'circular economy' refers to a 'life cycle perspective':

> Emission reduction is another part of climate work, which means that through resource-efficient management with a life cycle perspective, we need to minimize climate impact and reduce greenhouse gas emissions.

And (ibid),

> Good resource management usually means making use of existing buildings so that care can be taken for previously invested work and materials that have already been produced. Demolition can mean that such resources are lost.

A life cycle perspective, or 'cradle-to-grave' analysis, can include all activities that are needed to create and dispose of a product, from the moment raw materials are taken from the Earth to the logistics of its distribution and all processes and resources involved in its production (Curran, 2008). This is calculated all the way up to the product's reuse and final disposal. This approach is also applicable to historical buildings, as their life cycle spans a long time, making the footprint of the initial resources very low when spread out over the building's entire life span. The above references resonate with the conclusions of the research that HE has drawn from their case study work as presented in the discussed Heritage Counts report (Historic England on behalf of the Historic Environment Forum, 2020b). Both organisations argue in favour of the thoughtful retrofitting and conservation of traditional homes as more sustainable in terms of carbon emissions than replacement by a newly built development.

This topic also seemed to find a lot of resonance with staff members themselves. This may be explained by their current role being situated in the conservation department and the overall conservation-focused core aims of the organisation (see chapter 4). As essentially, the argument that heritage buildings are sustainable centres on conservation practices and taking care of what is already there. Furthermore, it stresses an awareness of the energy involved in extracting materials and creating products; it is about respecting the full path that resources have travelled before becoming building blocks. So, instead of using materials from new production processes with unknown long term properties in a local climate, it stresses a return to and appreciation of historical localised knowledge, craftsmanship, and heritage conservation in general. In the words of one of the staff members with a personal background in conservation:

> I think when it comes to cultural heritage, I think that we need to work harder with taking care of the things we have so that we don't create resources for new buildings or start making new things when we already have a lot of things here in Sweden, as well as in the western world in general. I think it is important to be careful with the resources from the Earth.
>
> (interview transcript, 14 May 2019b, Visby)

And a similar comment from a colleague:

> But I think this material and sustainability aspect, to think about how materials are used and to reuse them; I think it will be a very important question in the future. And that we [the heritage sector] are forgetting this, that we are actually part of this circular economy. And we know a lot about sustainable materials and methods, and we could highlight this much more, I think.
>
> (interview transcript, 15 May 2019b, Visby)

However, as described before and in the experience of HE's staff, this message does not fit particularly well in today's economic system. As the production of new materials and homes has more economic potential, the historic environment sector's pledge to promote the conservation and retrofitting of existing homes counteracts the interests of most contractors. This same concern and observation were expressed in Visby, worth quoting in full here:

> The whole building industry, of course, sees a future in promoting themselves as having the solution to the problem. […] there is a very, very strong urge from the building industry because there is a [financial] gain to be made [laughter]. The more new buildings you can build, the more profits you can make, and there are not as many profits in trying to promote technologies that use old buildings. That is just one example of why it can be difficult when you don't have the same urge from the industry.
>
> (interview transcript, 14 May 2019a, Visby)

This comment reflects one of the concerns some scholars have with the current focus on mitigation, as I wrote in chapter 1. It can put a lot of trust and optimism in technological solutions and innovations to help us out of an apocalyptic future (Buck, 2019). While doing

so, the by-products and waste created by these technologies tend to be forgotten and excluded from the bright future visions the industries present to us. So, while the historic environment sector seems to make a strong point here for its role within mitigation plans, it is also confronted by a modern discourse that mostly sees solutions based in the future rather than the past.

5.4 Conclusion and discussion

The ideas presented in this chapter show that a significant part of HE's and the RAÄ's climate change responses, and how they interpret their role in the climate change discourse and their contribution to climate action is based on an understanding of climate change as a carbon problem and climate action as a mitigation practice (RQ 1,2, and 3). This work underlines a new understanding of heritage conservation in the light of a changing climate as a practice suited to a circular or 'doughnut economy' (cf. Raworth, 2018) that understands resources as finite and stresses the importance of re-use and re-cycle over the extraction of materials from the earth for new products (RQ 2). The imagined future at the centre of this response is one of low-carbon (RQ 4). These futures take place in the set timeframes by their respective governments to reach net-zero (for the UK 2050 and Sweden 2045).

Through this understanding, HE and the RAÄ have reframed the historic environment and its conservation as a resource in their governments' mitigation agendas and the climate debate at large. Simultaneously, the arguments they have built around the embodied carbon and life cycle analysis of historic buildings and the guidance on improving energy efficiency standards are also arguments in favour of the conservation of the historic environment. In this way, they have created their own place and emphasised the relevance of the historic built environment and themselves as organisations in a carbon age. Even more so, the climate crisis and the increased importance of environmental relevance have given the conservation movement an additional argument to be considered significant and relevant in an ever-changing modern world and risk society.

The architect Rem Koolhaas (2014, p. 3) once famously wrote that "We are living in an incredibly exciting and slightly absurd moment, namely that preservation is overtaking us". However, the arguments posed in this chapter may actually argue the opposite: preservation should be taking over more in a marketplace where innovation and

progress are often more economically rewarding (as Rem Koolhaas surely knows). As a member of staff at HE answered a question in their interview:

> IV[16] Does, in a way, climate change almost offer you an extra argument to actually maintain these buildings?
>
> IE Exactly. Quite so. I think that's an important thing, because that's when our resources get scarcer, it makes sense to use what you've got, really.
>
> (interview transcript, 26 February 2020, London)

Thus, the importance of mitigation has provided an additional framework to argue for the importance of the conservation of historic buildings in light of climate change. In a similar sense that the photosynthesis of plants is now reframed as carbon-capturing (Maris, 2021), the conservation of historic buildings has become a climate mitigation measure that simultaneously leaves one with a feeling of good doing and being on the 'good side' of climate history.

This chapter's described approach to responding to the climate crisis responds to the climate change discourse through its popular framing in natural science (see chapter 1). Through this focus, climate change remains mostly a concern of natural science with solutions based on the rationality of science, technology and practical action – note, for example, the number of graphics that could be used to underline the arguments put forward in this chapter – instead of a complex, interconnected phenomenon as expressed in the Anthropocene and Capitalocene theses (chapter 2). In addition, as with the focus on climate change as a risk (chapter 4), the mitigation topic discussed in this chapter has a similar focus on the materiality of the historic environment. This may also explain why climate change work at HE and the RAÄ is mainly the responsibility of the staff working with practical conservation issues and evidence-based research, more so than the ones working with, for example, the social aspects of heritage. In that sense, where in chapter 1, I also wrote how this understanding of climate change is critiqued as limited to the realm of the natural sciences and therefore limiting the considered solutions, the framing of climate change as a mitigation problem potentially limits the use of the resources of both heritage organisations as well.

[16] IV = interviewer, IE = interviewee

In addition, according to the geographer Erik Swyngedouw (2020), a focus on adaptation and mitigation risks depoliticising the climate problem (see also Nightingale et al., 2020 for a similar critique). Swyngedouw argues that these measures do not question underlying socio-economic relations that are part of the drivers of the climate change crisis on national and global scales. Instead, adaptation and mitigation are based on the belief that we can continue with life as usual as long as greenhouse gas emissions are reduced. This continuation of perceptions of the present also came forward from the discussion in this chapter on the ambiguity around who the future generations are that conservation is aimed at (see also R. Harrison et al., 2020; Högberg et al., 2017).

The strong emphasis on mitigation in government policy and the international climate discourse makes it easy to surpass the question, both on the individual level, but more importantly so on the organisational level: how do we understand climate change? And how do we want to understand it? As this understanding determines the response. While the organisation is not merely created by the combined ideas of the staff members, the associations people share in relation to their ideas of climate change show that there is a dominant idea around what climate change entails. As a result, this may be why the question 'what is climate change', on the organisational and departmental level may remain unanswered. The required action is deemed logical and straightforward based on an assumed consensus.

However, the argument they have built around the need to consider our resource usage and focus on reuse instead of newly creating materials and products stands strong and is important. The friction this causes with the existing market-based capitalist economy is of specific interest here. Here may lie an even stronger argument that has thus far not been clearly presented in the organisational output, which does not mean it is not present within the organisational network. This is the argument that goes beyond climate change as a carbon problem but follows the Capitalocene ideas of its origins and thus calls for a new economic and ontological paradigm. From this perspective, I read another call for attention in the research put forward by HE and the RAÄ as well as other heritage actors, which is a re-appreciation and a need to reconnect with one's local environment. The exploration of this relationship provides fertile soil for further considerations of the role of heritage in climate action that will be explored in the discussion chapter.

Altogether, the approach to climate change and climate change work discussed in this chapter works, again, as a territorialising actor (cf. DeLanda, 2016) to the conservation paradigm at the basis of both organisations (RQ 2). A focus on adaptation and mitigation, described in the past chapter and this one are safely contained within the area of their expertise, one may say 'comfort zone', of both organisations: namely the conservation and promotion of the historic environment (RQ 1). Through this framing, they do not have to question any of the underlying drivers or consequences of the changing climate (RQ 3). In other words, climate change remains an *external* impact. So while both adaptation and mitigation are necessary responses to climate change, these practices are not about radically rethinking the future or heritage (RQ 4). Nonetheless, the work also shows flexibility from both organisations to adapt to the changing interests of society and the public they work for in order to keep their relevance in a changing environmental paradigm (RQ 2).

Chapter 6 – 'Getting on board': participating in the climate change discourse

6.1 Introduction

This chapter will explore the third and last theme representing the ethnographical and documentary data gathered at Historic England and the Riksantikvarieämbetet, which focuses on 'participation'. First, the chapter will look further into how HE and the RAÄ understand heritage as a positive agent in the climate change discourse and how they promote this message. Their understanding of this role mostly focuses on the work discussed in the previous chapter (chapter 5), which covered how historic homes are promoted as sustainable buildings contributing to a low-carbon society. However, there are a few more ways in which both organisations think of the heritage sector as holding valuable skills and knowledge for climate action. I choose to address these ideas as they give further insight into how the relationship between the historic environment and climate change is understood by staff and in the official language of the organisations.

Following this, I will continue to the second focus of this chapter, which concerns (1) how climate change is, or is not, spread throughout the organisational networks as a topic of interest and engagement, and (2) how staff attempts to be included in climate change discussions taking place in other sectors, particularly those taking place in the natural environment sector. The second point ties up to ideas and understandings around concepts of nature and culture. The historic environment seems mostly unacknowledged or remains unrecognised by those working in the natural environment sector as relevant to discussions and work that responds to climate change. As a consequence, a chance to promote the historic environment within this discourse is not self-evident for either HE or the RAÄ.

I explained in chapter 1 that climate change and the knowledge gathered around this topic for decision-making and planning is most often situated within the natural sciences, while the humanities tend to be pushed to the background (Garrard, 2020; Hulme & Mahony, 2010; Nightingale et al., 2020). A similar split in realms of knowledge and relevance can be seen between the natural and the cultural environment sector in England and Sweden. In England, the government Department of Environment, Food and Rural

Affairs (Defra) is tasked with issues concerning greenhouse gas emission and making "our air purer, our water cleaner, our land greener and our food more sustainable" (Department for Environment Food & Rural Affairs, n.d.). Natural England, the Environment Agency and the National Forest Company are authorities working under the direct sponsorship of Defra (gov.uk, n.d.). On the other hand, HE is sponsored by the government Department for Digital, Culture, Media and Sport (DMCS), together with, for example, the Tate, the British Museum and Arts Council England (gov.uk, n.d.). This department's mission has little to do directly with any climate issues, as it describes its own role as (Department for Digital Culture Media & Sport, n.d.):

> We protect and promote our cultural and artistic heritage and help businesses and communities to grow by investing in innovation and highlighting Britain as a fantastic place to visit. We help to give the UK a unique advantage on the global stage, striving for economic success.

This differentiation between the cultural and the natural realms within government structures is also present in Sweden. Here, the RAÄ falls under the supervision of the *Kultur-departementet* (English: Department of Culture) (Kultur-departementet, n.d.). While environmental issues fall under the jurisdiction of the *Miljödepartementet* (English: Department of the Environment), leading to a similar split in the divisions of tasks (Miljö-departementet, n.d.).

It is these structures that staff of the historic environment authorities find themselves grappling with when pushing their agendas outside of the cultural domain. At HE, this has led to a number of projects that aim to ease the boundaries between the fields by adjusting to the conceptual frameworks used by their natural environment colleagues. Through the discussion of this and related work, I will consider how both organisations understand the relationship between nature and culture, or the socio-natural dynamics (cf. Nightingale et al., 2020), that the historic environment is part of. The conclusion of this chapter will question the implications of these understandings for climate action.

Overall, this chapter breaks from the previous two chapters as it moves away from the actions and concerns of the heritage sector that are a direct response to climate change as an environmental threat and a problem of greenhouse gas emissions. Instead, it will present some of the concerns that come up when engaging with climate change from a more comprehensive understanding that is more in line with the concept of the

Anthropocene. As such, it relates to some of the ideas surrounding climate change as presented in chapter 2 and echoes some of the work presented in that chapter undertaken in heritage studies in response to climate change in the Anthropocene. As a consequence of this more multidimensional understanding of the climate crisis, the work discussed in this chapter centres around perceptions of 'time', human-nature relationships, and concerns about a lack of network thinking in the two case study organisations' climate change engagements.

6.1.1 Outline of the chapter

Moving beyond the work initiated in direct response to climate change discussed in the previous chapters (chapter 4 and 5), this chapter will look into how climate change, as a topic of concern, is situated in the organisational networks. As before, I will first discuss the work and experiences of staff at HE before moving on to what is taking place at the RAÄ. For both organisations, I will first discuss how they see their work as beneficial to climate change responses other than as a source of climate mitigation (RQ 2). Second, I will look into how staff engaged with climate change work attempts to ignite the same awareness in their colleagues across the board (RQ 1). Here, in reflection of HE's work, I will also shortly discuss some of the experiences of people working across the UK historic environment sector on this matter, as shared in some of the meetings of the Historic Environment Adaptation Working Group (HEAWG). Furthermore, I will discuss the experience of staff in taking their heritage work outside of the heritage sector and the friction they encounter due to underlying organisational and ontological divides (RQ 3). In the concluding sections, I will return to the research questions and reflect on the implications of these strands of work for climate action.

6.2 Historic England

The following sections (6.2) discuss the field site of HE, starting with a description of how staff explain their understanding of the climate change/heritage relationship beyond those based on risk and mitigation (chapters 4 and 5) in section 6.2.1. These accounts will be triangulated with published work that frames heritage as a positive agent in the climate change discourse. Both of these data shed light on how heritage and climate change are understood by staff and in the organisational documentary output. The following sections (6.2.2) heavily rely on interview data – creating a picture of the experience of staff working on climate change and the implications of their endeavours to link up climate change and

heritage within and outside of their sector. The last section (6.2.3) returns to published reports as it discusses how the Nature/Culture divide exists within HE's own work.

6.2.1 What the historic environment has to offer to the climate change discourse

> The things around climate change mitigation and the role of the historic environment in that: there are things like sustainable building materials and practices and the importance of maintenance and some of the myths around energy efficiency. […] And the ways in which we can use the historic environment and look at the past challenges as well as how we actually adapt them to the environment. […] The net-zero and the sustainable building being one that's already been built […] There are a lot of myths. I guess it's the same old assumptions of heritage being a problem when it's not always. I think these would be very good ways of framing that.
>
> (HEAWG meeting transcript, 16 January 2020, conference call)

This is how a HE representative summarised HE's climate change work over the previous years. Work that aims to situate the historic environment as a positive agent in the mitigation agenda of the government. The mentioned 'myth' that needs debunking sees the historic environment as an agent in the opposite: an outdated fossil that acts as a break on innovative solutions and city planning created in response to net-zero agendas. The previous chapter discussed the main justification that HE employs as a counterargument: presenting traditional homes as sustainable homes, now and in the future. However, two more arguments are notable when it comes to the positive message they see for the historic environment and, essentially, their work in contributing to climate action and the climate change discourse. The first of these tells how the historic environment contains lessons we can learn from our ancestors in how they adapted to their local changing climates. The second is the experience and the comfort the sector holds in working with and thinking in unusual long timeframes. As the climate change hyperobject stretches over vast timespans, it is believed that the sector's notion of time provides a more contextualised approach to what climatic and environmental change means. Both arguments are interconnected, as they use historical awareness as a resource for today.

6.2.1.1 Learning from the past, and the deep-human-past

> We know that our environment has always changed. The climate has fluctuated, coastlines have shifted, ocean currents moved, sea levels gone up and down and watercourses flooded. People have adapted to those changes and we see the traces of these adaptations in the archaeological record and in the structures and landscapes that make up our environment today.

The above quote from HE's Research Agenda (Historic England, 2017c, p. 30) describes the historic environment as an archive of our ancestor's climate change adaptations. As humans have been dependent on the climate to sustain their lifestyles, changes to the local climate led to changes in lifestyles. In the Research Agenda of 2017, this formulation is restricted to the above. Three years later, the 2020 Heritage Counts report (Historic England on behalf of the Historic Environment Forum, 2020a) directs a whole section to position heritage in this way in relation to climate change. The report discusses the relationship between the natural and the historic environment in the past and present. Over six chapters, it describes the different ways HE understands the overlap between culture and nature, or humans and their natural environment. The chapter on 'Heritage and Sustainability' has as its subtitle "We can learn from our past to protect our future" (2020a, p. 45), and writes (ibid.):

> England's diverse cultural heritage is under constant threat from extreme weather events, development pressures and changes to land-use and agricultural practices. However, heritage can support the sustainable management of change, particularly by allowing learning from past practices.

The lessons that can be learned are not described in detail, but examples focus on how traditional buildings techniques are still very relevant to today's and tomorrow's climate. Traditional buildings themselves are promoted as comfortable places to reside in, for example, in increasingly hotter summers due to their lower heat retention. Another example is the traditional production methods and use of lime mortar, which can offer valuable information for today's building practices: "Compared to less permeable mortars, lime mortar maximises the life of traditional porous stone, brick and earthen materials used to construct walls, extending the interval between repair or replacement" (2020b, p. 45). In addition, archaeological records are named as sources of past adaptation to local weather patterns.

In chapter 2, I already referred to Kathryn Lafrenz Samuels, who calls this use of "archaeological data as social proxies for the anthropogenic character of GCC [global climate change] today" 'heritage proxies' (2016, p. 147). As seen before, promoting the historic environment's importance and relevance goes hand in hand with the argument in favour of its conservation. This remains the same in relation to the 'past knowledge they contain': "… many archaeological sites are at critical risk from rising sea levels and invasive vegetation growth and could be irrevocably lost – alongside the knowledge they contain – during the next century" (Historic England on behalf of the Historic Environment Forum, 2020a, p. 45).

Thus, there is a dual relationship that promotes the historic environment as a knowledge resource while simultaneously stressing the importance of its conservation. These arguments also outline a popular opinion of HE staff. For example, the built historic environment got framed as a source of evidence for the information it supplies on the durability of materials in particular climates:

> So we know that you can build buildings using the materials that are found in the ground around you or growing around you, which will last for 500 years or more. […] And we know how they respond. But those are the most durable structures that we can build, all of those historic structures… they may last for a million years. We don't know. But actually, we can confidently say that these things work, and we can learn from them.
>
> (interview transcript, 23 September 2019, London)

It is not only the built environment that is presented in this way. Knowledge from past practices can also be used in the management of landscapes. An example of this is farm boundaries, which used to consist of a deliberate network of landscaping techniques used to shape the local environment in beneficial and sustainable ways for the farmers using the land:

> If we open our eyes, [we can] still see how things were done. So if you look at the way the farm boundaries went. And the guys from the BGS [British Geological Society] were saying, and the Environment Agency are conveying this too, that the field boundaries were in just the right places for water run-off and that the hedgerow was just in a position where the topsoil would run down to it. You had

> enough [topsoil] that you could plough it back again because over the hill it would [run off][…] they [the boundaries] developed over time in different ways, for flooding and for not losing all your topsoil. […] [Now] we just let it all wash off.
>
> (interview transcript, 12 December 2019a, London)

In all of these stories, there is also the argument present favouring the conservation and promotion of the historic environment. They also present a risk of slipping into sentiments of nostalgia for past times. Nonetheless, they indirectly emphasise a re-appreciation for the localised knowledge and practices that were shaped in a close relationship between humans and their environment and the dependence of humans on their direct natural surroundings.

Two things that are mentioned in the above quotes and references are that '*our* environment has *always* changed […] the climate has [always] fluctuated' and buildings 'that will last for *500 years* or more'. These represent the relatively long timeframes professionals in the historic environment sector are used to working with. This stands in sharp contrast to the timescales dictating political decisions in the UK or their linked climate futures. The latter run to 2050, determined by the UK's previously referenced net-zero agenda. At HE, the staff sees this as one of their unique strengths in response to climate change work and responses. One anecdote shared during an interview illustrates this (interview transcript, 12 December 2019a, London). Here, a staff member remembers a questionnaire designed by UKCIP (UK Climate Impacts Programme) staff in the 2000s targeting heritage professionals on climate impact at heritage sites. As it involved a shared project with HE, the questionnaire template was run past HE first, who amended the timeframe-indicators set by UKCIP. Next, at UKCIP, they frowned at these timeframes as they ran up to 500 years into the future, not believing anyone would be interested looking that far ahead. However, the questionnaire resulted in all participating heritage professionals ticking the boxes for the '500 year' option as the desired timeframe to work with for future climate projections:

> And they said, oh, no one's going to answer [the 500 years-option]… I said, wait and see. And they were so excited because they said; this is the first time we've got people who think beyond 20 years.
>
> (interview transcript, 12 December 2019a, London)

However, the long-time or deep time perspective is mainly utilised to refer to the past rather than the future. From this historical perspective, it contextualises changes in landscapes and the climate as all but a new phenomenon:

> … maybe I'm flattering myself, but I think it is a view common to archaeologists. They certainly see the long view. And when I look at, for instance, the forthcoming [government's] Peatlands Strategy, and that's essentially around increasing carbon sequestration. But I look at peatlands, and I see them as a cultural artefact as much as anything else. And anyhow, they are there because of climate change but also because of podsolisation of the soils because of human activity back in the Bronze Age and Neolithic.
>
> (interview transcript, 16 March 2020, phone)

The view of the incorporation of extended temporal frameworks in the heritage sector corresponds to Carole Crumley's (2015) notion of historical ecology I referred to in chapter 2. It centres on socio-environmental relationships. However, starting from a heritage perspective, the emphasis lies on the 'socio-part', as the timeline is bordered by human's presence in the landscape. Further on in this chapter, I will look more in-depth at this anthropocentrism and the particularities of the human-nature relationship as they appear in HE's climate change-related work.

6.2.2 Spreading the word: bridging teams and worlds

6.2.2.1 Encountering boundaries within the organisational network

The relevance of the historic environment to the climate change discourse may have become self-evident to those members of staff directly tasked with climate change-related projects. However, this does not mean that the multidimensional relationship between heritage and climate change is evident for everyone in the organisation. For those staff who are leading this work and who gain more and more confidence in the contribution their work can make to climate action, it has become a mission to get more people inside and outside of the organisation on board in understanding and spreading the relevance of the historic environment to climate engagements:

> It's getting the message outwards and so making sure that our voice is actually a lot louder than it's been. So we've been saying this quite quietly on the side-lines,

> but I think a few of us have just decided: *emergency*! No time to be quiet anymore. We shall be loud.
>
> (interview transcript, 12 December 2019a, London)

However, the integration of climate change within the daily practices of HE and its staff was still in full progress during the fieldwork. For example, someone involved with a significant portion of HE's climate change work still described themselves as being in the risky position of being regarded as 'the crazy climate person' by their colleagues (interview transcript, 23 September 2019, London). During this time, climate change and considering the climate implications of projects mainly was regarded as an optional supplementary in project designs and outcomes than an undeniable and omnipresent hyperobject of overall relevance:

> You know you've been successful or what you're doing is having an impact when people start saying the sorts that you've been saying back to you as if they were their ideas or someone else's ideas. There's no trailblazing because we don't have a [climate change] team […] The best results we can get are when other people are talking in the way that we're [those working on climate change] talking. And it's just become normal.
>
> (interview transcript, 23 September 2019, London)

A colleague elaborated on the absence of a designated 'climate change' team within HE, claiming the integration of 'climate thinking' and building the confidence, as said above, would be more efficient:

> So, we're still working through [as of February 2020] what team [colleague's name] might have around them and how that might work, and that's still being thought through. My feeling, for what it's worth, is that we're past the stage where you sort of top slice, and you create a special climate change team. Actually, that this is embedded as business as usual, and what we're talking about is supporting all our staff to be able to deliver this.
>
> (interview transcript, 6 February 2020, London)

What 'this' was that needs to be delivered unfortunately remained unclear. However, the effort to mainstream climate change as a topic of concern within the organisation dates

back to the 2016 Climate Change Adaptation Report (Historic England, 2016a, p. 28, see chapter 4), which described one of the aims to prepare HE for climate change's impacts as follows:

> The most effective way for Historic England to adapt to climate change is to embed consideration of current and future climate-related impacts into all strategic plans, processes and everyday practice.

When asked in an interview about the effects of this statement in an official document, the answer was that eventually, it is not about the number of times climate change is mentioned in heritage documents (interview transcript, 23 September 2019, London). Instead, success should be about integrating an awareness of "their [teams across the organisation] carbon footprint in the decisions they made of their sustainability in the long term, and then joining those things, I think that's what I think success looks like" (ibid.) (note the repeated focus on carbon footprints and mitigation as climate engagement). For now, climate change is primarily a concern for staff when working on designated projects that engage with it specifically, like those on energy efficiency and embodied carbon, as described in chapter 5.

So, while for some colleagues, climate change awareness has been part of their work for longer, overall, climate change has not been described as an omnipresent hyperobject. However, a younger member of staff who recently joined HE commented that people from their generation might accelerate this process and change. HE has many long-term staff members, and changing one's professional habits and familiar methods can take a lot of effort, while younger people may have less trouble with taking into account contemporary pressing topics:

> But having people like myself and younger people coming into an organisation who have grown up with climate change as a key part of their talk, obviously, it's going to push things, and it's going to create change.
>
> (interview transcript, 6 March 2020, London)

6.2.2.2 The Historic Environment Adaptation Working Group: Similar experiences across the sector

Including climate change in the thinking and working of staff throughout the organisational network is not a struggle only experienced at HE. The topic of how to communicate the

relevance and importance of climate change engagement to colleagues in the same organisation or the historic environment sector and beyond was covered in various ways by the Historic Environment Adaptation Working Group (HEAWG). Although the enormous surge in public discourse around climate awareness in the past few years and even months might have eased these processes, the discussions between HEAWG members reflected how passionate individuals lead most of the initial climate change work. They also made clear that introducing a relatively new issue, like climate change, into the day-to-day practices and more general direction of an organisation is not self-evident. The matters discussed involved communication with colleagues within their respective organisations and also with colleagues working in other sectors. The first results from the lack of significance granted to climate change to the organisation's work at large, while the latter is due to the perception that climate change is only relevant to sectors other than the historic environment. Concerning these communication struggles within their own organisational network, a representative of an organisation in charge of heritage sites stated:

> I quickly came to the conclusion that until we know what it means for an [heritage] asset, and an asset can be everything from a golf course to an entire mountain range and individual monuments on it, that I wasn't going to get buy-in, and buy-in is the most. We can tell people until we are blue in the face, but stuff won't happen. So, this means nothing to most [organisation's name]'s site managers.
>
> (HEAWG meeting transcript, 23rd Oct. 2018, Swindon)

Due to its focus on communication, the discussion in the HEAWG meetings often revolved around language and how to create awareness by using a language that others can and are willing to relate to. Suggested solutions were, for example, the attempt to speak in terms of timescales people can comprehend and associate with (i.e. not too far away in the future). This was mentioned especially in relation to reaching people who are not heritage professionals and who are not used to working with or thinking on longer timescales. An example of this is the following, regarding collaborations with architects:

> I think if you take a time scale that is going beyond people's heads, then the less likely they want to do something. When you can make it more realistic and make people think that that impact, the architect who deals with our monuments right

> now he can think that in terms of; that's for my granddaughter. The connection that makes them more likely to take action.
>
> (HEAWG meeting transcript, 16th April 2018, Swindon)

Another option the group discussed is to involve worst-case scenarios and high numbers of assets at risk to gather attention:

> The [organisation's name] is one of the organisations that is the most proactive on this, in trying to raise awareness and being most explicit about changes to the coastline. And, with posters that show quite controversial images of coastal change, just trying to, well not controversial, that's the wrong word, but shocking images just to get people to understand what's going to happen and to begin that sort of dialogue, what a strategy should be like.
>
> (HEAWG meeting transcript, 16th April 2018, London)

However, the main tactic debated to communicate climate change and create awareness concerned the creation of quantifiable data that can be linked to financial consequences. This was the conclusion in one of the meetings; that money-focused language is best understood by most levels in the organisational structure, as well as by government:

> I think it's really interesting because, at the end of the day, it comes down to 'cost'. Everybody around the table has kind of mentioned that you know, how much does it cost, how do you get people interested? Well, "it's going to cost you" seems to be the language that people respond to, which is a shame, but hey, let's use it.
>
> (HEAWG meeting transcript, 23rd Oct. 2018, Swindon)

The effects caused by 'talking money' are mentioned by various members of the HEAWG to create action and awareness because climate change needs to be translated into the impact it has on the organisational goals, its reputation, or the finances that safeguard the organisation's existence. The unintentional consequence is that financial loss from the closure of heritage sites or car parks due to floods or extreme weather is sometimes

welcome for their strong communicative value. In one discussion around this theme, two representatives of different organisations responded:

> At the moment, I am trying to turn climate change into operational impact, into stuff that people can get their minds around. […] So, this is the operational impact on top of historic environment impact.
>
> (HEAWG meeting transcript, 23 Oct. 2018, Swindon)
>
> Many of the people in our own organisation that don't really engage with climate change will engage with money loss.
>
> (HEAWG meeting transcript, 23 Oct. 2018, Swindon)

The meetings included in this research from the HEAWG mostly took place in 2018. Therefore, the new research and data created in the Heritage Counts (Historic England on behalf of the Historic Environment Forum, 2020b) report published two years later is interesting, as it has provided some of the quantitative substance the members of the HEAWG longed for. This report presents the research and calculations that show how a refurbished traditional home challenges a newly built home in its carbon footprint discussed in chapter 5. A conversation with a member of the communications team at HE is exemplary of this, as they described how the recent research had given them more weight to express HE's message and position in responding to climate change better externally:

> Obviously, [colleague's name] has been talking about this stuff externally for a very long time. But in terms of having actually a bit of 'comms' [communication] muscle behind those messages, this is, as far as I know, the first properly heavy time that we've done it. And I found that the message was definitely received in the sector. To the sector, it's just they're like, yes, we know. And they were like, yes, let's promote that.
>
> But as you know, there are so many studies going on about climate change and the ecological crisis. All the time, every single day, there's coverage all the time. From a media point of view, which is my role, it was a tricky sell. I think that's partly because there's a lot of general noise, all necessary noise. But also because perhaps people don't necessarily associate us with climate change messaging

because we've never really done it externally that heavily before. It's an interesting process [we're] at the beginning of it.

(interview transcript, 5 March 2020, London)

6.2.2.3 Taking the message beyond the historic environment sector

While HE has been building the argument to see itself as a positive agent in the climate change discourse, the next challenge is communicating this message to others. The above comments from the communication staff member and the HEAWG meetings show that the relevance of the historic environment in the climate change discourse is not self-evident for everyone. Unfortunately, the friction encountered when going beyond their own sector does not simply dissolve due to the piece of robust research that the Heritage Counts report has provided on carbon in the historic environment (Historic England on behalf of the Historic Environment Forum, 2020b).

The further friction that HE staff come across is based on the experience of an existing dualism between sectors. Due to this dualism, some topics are considered to belong to the merits of the historic environment, while others are part of the natural environment. In this division, climate change belongs to the latter. As stated in the introduction to this chapter, on the governmental level in the UK, climate change is primarily regarded as a concern for those organisations tasked with caring for the natural environment. On the other hand, HE is sponsored by the Department of Culture, Media and Sports (DCMS) and thus situated under the supervision of the government's cultural authority (Department for Digital Culture Media & Sport, n.d.). Consequently, HE has found itself sidelined in many of the climate change discourse and planning taking place in other, more nature-focused sectors (interview transcript, 23 September 2019, London). It turns out that the discussion on the dichotomy between nature and culture present in academic discussions on the Anthropocene and Capitalocene and related epochs (see chapter 2) is faced in practice by HE staff.

This experience got illustrated by a reflection shared after a meeting of a HE representative with the Climate Change Committee[17] (CCC) in London. They shared that one of the reasons that, thus far, the historic environment has not adequately been

[17] The Climate Change Committee is an independent government body, tracking the government's commitments to the 2008 Climate Change Act, see also chapter 3.

included in much of the work done by the CCC is because the reports the committee publishes are structured around fixed chapters (interview transcript, 23 September 2019, London). For example, the CCC's Climate Change Risk Assessment (2016) referred to in their meeting is structured around five themed chapters: 'natural environment and natural assets', 'infrastructure', 'people and the built environment', 'international dimensions', and 'business and industry'. The HE representative commented on this:

> The main challenge that I faced when I first started doing this four and a half years ago was that no one appreciated that the historic environment was relevant to more than one chapter. […]
>
> But I was very frustrated because we're clearly very relevant to the natural environment chapter in particular. The natural environment includes humanly shaped landscapes around us in places, and I don't believe you can talk about it without talking about heritage. So there's been a bit of a tussle or a case to be made, and that's why we then started the ecosystem services work. That now puts us in a stronger position where we can more confidently say we are relevant to the natural environment.
>
> (interview transcript, 23 September 2019, London)

When asked whether the structuring of the report's chapters should be questioned, they answered that there are two ways to go about this (interview transcript, 23 September 2019, London). The first, indeed, is to argue for the need for a separate chapter on the cultural environment to gain recognition for its significance. Another approach, which the HE representative choose to follow, is to be integrated into other chapters in contrast to a separate 'culture chapter':

> If you actually really want to make a difference and embed change and understanding of the importance of cultural heritage, actually, you don't set it apart. You make sure that it's embedded in the thinking of others and other chapters. […] if you've got your natural environment colleagues to recognise the cultural heritage relevance, then they will be enacting that in practice. But that's hard. It's much harder. Whereas if you have a chapter, people can go, well that's

> just the 'culture-people', and you stay in a box, and you don't integrate with other matters.
>
> (interview transcript, 23 September 2019, London)

6.2.2.4 Ecosystem services – changing the language to change the participants

One of the concerns that follow from what is discussed in the above quotes in response to the work of the CCC is the issue of language. One of the reasons that the historic environment did not get included in any of the natural environment chapters of the CCC's Climate Change Risk Assessment is related to language. This difference in language usage creates a dichotomy between the historic and the natural environment as two separate realms, as the cultural aspects get minimised within these frameworks (Historic England, 2017a).

This is illustrated by a further reflection the staff member shared on the initial meetings with the CCC. They explained that, at first, the CCC did not see the relevance of the historic environment in joining the climate change conversations they were having (interview transcript, 23 September 2019, London). The main reason for this ignorance resulted from a difference in the CCC's use of terminology and concepts to account for their work:

> I first met the 'Adaptation Subcommittee' [of the CCC], it was three or four years ago, where I was told: […] 'But you're not relevant to the natural environment, because it's all about natural capital and you're not a party to it'.
>
> So I went away thinking, right. Well, we're going to have to do something about that because it's a language. It's this real language barrier. They were saying that the chapter was so structured around natural capital and ecosystem services that they couldn't see how we would fit in.
>
> (interview transcript, 23 September 2019, London)

Experiences like these have led to an entirely new set of projects performed and commissioned by HE to work on translating these concepts used by the natural environment sector to include the historic environment (interview transcript, 23 September 2019, London). Their primary focus is on translating the ecosystem services and natural capital frameworks to include the historic environment. Ecosystem services and

natural capital describe the benefits people receive directly or indirectly from ecosystems: "The concept is based on the framing of ecosystems as 'service providers' of benefits for the wellbeing of humans and society" (Flint, Kunze, Muhar, Yoshida, & Penker, 2013, p. 209). Although widely used, it is a heavily criticised framework due to its anthropocentric foundations: it is about what ecosystems can offer humans, and their value is connected to that contribution (see e.g. Hickel, 2020; Hornborg, 2019; Maris, 2021; Raworth, 2018).

The idea of translating the value of the historic environment to fit into the natural capital or ecosystem services concept aims to increase the awareness of the potential of the historic environment in the climate change debate. Furthermore, it tries to have the historic environment considered an integral part of the natural environment: "the lack of inclusion of the historic environment within ecosystem services means that opportunities for integrated historic and natural environment solutions could be missed" (Historic England, 2017a, p. 6). While most ecosystem service and natural capital frameworks do have a 'cultural service' component, these tend to focus on the intangible aspects ecosystems offer to humans (Historic England, 2017a, p. 7):

> In most uses of the ecosystem services, the historic environment is included within 'cultural services'. However, the role of the historic environment in making up the fabric of the 'natural' environment has rarely been considered within the ecosystem services discussion. It has similarly been absent from natural capital. The fact that the natural environment in the UK is the result of millennia of human activity and interaction has not equated to recognition of the historic environment as a 'supporting' or 'provisioning' service.

The translation of this concept has become a significant project of HE's climate-related work, the relevance of which got explained to other historic environment-sector colleagues during a HEAWG meeting:

> One of the reasons why I am so keen and pushing forward the ecosystem services and natural capital agenda is because I have struggled to get the recognition of the historic environment in the climate change agenda because we are not speaking their language.
>
> (HEAWG meeting transcript, 16th April 2018, London)

And:

> So our plan is, and this is moving on an almost daily basis, that we have a number of projects that are looking at natural capital and ecosystem services, [to translate] heritage assets in that same language the natural environment sector uses—but also developing a comparable framework for cultural capital.
>
> (HEAWG meeting transcript, 16th April 2018, London)

An example of one of these projects commissioned by HE focuses on developing a method to identify the benefits associated with dry stone walls or 'linear features' in the Lower Severn Valley (Historic England, 2019b). The walls have been regarded as part of the historic environment, and therefore, they are not included in the ecosystem services of the park. The project aims to include the dry stone walls in the services the park as a whole provides, for example, as an animal habitat. Another example of a commissioned project focuses on shipwrecks. These historic remains are often not considered part of the maritime environment in marine conservation, while they provide a habitat for various sorts of life (Historic England, 2019e).

However, in the translation process, aspects of heritage may get lost as well. When questioning these effects and the risks of translating and adapting the complex understanding of heritage to another language, the reply was, "This is where ideals and reality collide" (interview transcript, 23 September 2019, London). Instead, at HE, they made the choice to influence individuals to grasp the larger picture, including both the natural and the cultural in their thinking. In doing so, they try to create a growing group of people inside and outside the historic environment sector who will become advocates for this approach:

> But the fact is, it [ecosystem services/natural capital] is the mechanism that is used. And there will never be a philosophically perfect nuanced framework. And the amount of effort to try and change and create one would require connections and influence in networks that we just do not have and time we don't have.
>
> One of the things that you have to do is draw a line under the limits of your influence. Also, on my own, I'm not going to tell everyone that natural capital… If I just decide that natural capital is rubbish. We don't want to engage with it because

> it's rubbish and then go and do our own thing. All that will happen is no one will listen to what we've got to say, even when it's relevant.
>
> (interview transcript, 23 September 2019, London)

Further along in the same conversation, another familiar concern was shared. The impact on the historic environment of decisions made elsewhere is a concern that also underlies the importance for HE to have the historic environment to be considered in the natural environment discourses:

> Given the impact on the environmental sector, but the things that Defra oversees: agriculture, land use, flood managements… Given the potential impact of those things upon the historic environment, we can gain much more if we're able to be right in the mixed discussions about the environment using the language that they are already using.
>
> (interview transcript, 23 September 2019, London)

Thus the integration of the two domains seems to work two ways. One is to have the historic environment taken seriously as an agent in the climate change discourse at large. The second is to have others consider the historic environment in decisions affecting its conservation. The latter is a concern that also came forth from the RAÄ reports on heritage in Agenda2030 and the Swedish environmental objectives, as discussed in chapter 4. Here, the focus also lay on the impact of decisions taken elsewhere on the historic environment.

However, in many of HE's own documents, the link between the natural and historic environment remains absent, as highlighted during an SRP team meeting. In a dialogue during this meeting, colleagues commented on this absence of the natural environment in a newly published internal document on 'place-making' strategies:

> Colleague 1: It's because they don't think about the landscape [..] or the environment. No one thinks about the historic environment as part of the environment.
>
> Colleague 2: It's the future.
>
> Colleague 3: I'd agree to that.
>
> (SRP meeting transcript, 26th Sept. 2018, London)

And a similar situation occurred a year later when a staff member tasked with climate change work reflected on their most pressing efforts at that time:

IV[18] So does your work, in a way, now start here in this building [HE offices]?

IE I think it really does, but because we have an international audience for the coming year [reference to COP26 taking place in the UK] and a very tight timeframe, they [colleagues at HE] have no choice. They are now very reliant upon me and me reassuring them and me showing them that it can be done. […] But then we have situations… like we just produced a leaflet for MHCLG, so the Ministry of Housing, Communities & Local Government, about what we do in which we failed to mention climate change. So I'm gradually getting cross with my colleagues, but they are now feeling guilty at least when I say, I'm sorry, you have to include reference to climate change and that it's not massive.

(interview transcript, 12 December 2019b, London)

6.2.3 Where does the historic environment start and … end?

From the above, it follows that integrating the cultural realm in the natural is a point of friction in HE's climate change work both internally and externally. The previously mentioned 2020 Heritage Counts (Historic England on behalf of the Historic Environment Forum, 2020a) report titled *Heritage and the Environment* signifies a breakpoint from this. This report has the nature/culture relationship as its theme and shows the organisation's increasing interest in the connection between the cultural and natural realms.

A substantial part of the report reiterates the arguments around the sustainability of historic buildings – the embodied carbon they contain and their place within a circular economy (see chapter 5) – to explain the relationship between climate change and HE's work. However, it also provides further insight into how HE understands the nature/culture relationship, as it discusses the connection of the historic environment to its natural counterpart. As the relation between culture and nature plays such a significant role in the Anthropocene and Capitalocene discourses (see chapter 2), it seems relevant to look

[18] IV = interviewer, IE = interviewee

critically at HE's understanding of this relationship in a report that explicitly centres around this.

One thing that especially stands out here is how the English landscape is understood to have developed under human influence. This stance has already appeared before, albeit in different kinds of wording, for example (Historic England, 2017a, p. 7):

> The fact that the natural environment in the UK is the result of millennia of human activity and interaction has not equated to recognition of the historic environment as a 'supporting' or 'provisioning' service.

Also, throughout the discussion on ecosystem services and the efforts to get the historic environment included in its natural counterpart, it became clear that there is no clear distinction between the natural and cultural environment for staff. This idea is repeated in and central to this Heritage Counts (2020a, p. 13, my emphasis) report:

> *England's environment as it exists today is the result of human activity* over millennia and comprises a rich and diverse collection of physical landscapes, each offering a different manifestation of human interactions with nature.

The report describes the natural and cultural environment as "closely interrelated and interwoven" (2020a, p. 15). This is exemplified by the data on the overlap between the number of monuments and listed buildings situated within National Parks, Sites of Special Scientific Interest (SSSI) or Areas of Outstanding Natural Beauty (AONB) in England. The report describes how humans have shaped the environment through agricultural practices and forestry in these places, creating landscapes with high biodiversity. One example uses the development of chalk grasslands, which have rapidly declined due to modern agriculture. The influence also works the other way around, where cultural environments and regional identities have been shaped by the locally available natural resources, e.g. differences in thatched or slated roofs and lime- or sandstone usage in buildings. Here, the overlap between the natural and cultural environment is primarily focused on the tangible historical elements in the landscape that result from the (historical) human-nature relationship.

The report describes the results of these interactions between humans and their environment as both positive and negative. Here, the traditional management of land and

natural resources is more likely to be perceived positive, while today's practices are criticised (an exception to this is the hefty deforestation until WWII) (2020a, p. 29):

> An appreciation for the traditional management of our environment is vital to the conservation of existing ecological systems and the habitats, ecosystem services and diverse flora and fauna that feature within these.

The results of a range of past practices are seen as historic features of the landscape or heritage elements. Due to this, it seems today's agricultural and land-use practices, i.e. today's cultural practices, remain excluded from the heritage discourse. This means that today's cultural practices are not considered to be tomorrow's heritage (R. Harrison, 2013) and thus outside of HE's merit and responsibility. As a result, it is also absent in socio-natural relationships and the role they want to play in discourses in the natural environment sector. The tendency remains to promote the positive aspects of our heritage and define those cultural practices that remain helpful today to be our heritage and part of HE's responsibilities. This allows them to leave those cultural practices and values that have shaped the climate crisis or are difficult to 'promote' as one of their key aims states, excluded from their responsibilities.

This approach could be extended to how they perceive their role in relation to climate change, as this approach to the nature-culture relationship leaves climate change out of the equation. As a result, climate change is regarded first and foremost as a natural and *external* phenomenon. This minimises the possibilities to make it into a socio-natural issue with roots in cultural practices and paradigms in the past that last in the present (in other words, as *cultural heritage)*, as argued in the Capitalocene thesis (Malm, 2018; Moore, 2017). In its turn, this keeps the historic environment sector from taking a stance or taking responsibility from a socio-historic perspective and from questioning their own role and agency in holding up the status quo or in their potential for creating different climate narratives and alternative climate futures. For example, the report links 'societal development' to the negative impact of climate change: "Just as a lit candle casts a shadow, the wealth of benefits from our *societal* development has accrued an environmental cost – manifesting as climate change – which directly threatens England's heritage" (2020a, p. 3, my emphasis). Climate change remains an external impact here, i.e. a threat to heritage. As a result, it does not question how the historic environment represents or plays a part in the historical and present processes that drive it.

So, where this work seems promising in connection to climate change responses as it discusses the relationship between humans and nature, a crucial debate in the encounter with the hyperobject (see chapter 3), it disappoints somewhat in what new approaches and responses it may support or request. Furthermore, I have discussed before how nature-culture relationships are questioned on the ontological level in response to climate change (see chapter 2), for example, in the object-oriented-ontology approach of the hyperobject and in response to the Anthropocene and Capitalocene understandings of the climate crisis. While this Heritage Counts report engages with this relationship, it does not question the ontological rift between the two. For example, throughout the document, the human/nature relationship remains anthropocentric, and the primary focus revolves around how the environment can support humans and their livelihoods. Here, the main argument continues to be the relevance and need for the conservation of the historic environment, even when nonhuman others are referenced, for example: "Understanding different species helps protect the historic environment" (Historic England on behalf of the Historic Environment Forum, 2020a, p. 31), "Conserving traditional buildings conserves habitats" (ibid., p. 33), and "Submerged wrecks act as artificial reefs, providing habitats for a wide variety of species including fish, crustaceans and cephalopods. This makes them valuable to ecologists and to divers and fishermen, both commercially and recreationally" (ibid., p. 33).

6.3 Riksantikvarieämbetet

From the work of HE in England, this section shifts the attention to Sweden to discuss how similar themes and discussions are formulated at the RAÄ. Like at HE, also in Sweden, staff at the RAÄ are involved in creating relevance for the historic environment in the climate change discourse and climate action. Their work follows the main threads present in HE's work described above. It echoes similar arguments: the historic environment as agents in mitigation agendas (chapter 5) and as knowledge resources of past adaptation. However, the extensive work developed around 'ecosystem services', 'natural capital' and language issues discussed above is not present in like manner in the work of the RAÄ. Partly, this may be due to the organisational size, where the RAÄ has less staff and financial resources to engage with such extensive projects. On the other hand, it seemed that staff did not experience the nature/culture distinction to the same extent and frustration as staff at HE did.

This part of the chapter will first (6.3.1) discuss how staff understands heritage as a resource in the climate change discourse and action. Section 6.3.2 discusses, on the basis of interviews predominantly, how climate change is situated in the organisational network and the impact of this on climate change work. This is taken beyond the network of RAÄ in section 6.3.3, where the collaboration – or lack thereof – on climate change work between sectors is discussed on the basis of the shared experiences of staff and their reflection on specific projects concerned with collaboration.

6.3.1 Beyond adaptation and mitigation – relating climate change and heritage

One of the developments that the previous chapters have described is the shift in the organisation's stance concerning the relationship between heritage and climate change. First, they saw heritage mainly as 'a victim', while now they are equally working on finding a footing as positive agents in the climate change discourse. This development of the heritage sector in their response to climate change got effectively summarised by one of the long-term staff members at the RAÄ as follows:

> Initially, we came into the question very much as a victim. […]. But I would also say that least as important is that we have in the heritage protection sector and its historical knowledge the possibility to point out, and also to make the discussion a little calmer, and to say this [climate change] is nothing new in history. […] And we can just look back in history and get a lot of information about how we have confronted this situation before. And also perhaps what mistakes we have made. […] So, there is a lot of information, and therefore, we can have a role as a resource as well—more than a victim in this respect. I still think that most of the use that we can do in the heritage field is not protecting our historical environments. Because we already have that system. I think more important to society is that we do have a lot of historical experiences and that we use them and see them now.
>
> (interview transcript, 14 May 2019a, Visby)

The comment above reflects a similar approach as already expressed at HE. Once moving beyond the position that heritage is a climate change victim at risk of damage and loss, heritage can be viewed as a resource of knowledge. One of these resources the heritage sector holds is their knowledge and experience of working with longer timeframes. These

timeframes can teach about human past behaviour in relation to environmental change. Instead of focusing on the potential loss and damage of heritage sites, heritage then becomes a resource (Riksantikvarieämbetet, 2020b, p. 4):

> For example, a heritage asset can provide information about how humans previously lived and utilized nature, but also about how environmental and climatic conditions looked like a thousand years ago. This knowledge of how man previously lived and used nature is important for understanding today's development in the environment.

By acknowledging that humans have always depended on their direct natural surroundings and adapted to them accordingly, the historic environment becomes an archive of these local climates. HE's work already showed that, for example, this knowledge could come from traditional building techniques that have been specifically designed for a particular landscape, consisting of materials from that same landscape (Historic England on behalf of the Historic Environment Forum, 2020a). Or it can be about knowledge of heritage crops that are resilient to new climatic conditions (ibid.). Similarly, traditional forms of landscape management can help deal with contemporary issues. In an interview, a specific example from the island of Gotland was shared concerning landscape management. Since draught has become a recurring issue for the island and its residents in summer, they are re-applying historic water retention methods:

> Because there was a period in history when you would want the water to go away from the fields, because there were small lakes everywhere and that's not what you wanted as a farmer, you would want a whole field [to farm]…. Now, actually, in some places, they have started to recreate these areas where the water is preserved in some places in lakes. And I mean, it was a good thing at that time to let the water flow away, but now at some places on this island, for example, we have problems with drought. We see that in some places, it's now the case where they actually want to keep and store the water.
>
> (interview transcript, 16 May 2019b, Visby)

This example is similar to the example given at HE that described lost traditional field boundaries and their function in maintaining and managing the water flow and topsoil of farmland in England (see page 176).

Staff at RAÄ sees this use of the past to find answers to today's problems as unique to their profession:

> Cultural heritage can create an understanding of the development of the climate over time. We can see and understand how the climate has affected humans or the environment in different aspects. With the help of modern ways of analysing materials etc., we can also see through cultural heritage the relations humans have had to nature and wildlife and climate, in various cultures and over various decades. So we can get a greater understanding of place and time in relation to the climate and nature and so forth. And I think the interaction with heritage and the wider understanding of that also encourages us to take greater responsibility for the environment and for the future because we get a wider scope of sense of time.
>
> (interview transcript, 15 May 2019a, Visby)

Like at HE, this sense of long timeframes is regularly mentioned as another argument of how the heritage sector can help contextualise the climate change discourse. Where most sectors today are bound up with short time frames, often a few months (e.g. quarterly figures) or a few years (e.g. democratic governments), cultural heritage is connected to a much longer past. Hence, the timeframe guiding heritage work is unusually long and therefore seen as an asset in response to climate change:

> I think in today's society, there is always a focus on such short time schedules. We can contribute to making long-lasting decisions or make things last longer. […] And if you do that, you are more efficient and more careful about the resources of the environment, and with the time of people and every resource.
>
> (interview transcript, 15 May 2019b, Visby)

And from one of their colleagues:

> Well, I think this whole agency works with time, basically. And that's our whole idea, is to try to extend the timeline and put things in a wider perspective. How can we use the past to understand the present and build a better future, basically? That is the platform we are acting from.
>
> (interview transcript, 17 May 2019a, Visby)

Unfortunately, it remains unclear what these futures hold that the above interviewee refers to. From the other accounts above, the imagined visions seem mostly linked to resource usage and materiality, anchored in the underpinning paradigm of their conservation-based professions.

6.3.2 Connecting the dots within the organisational network

At HE, a small group of staff mostly perform specific climate change-related work and tasks. A similar situation is present at the RAÄ. At the RAÄ, this group is based in the Cultural Conservation Support team in the Cultural Heritage Development department in the Visby offices (see chapter 3). Consequently, an awareness to see climate change as a direct topic of concern or relevance risks remaining limited by this department within the organisation. This is to the dismay of the staff tasked with climate change. This was expressed, for example, in answer to a question on whether climate change work is mainly project-based, instead of possibly being a more underlying engagement throughout the organisation's work:

> I think it's very much project-based or *projects* based. […] But that is also a problem in the organisation, that there are very few crosslinks between parts of the organisation and I think that to us that it is kind of annoying… how do you say that?... that it is kind of a problem. But it is also… yes, it is a problem. Because sometimes we do a lot of things parallel to each other and nobody knows about the connection between it or knows about some things happening at all.
>
> (interview transcript, 14 May 2019b, Visby)

They continued to explain that one of the issues in the organisational structure is that work often gets dissected between different departments by those working in the higher scales of the organisation. As a result, the full extent of a matter like climate change or the interconnectivity can get lost between the different focal points of various departments (interview transcript, 14 May 2019b, Visby).

An organisation like the RAÄ, working with cultural heritage on the national level, engages with a wide variety of issues. According to staff in the 'conservation team', one of the consequences of this broad scope of interests is that climate change-related work gets associated with specific people in the organisation and therefore is seen as the responsibility of this same small group. This was illustrated by a comment from someone

working in the conservation laboratory in Visby. They shared that they were not professionally concerned with climate change, as other colleagues are already doing a great job at this (field notes, 22 May 2019, Visby). Consequently, they did not feel the need to engage with it themselves in their professional life (ibid). In an interview with another member of the conservation team, the problem was described as follows:

> […] this is how we treated climate change in the beginning: 'You know most about climate change, it's your question [to work with]'. No, no, no. That's not what we want. For example, the first action plan [for climate adaptation] that we developed was never integrated. It's only our department that works with the issues, but there is an action plan for the whole board, but it has not been known or used in all departments. But I think that now we make this revision [of the action plan], and the personal awareness of people has increased about climate change, I think this will change. It will take a lot of time, but I think it will change.
>
> (interview transcript, 15 May 2019b, Visby)

One of their colleagues expressed a similar hope to see a change in this approach in the near future:

> So there is a definite assignment from the government [to make an action plan for climate adaptation], from the central government to all government authorities. So in that respect we are very much helped by the government, to make the rest of our organisation aware of the situation we are in. This is not one of several smaller questions that need to be solved in an isolated part of the organisation. The organisation as a whole needs to take responsibility for this in all their different assignments. So there is a change, and I think we are developing in the right way. But it takes quite a long time.
>
> (interview transcript, 14 May 2019a, Visby)

The 'Climate Change Adaptation Action Plan' (Swedish: *Handlingsplan för klimatanpassning,* short: CCAAP, discussed in chapter 4) (Riksantikvarieämbetet, 2019a) is a case on point here, as it explicitly points to the lack of integration throughout the whole of the organisation of the proposed actions from the previous plan from 2017. It states that the plan's target group was aware of the existence of the then newly published CCAAP but less so of the content and the desired implementation of the proposed actions

(Riksantikvarieämbetet, 2019a). Moreover, it states: "More people were involved in the development of the action plan than in the implementation itself" (ibid. p. 14). This evaluation of the previous plan led the team behind the revised 2019 version to take a different approach. In the new CCAAP, tasks are assigned to specific executive parts of the organisation, clearly related to the work they are already performing to streamline the integration of work supporting climate adaptation:

> This is something we have tried to integrate into the action plan, actually to make it part of the whole organisation and to point out and highlight how in some cases, they already work with the issues or issues related to it. Even though they don't call it that, they work with environmental questions, and they could also, by not making much change in their work … [they could] also turn more towards climate change or climate adaptation issues.
>
> (interview transcript, 16 May 2019a, Visby)

However, issues with the mainstreaming of climate change in an organisation are not unique to the RAÄ and HE. This became apparent when the representative of the RAÄ shared their experience of a meeting with the 33 Swedish government authorities tasked by the government with the creation of a CCAAP for their respective organisation:

> That [including climate change in one's work] it is very difficult, in all these governmental authorities, […]. So all of these authorities… since we have about ten years from now on [for climate action] if we think about the IPCC report. It's a very short time, and it's very difficult to reach all these people in every authority. We had one of the meetings here now, where some of these authorities that started in January to work on this for the first time… they were told that "oh, but you can start a bit slow, and you can think about… well start with one area if you can't manage to think of all areas, start to think of one". And then someone said, "but if that takes five years and they start very small, it's only five years left". So it's difficult because we have many people who are very new to this, that haven't thought about it, then ten years is a very short time. So it's a dilemma.
>
> (interview transcript, 16 May 2019b, Visby)

Climate change transcends many of the traditional topics that organisations are used to working with: it pushes to surpass the boundaries of single concerns, forcing collaborations

and inter-sectoral communication. As seen at HE and here at the RAÄ, this counts for the organisational network in itself, as well as in relation to other sectors and organisations. Here, the organisational structures in place seem not particularly geared to deal with an overarching, shared concern or hyperobject, like climate change.

6.3.3 Connecting the dots beyond the organisation

As seen at HE, communicating and, moreover, integrating the value of cultural heritage in discourses happening in other sectors is not self-evident. Also, in Sweden, the nature/culture dichotomy was mentioned as standing in between a full collaboration of both sectors in response to climate change:

> I think what climate change so clearly points out is that you must solve it together. You can't solve it in separate boxes. […] Heritage protection can't solve the climate situation by itself and make the solutions work for them. Because you are so dependent on what is happening around you, you must discuss and have a dialogue with others as well. So it's a giant cooperative project.
>
> (interview transcript, 14 May 2019a, Visby)

However, this cooperation is not as self-evident as it should be. In the experience of RAÄ's staff, similar to HE, there is a lack of acknowledgement of the human interference in the natural environment, both in the present and the past. Consequently, the landscape is understood as predominantly 'natural'. This leaves out the RAÄ in discourses situated in the natural environment sector and thus of climate change-related discourse. Instead, they argue that the natural and the cultural environment cannot be seen as separate:

> That is another very important issue for us. Besides the climate adaptation issue, one of the issues in the department here is, as you might know, how we can work more together with the natural resources. The whole division between protection of environmental values or natural resources is… you can't divide it; they are dependent on each other. […] some of the people working with natural resources are not agreeing. But we would say that 99% of our landscape is humankind made in one way or another. […] So we must realise that we have … as we have made the climate… we have interfered with climate, we have interfered with most landscapes in the world as well. So if you want to understand why the landscape looks the way it does today and the values you have there, you must understand

> in what way humankind has interacted with it. And this knowledge is not known by the natural resources. And, actually, we have also not known the importance of us being there and having the discussion, the dialogue with people working in natural resources. There we have a very large gain to make in the future. To cooperate much, much more; to see it as a communal landscape in which we work together.
>
> (interview transcript, 14 May 2019a, Visby)

While this illustrates the experience on the national level of government authorities like the RAÄ, another member of staff described how the same distinction between realms and departments also exists on the more executive level of the Swedish county administrative boards:

> We have a few heritage experts [in county administrative boards], we have a big environmental department… it may be hard for the heritage specialists to take part in that [climate change] discussion, which is perceived as a discussion about the natural environment. So, we need to provide the arguments, you know. Why you should be there and why it's important. And why you can't divide the landscape into nature and culture, because they're both parts of the same hold. It's not like you have nature there and… Culture is everywhere in the landscape. This whole country is in one way or another affected by humans, so it's culture.
>
> (interview transcript, 17 May 2019a, Visby)

While these experiences are very reflective of what is taking place in England at HE, similar projects that HE is leading currently that focus on finding a new language and communication tools to bridge the sectoral divide are not taking place in Sweden. When asked about the potential role of language in the existing friction in collaborations between the natural and the cultural environment sector, the friction would get acknowledged. Still, the language would not be distinguished as a particular issue. For example, a staff member commented on the relation between the natural and cultural environment sector:

> I think it is getting better now. It is slowly getting better and better. But it has been a hill to climb at first. And we are still not in a happy marriage. It is still [the case] that nature has a stronger position in Sweden than the cultural areas. It has been that they have more money, and questions have been regarded as [belonging to them]… I think sometimes cultural heritage starts to be more like a sort of hobby.

> So it's not like it is… it's not essential. So I think perhaps that is something we need to work on.
>
> (interview transcript, 16 May 2019b, Visby)

Thus, according to the above accounts, what is needed in climate change work is increased cooperation across sectors. One of the ways the RAÄ tries to encourage this is through their biannual *Forum för Klimat och Kulturarv* ('Forum for climate and cultural heritage'). This conference brings together "professionals in the cultural environment, climate adaptation, community planning, building permits and contingency coordination at authorities, county administrative boards, municipalities and in the private sector. But also managers of culturally and historically valuable buildings and landscapes" (Riksantikvarieämbetet, 2021e). Furthermore, the RAÄ is involved in a project that aims to increase collaboration and cooperation across sectors, called '*TVARS'*. This intersectoral collaborative project directly addresses the potential neglect of the cultural environment in the work of other government authorities and promotes cooperation across these different organisations:

> Right now we have a project, if I should translate it, it's sort of called 'crosslink', where ten other [government] authorities should make cultural heritage plans: '*TVARS*'.
>
> I think that's hopeful; that they will find a suitable solution on how to work with different departments in the whole organisation. I think they will also work with Agenda2030, so I hope that climate change will come into that and makes it [climate change] more of interest or prominent.
>
> (interview transcript, 14 May 2019b, Visby)

The project was described in another account as being of relevance to climate change work because it streamlines 'heritage thinking' in other sectors and offers the RAÄ an opportunity to be included in topics discussed elsewhere:

> I think it's really important that we do this [contribute to *TVARS*] because we cannot be like a silo, [working] aside from other policy areas. We need to integrate heritage in many different policy areas because that is where we're going to get

> the greatest effect: if it's considered within the agricultural policy or the forestry policy, or the infrastructure policy, or environmental policy.
>
> (interview transcript, 17 May 2019a, Visby)

The initiation of this project results from a government assignment that tasked the RAÄ with supporting ten other government authorities in preparing guiding strategies for cultural environment issues in each of their work objectives (Riksantikvarieämbetet, 2020f). The project is a good example of the increasing need for collaboration and interdepartmental thinking, that may also be of use in response to climate change and similar complex issues: "The assignment is part of the state's developed governance where traditional, vertical forms of governance need to be combined with horizontal, more network-like forms to solve complex societal challenges that lack simple, separable solutions" (Riksantikvarieämbetet, 2020f, p. 9).

Unfortunately, climate change does not receive a significant reference in the final or interim report (Riksantikvarieämbetet, 2018b, 2020f). However, the final report provides some interesting concepts that have come forward to create synergies between those working traditionally in the natural and historic environments. For example, it describes how the *Naturvårdsverket* (Swedish Environmental Protection Agency) intends to use the concept '*biologiskt kulturarv*' (biological cultural heritage) to smoothen the inclusion and consideration of the historic environment in their work (Riksantikvarieämbetet, 2020f, p. 31). At the same time, the *Sveriges Geologiska Undersökning* (Sweden's Geological Survey) chooses to move forward with the concept of '*kulturell geologi*' (cultural geology) for the same reasons (ibid.). While there is little more information provided on the implication of these examples in the work of the respective organisations, it shows a similar action as what HE is trying to do in fitting themselves into language frameworks used in the natural environment sector. However, in Sweden it is these sectors operating with 'nature' that are asked to think about including the implications of their work on the cultural aspects of the environment and thus choosing themselves to change their language.

6.4 Conclusion and discussion

This chapter has described the effects of the increasing presence of climate change on the organisational networks of HE and the RAÄ. It has shown how thus far, climate change has

mostly been considered a relevant issue to only a few people in the organisations who are working directly with climate change-related projects or doing work that is directly affected by it (RQ 3). Consequently, these staff members are pursuing to include their colleagues in climate change thinking to make it a more pressing and linked up issue for everyone in their respective organisations (RQ 1). Moreover, they also work on promoting what role the historic environment can play in the climate change discourse beyond their own sector (RQ 1). In this chapter, I built on chapter 5 to argue that much effort has been devoted to making this a positive message. Both organisations carefully present the conservation of heritage as compatible with the mitigation of greenhouse gas emissions and climate adaptation (RQ 2). In addition, they also consider these positive attributes to be the longer perspective on time familiar to their heritage work, and the information the historic environment bears of our ancestor's past adaptation practices to local climates and weather changes. By building these arguments, both organisations have gained interest to spread this message beyond their own sector.

However, the organisational structures of their organisations proved to be the first impediment to integrating climate change awareness throughout the work of their respective colleagues. As tasks and topics are distributed to specific teams and departments, they tend to be regarded as the sole concern of these staff. The introduction of a hyperobject like climate change exposes the limitations of such strict divisions. As a consequence, climate change risks being contained within the work and the expertise of a small group of staff directly tasked with it. Simultaneously, the framing of climate change is then contained to the limits of this expertise.

A similar limitation is experienced in the governmental structure, where the remits of working with either the natural or cultural environment are divided between governmental authorities and ministries. Because climate change is understood as a natural phenomenon and impact, both governments primarily consider it to belong to the natural environment sector's work. This results in the exclusion of historic environment representatives from climate change discussions and planning. As a hyperobject, climate change makes visible that these existing structures do not help in taking a holistic perspective that considers both the cultural and the natural aspects of climate change.

However, staff at both organisations make clear they do not see the natural environment as separate from the historic environment and vice versa. They argue there

is a significant overlap between the cultural and natural environments. A discussion that has also been a subject in heritage studies (see e.g. R. Harrison, 2015a) and can be dated back to Latour (1993) in terms of a general critique on the separation of the natural and cultural domains (see also chapter 2). Since climate change has become a topic of concern, the case-study organisations have become aware of the need for a more collective and interconnected response across sectors. This response relates to a more Anthropocene-based understanding of climate change, framing it as an interrelated issue representing more than just an environmental phenomenon (see chapter 2).

For staff at the RAÄ and HE, this overlap mainly exists in how the landscape consists of historic elements, for example, traditional hedgerows and historic houses that provide habitat for other species. A shared opinion is that there is no environment 'out there' that is not affected by humans and is thus not cultural. This argument is based on the premise that humans have always impacted the natural environment and changed it to their benefit. While it is hard to dispute this, it is worth questioning what this premise would mean for climate action, i.e., moving beyond a societal system and lifestyle pattern with climate change as an inevitable outcome. Here, the critique Andreas Malm and Virginie Maris pose on the vanishing of culture/nature distinctions argued for in debates around the Anthropocene may be helpful.

First of all, following Malm (2018), this approach risks putting the influence of our human ancestors on equal footing with the *hyper*influence we have today. As such, to say that the climate has always changed and humans have always changed nature, diminishes the scale at which change is happening due to anthropogenic influence now. According to Malm, this can prevent a critical approach and reflection towards our own present-day impact on the environment. Second, and following from the first point, in an age described as the Anthropocene, it is essential to contextualise and be critical of the influence we have and want to have as humans. In other words, it may now, perhaps more than ever in human history, be necessary to actively put limits around the cultural realm instead of further 'annexing' nature. This is also what Maris (2021) argues for, who writes that inherent to the blending of nature/culture boundaries is the necessity of human presence, if not as active participants, then at least as retreated managers. Maris writes that this risks the inclusion of human needs and interests in every landscape discussion or understanding the landscape as made and designed for humans. Instead, she argues that the climate crisis

asks for more, rather than less, 'wild nature'. With this, she means acknowledging and respecting those other beings and inanimates we share our space with, accompanied by accepting the 'unknowable' of the other. According to Maris, it is necessary to emphasize that we, humans, cannot control everything because many things simply escape us. Claiming our own influence on all environments surpasses this aspect of wonder and the chance to see other beings as whole; acting according to their own motives and within their own realities.

In response to their experiences when speaking to colleagues working on climate change in the natural environment, HE staff have pursued the translation of heritage values into the commonly used ecosystem services and natural capital frameworks. While the reasons behind this translation have been explained before, it is of interest to look a bit further into where the ecosystem services language itself originates. As mentioned, these systems have been criticised for their anthropocentrism and economic favouritism: "[it] simply shifts the living world from being man's material means to being an asset on his balance sheet" (Raworth, 2018, p. 77). Moreover, as written before, the ecosystem language itself is criticised as problematic in relation to climate change. As Jason Hickel (2020, p. 78) writes: "ecosystem services show how we are 'heirs of dualist ontology'". In other words, this ontology is *our own cultural heritage*. This ontology holds humans as users of the environment and the environment as a resource for humans. This critique links to the anthropocentric focus of the organisations' response to the nature/culture discussion outlined in the previous paragraph.

Maris' (2021) critique explains that the concepts of ecosystem services and natural capital itself result from a translation project of the natural environment sector to adapt to the dominant economic discourse. Maris describes that the latter is mainly, if not only, interested in the cost-benefit analysis and its resulting impact on the (inter)national economy. As such, the ecosystem services and natural capital frameworks are in itself a response to a capitalist, market-led society. Ecologists use these frameworks to adhere to the language of decision-makers to be more convincing in communicating the values of the natural environment (Maris, 2021). The use of these frameworks in the historic environment-setting then becomes a translation of a translation. It turns out that both sectors – natural and cultural – share the pressure to adjust their work into a format applicable and accepted by the governing economic system, regardless of whether the

networks they represent are reducible to a set of quantifiable metrics, exchange units or transactional commodities.

Following from this, one may say that there is a third ontological category at play with its own set of values and needs, arguably the most powerful of all, resulting in a nature/culture/economy triptych. The hyperobject climate change is replaced here with the hyperobject of a dominant capitalist economy. This is also where the rationale behind the Capitalocene framing of climate change becomes apparent. Maris (2021) describes the use of these transaction-based frameworks as the annexation of nature by the economy. A similar annexation seems to take place in the historic environment. This is especially detectable at HE, where a strong emphasis on the economic value of heritage has made its way into the key texts guiding their work. For example, in one of the strategic objectives of HE, the economy is an entity on its own, next to 'people' and 'places': "Ensure our advice and evidence result in well-informed decisions that serve people, places *and the economy* well" (Historic England, 2019a, p. 3, my emphasis). One could say that both the natural and the cultural environments are facing a shared problem here, which is the reigning of economic language and values.

Last, a related reflection can be made on the discourse shared around timeframes and heritage work. However far into the past, these timeframes are still directly related to human experience and human presence. While the historic environment sector undoubtedly has a unique experience working with these deep time pasts, their work is tied up in what heritage is, and heritage only ever exists in relation to humans. Thus, the timeframes they work with are limited by human timeframes in their length and their linear (western) approach to time. Again, Maris (2021) warns us that by making ourselves, humans, the clock-makers and time-keepers, we first deny that 'nature' has for a long time done fine without us. In fact, we are a very new addition to the geological timeline. Secondly, it denies that there are numerous other experiences of time at play in the world (ibid.). And last, it implies the immersion of the natural world with the human world, which feeds into Maris's (2021) critique on the dissolution of the nature/culture dichotomy.

So, while the heritage sector might inhibit an unusual timeframe for a human-focused sector, its timekeeping is also limited by this same focus. Moreover, while the expansion of our sense of time in decision-making processes is promoted in response to the climate crisis (e.g. Krznaric, 2020), this is often in relation to a need for

intergenerational justice or ‘deep-time humility’. These concepts do not seem to feature explicitly in the work of HE and the RAÄ in relation to their time perceptions.

Altogether, the work and engagements with climate change discussed in this chapter go beyond the more practical implications addressed in chapters 5 and 5 (RQ 1, RQ 2). Instead, it discussed a shift to more complex discussions that take shape when climate change is framed as more than an environmental issue based solely on greenhouse gas emissions (RQ 3). Consequently, HE and the RAÄ engage in discussions on the underlying nature/culture relations (RQ 3). Herewith, linking up to popular academic debates in response to climate change (see chapter 2). However, where the latter represents the scrutinising of this dichotomy on the ontological level, the climate change work of HE and the RAÄ and the futures connected to it remain based on anthropocentrism (RQ 3, RQ 4). This is apparent in relation to their reflection on timeframes, through the ecosystem services framework, by claiming all nature is influenced by humans and through their general definitions of heritage. The encounter with the climate change hyperobject does not seem to shake up this approach fundamentally (RQ 1). This keeps the human experience the front and centre. Climate change remains an external impact in the heritage discourse, as the represented *anthropos* seem to be first and foremost the protagonist in a ‘good Anthropocene’, rather than a Misanthropocene, let alone a Capitalocene (RQ 2, RQ 3).

Discussion: radical change and alternative futures

Before moving to the concluding chapter, this chapter will share some final reflections that can be distilled from the discussions presented at the end of each of the three main empirical chapters (4-6). Each of these points is a further inquiry into the work taking place at both case study organisations in response to climate change, what this means for climate action – i.e. creating a socio-environmental balanced future – and what limitations result from the approaches taken. The last sections will look ahead at what future research may look like and provide a few first reflections on what it may mean to apply a Capitalocene framing of climate change to the heritage discourse.

Final reflections

The previous chapters show that there is a strong focus and desire to provide *solutions*, searching for measures or tools that can provide a sense of control and proactive engagement with an essentially uncontrollable *hyperobject* that follows an uncertain course. This is in line with the main discourse that is taking place around climate change in national and international policy-making, based on adaptation and mitigation and a natural sciences-based understanding (chapter 1). The dominance of this discourse has led the case study organisations to take a similar approach based on a similar understanding of climate change. However, this approach invites a continuation of *business-as-usual*, or perhaps more, within the western setting, 'lifestyle-as-usual'. This is especially the case where mitigation is the main point of action: "the imagination of climate change as a problem of emissions derives from values and social relations that are overwhelmingly embedded within the status quo of a global capitalist economy predicated upon the intensive use of carbon-based energy forms" (Nightingale et al., 2020, p. 346). The idea that 'there is no time', and the run to practical engagements can easily obstruct the rethinking of structures or the status quo that Nightingale et al. refer to above. Instead, responses are structured around a continuation of current paradigms. Thus, they implicitly fail to rethink futures and the structural changes needed to shift current pathways to align them with radically different outcomes.

Instead, what happens, is what Swyngedouw describes as a change that does not require any radical rethinking: "In other words, we have to change radically, but within the contours of the existing state of the situation – 'the partition of the sensible' in Rancière's

(1998) words, so that nothing really has to change" (Swyngedouw, 2010, p. 219, criticising the limitations of a focus on adaptation and mitigation). In combination with an urge to 'act now' and the related time pressure to respond to an uncertain phenomenon that only recently has gained a lot of traction, it seems that taking action has presided instead of reflection. As a consequence, the question 'how do we understand climate change' and 'what futures do we envision' are easily surpassed (see Eisenstein, 2018 for a similar critique and the reiteration of action over reflection in the response and the causes of the climate crisis).

Similarly, it could be interpreted that the taken approach allows for several questions regarding ideas of heritage to be left unanswered. For example, it is not examined whether it is necessary to *redefine what heritage is* or what it could or should be in times of anthropogenic climate change. As research projects like 'Heritage Futures' (R. Harrison et al., 2020) and 'Unruly Heritage' (Olsen & Pétursdóttir, 2016) have shown, the concept of heritage and the application of heritage work can be expanded to things like nuclear waste, plastic debris, and landfills. This ties into creating ideas about imagined futures and who inhabit these.

Instead, recognising a climate crisis and acknowledging a need for radical change would lead to a necessary expansion of the notion of heritage and simultaneously reflect on the values attached to existing designated heritage sites. This questions what places will no longer be regarded as in need of care and conservation beyond their utility date. It includes asking whether future generations will value the same things current generations do today, especially concerning places directly connected to carbon cultures, such as power stations and coal mines. But it also includes sites linked to the wealth of oligarchs and those benefitting from fossil capital that can be scrutinised in this way (see discussion in chapter 4). Here, lessons can be taken from the BLM movement and discussions taking place on the public presence of historical figures across imperial nations who have been involved in the slave trade and overall colonial practices.

A similar approach is visible in attempts to bridge the *nature/culture* dualism. While the need for an integrated approach that transcends the nature/culture dualism is expressed in both case study organisations, I argued that this call for a change does not include a structural, ontological change as suggested in Anthropocene-related literature (chapter 6). A true nature/culture integration in heritage practice may mean not only to

see nature in culture and culture in nature but as nature to have culture and heritage (see e.g., Meijer, 2019, on the explorations of animal cultures).

I argued that one of the reasons behind this limited approach is that climate change is implicitly regarded as an *external object* or impact (see also Nightingale et al., 2020). While mitigation is certainly also perceived as related to personal and organisational greenhouse gas contributions, the climate remains something that happens and exists outside of us. This framing prevents questions as posed above, or at least deems them irrelevant: "the wider framing of climate change as an external threat to (separate) natural and human systems, coupled to adaptation policy decisions informed by best science, both of which cannot challenge existing political economic systems" (Nightingale et al., 2020, p. 344). In the context of this thesis, climate change remains external to the case study organisation's heritage discourse. As such, it is not seen as a product of historical practices and ideas shaped by cultural ideologies, in other words, *our cultural heritage*, to the same degree as it is experienced as a present reality. The cumulated, negative outcome of the past, in the present and for the future, is thus not perceived as the organisation's responsibility. Nor is it questioned what taking up this responsibility may look like.

An additional limitation may be that throughout the work described in this thesis, it comes to the fore that in general, the organisations can be described as *'heritage believers'*: "an essentially affirmative position that seeks to sustain heritage and its conservation as intrinsically valuable" (Brumann, 2014, p. 173). This stance may be essential to promote their own continued existence. Still, from the viewpoint of the Capitalocene, a set of different questions needs to be asked in response to heritage places and the meta-narrative they form proxies for. Even more so, this may mean a reframing of heritage that pictures the past few centuries as problematic. What we believe to be our heritage might need to be included in the larger story that has created today's climatic mess. A mess represented by climate change, but also by the imperial, colonial and exploitative relations, both historically and in the present that are both drivers and consequences of the system resulting in climate change (cf. the Capitalocene thesis). As managers of the official discourse that shape the 'meta-narrative' of our culture (Smith, 2006), government authorities like HE and the RAÄ act as the *common conscience*; managing those places that provide a space of reflection for the values that informed the decisions of our ancestors and that we choose to maintain to shape our present-day world.

Altogether, what appears as a response is what is described by Nightingale et al. (2020) as the '*science-policy-behavioural change pathway*', where "truly transformative change – founded on change in knowledge systems and the opening of deliberative space for defining futures – fails to gain traction" (ibid. p. 344). So, when answering the title question of this dissertation, 'What does climate change change?'. In the first instance, the answer would be 'a lot'. Climate change has initiated and fuelled work and projects that have created a strong argument for the place of the (built) historic environment within the dominant carbon mitigation discourse. Furthermore, it has forged new relations and collaboration across sectors as the historic environment sought a way into the climate change discourse. However, the answer seems to be 'very little' at a second glance. This answer follows from the framing of the question in a framework of structural change when climate change is understood from an understanding of climate change as a socio-environmental phenomenon existing within a Capitalocene. Instead, responses and engagements are mostly framed within the familiar conservation paradigm, allowing a continuation of the organisation's familiar values and practices.

Therefore, the next question is; what would this potentially look like when work is moved beyond this current approach and when climate change shifts from an external to an embedded part of the heritage discourse. Here, it is important to note that there are many starting points for this inquiry in the work of both HE and the RAÄ described in this thesis. The above points reflect the general trends that shape the main part of the work. But within this general approach, there are starting points present that provide inspiration about what it would mean to take heritage from the current understanding to one of a hyperobject in the Capitalocene.

Moving forward – some perspectives on further research

What remains for this research is to look forward and attempt to shine a light on what such a future may look like and the role of heritage in creating it, or what Christina Fredengren describes as "materials for alternative storytelling or apparatuses to imagine that everything has the potential to be rather different" (2015, p. 122). As I am not bound by the constrained policies followed by national government organisations, I can engage with future imaginaries to move beyond the limits of the policy-behaviour-technology-framework (cf. Nightingale et al., 2020) directed response. Here, I will let go of the strict

setting of the organisational network of HE and the RAÄ, and question the role of heritage in more general terms, suggesting what questions further research may try to answer.

While acknowledging that any desired future is, to a large degree, a subjective preference, in the context of this research and its particular focus on climate change in western organisations, I choose to look at alternatives that question the capitalist system. I am inspired by a growing body of literature that proposes post-growth and post-capitalist pathways. These provide a helpful framework to move beyond our current ecological predicament, either through a critical engagement with the Capitalocene (Malm, 2018; Malm & Hornborg, 2014; Moore, 2015) or as promoting post-capitalist or post-growth alternatives (Hickel, 2020; Jackson, 2021; Kallis et al., 2020; Soper, 2020). In this dissertation, the Capitalocene thesis presents a relevant specification of the Anthropocene to include a political argument into the climate equation from the perspective of a Dutch author working in England and Sweden. To repeat, these countries contribute the most to carbon emissions and resource use while experiencing the least of its consequences (see chapter 2). Thereby, it is high-income and highly industrialised countries like these where produce and consumption are subject to exuberance and exchange-value (over user-value), and thus most appropriate for scrutinising. In chapter 2, I described capitalism as "as a way of organising nature—as a multispecies, situated, capitalist world-ecology" (Moore, 2016b, p. 6). Essentially, this way of organising is based on a paradigm of perpetual growth depending on the exploitation of 'cheap' nature and labour (Hickel, 2020; Moore, 2015; Wood, 2002).

When framing climate change as an outcome of capitalism as a world system (cf. Moore), it becomes necessary to ask a different set of questions than those engaging with mitigation and/or adaptation-based responses. First and foremost, where is heritage – as represented by organisations like HE and the RAÄ – connected and perpetuating the capitalist paradigm of growth and exploitation? Where is it upholding the status quo that benefits from the historical and present wealth that has profited from this paradigm? It demands of heritage practice to critically engage with its own relations to the capitalist system. The benefits it reaps from it, the way it enforces it. In other words, where is the heritage sector maintaining the capitalist system for its own benefit, where is it entangled within the same system that creates ecological havoc?

In order to move beyond the externalisation of climate change in the heritage discourse, it is necessary to ask what and whose heritage is predominantly represented or favoured within the authorised heritage discourse (Smith, 2006). For example, whether this is based on a linear timeline of human progress, and glorifies stories and places related to fossil industry and past and present fossil capital. But also narratives of individual riches and wealth materialised in private property and exuberant lifestyles upholding ideas of capitalist ideologies. Instead, through this critical lens and a connected new set of ethics, a change in aesthetics and material appreciation may be necessary, as Kate Soper (2020, p. 158) writes:

> Integral to any such gestalt shift will be an aesthetic suspension and reordering, as commodities and services and forms of life once perceived an enticingly glamorous come gradually to be seen instead as cumbersome, ugly and retrograde, thanks to their association with unsustainable resources use, noise, toxicity, or their legacy of unrecyclable waste and waste exports. […] Comparably to the way in which there is a necessary correlation between ethical concern for an object and true beliefs about it, there is a correlation between beliefs about and aesthetic responses to material culture.

It means to question what a potential or necessary changing set of ethics means for the heritage discourse and its material representations. In addition, perhaps, the other way around the question is how a different representation of heritage can support a needed change in ethics.

However, while imagining alternative approaches to create alternative futures, there are already practices and messages in place and shared by the heritage sector – as described in the previous chapters – that can be (re)framed as part of this post-capitalist alternative story of the future. For example, long-term thinking underlies many places that we call heritage today. These can provide inspiration to move beyond the dominant timeframe of the single human life. Roman Krznaric (2020) refers to the rationale behind these places as 'Cathedral thinking', describing how the construction of many historical and more recent buildings and infrastructure projects spans multiple generations and thus transcends the timeframe – and framework of profit-making – of the individual.

Furthermore, the argument around the embodied carbon in traditional homes (chapter 5) directly defies the need to introduce new materials into the production cycle.

Jason Hickel (2020) writes that a growing national GDP and a growing national material footprint are directly related. Therefore, the ever-increasing need for new materials is a symptom of a world that lives in excess and outside its planetary boundaries (ibid.). Similarly, promoting conservation and maintenance over replacement (chapters 4 and 5) fits perfectly into this narrative of a low material footprint and defies the paradigm of growth.

One of the issues post-growth writers are grappling with is what alternative understandings of wealth and happiness may look like and how these may provide lifestyles that are less detrimental to the planet (Hickel, 2020; Jackson, 2021; Kallis et al., 2020; Soper, 2020). They speak of more localised, community-based ways of living that are less based on consumerism and more on meaningful time spent together. Therefore, many of the values connected to local heritage can be linked up to these alternative ways of living. However, thus far, the expertise that is present within the heritage sector related to, for example, 'heritage and wellbeing' has not been explicitly linked up to climate change work. Due to a limited understanding of what 'climate change engagements' entail, areas of expertise already present within heritage studies may not be directly seen as related to post-climate change imaginaries.

Therefore, a broader understanding of climate change and its related issues opens up its engagements to a broader part of the organisational and heritage practice. From a wider understanding, work on wellbeing, community engagement, and local values all become part of climate change action and the interlocked practices that create an alternative future: "when we feel empathically bonded to a particular community […] we can develop a feeling of concern for, and solidarity with, its future members, and a desire to leave a legacy for their benefit" (Krznaric, 2020, p. 66).

Kate Soper gives another example that directly links to existing practices in the heritage sector when she focuses on work and what work fits a post-capitalist, environmental-friendly society. Here, she focuses on crafts-based professions and what she calls 'slow-working': "craft methods and 'slow-working are eminently compatible with communally owned enterprises and cooperatives and, indeed, with any organisation of labour freed from the demands of making as much as possible in the shortest possible time" (Soper, 2020, p. 106). Maintenance and conservation of traditional buildings are examples of the slow-work of craftsmanship, practices endorsed by the heritage sector.

Historic England, for example, has an extensive apprenticeships programme to train people in traditional crafts applicable in conservation jobs (Historic England, n.d.-j). Craftsmanship offers a counterweight to the capitalist demand of ever faster and more output but is also localised in its nature. In other words, it is closely connected to what a specific building, object or site needs and, ideally, how conservation can take place with local materials similar to those used originally (Soper, 2020, p. 104):

> I am suggesting then, that artisanal ways of working might be reclaimed as a component of an avant-garde, post consumerist political imaginary, rather than dismissed for their association with pre-modern social relations and limits on pleasure. We are talking, in other words, of cutting the link between progress and economic expansion without falling into cultural regression and social conservatism.

Last, returning to some of the basic necessities of the capitalist paradigm: scarcity and growth (Hickel, 2020). When scrutinising heritage practice through a Capitalocene framing, it is necessary to question what a heritage of abundance may look like in contrast to scarcity. Scarcity is a fundamental part of the capitalist marketplace and is related to economic value (Hickel, 2020). Similarly, scarcity creates value in the heritage field and within the endangerment sensibility. Christina Fredengren considers this in her article on post-human heritage, wondering what it would mean to set heritage in a 'world of plenty': "For the handling of heritage this would mean that choices are not pitched against the melancholy of loss, but rather move towards various future potentialities as choices in a world of plenty" (2015, p. 121). Moving from here, a last question for the heritage sector could be: Should the heritage sector grow or 'de-grow' – and what should that growth or degrowth potentially look like – what aims, responsibilities and underpinnings should grow and which should not in order to create desired futures.

'A great longing is upon us, to live again in a world made of gifts'[19]

However, even for post-capitalism advocates themselves, the practical policy changes required for a post-capitalist world are insufficient. As Jason Hickel (2020, p. 31) writes:

[19] Wall Kimmerer, R. (2013). Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants. Minneapolis: Milkweed Editions. p. 32

> Ultimately, capitalism itself is just a symptom. The real problem lies much deeper, in the realm of ontology – in our theory of being. Those of us who live in capitalist societies today have been taught to believe that there is a fundamental distinction between humans and nature: humans are separate from and superior to nature; humans are subjects with spirit and mind and agency, whereas nature is an inert, mechanistic object. This way of seeing the world is known as dualism.

Heart, empathy, compassion. These are words that are increasingly present in the writing and speech of scientists, scholars and activists—coming from the mouths of people who might not have been familiar with these within the science-based narratives they represent. However, when one hears an Oxford University scientist in climate change economics in conversation with the executive director of the UN Environmental Programme both agree on the need for 'a change of heart' in an online discussion (Oxford Martin School, 2021), it seems a sign that progress is no longer only determined by knowledge and innovation (for other advocates of a "change of heart", see also Eisenstein, 2018; Hickel, 2020; Jackson, 2021; Macy & Johnstone, 2012; Wall Kimmerer, 2013). Similarly, the primatologist Jane Goodall responded in an interview to promote her new book in The Guardian newspaper: "We need compassion for future generations", "not sheer selfish greed for short-term benefits to increase the wealth and power of individuals, corporations and governments". And, "Anger, while justified, can put people on the defensive […] *You've got to reach the heart*, […] I think people have to change from within" (Saner, 2021, my emphasis).

In *The Great Derangement*, Amitav Ghosh (2016) already prompted writers and artists to take up the role of imagining new stories representing different futures. Stories that allow us to reimagine our place in the world and give voice to nonhumans, overcome the dualism and restore our relationship with them. And while we require new stories to envision a world where progress for the one does not come at the cost of the livelihoods of others, the writer and environmentalist Paul Kingsnorth reminds us that: "It seems to me that a lot of the stories that we need are there already, and that what we're looking at here is not a process of creating a new story that we somehow all have to live by, but rather of paying attention to older ones that we've forgotten" ("The Myth of Progress: An Interview with Paul Kingsnorth," 2018).

These stories are our heritage. Although, what may come first to mind here are those stories that are and have been lived realities for indigenous people around the world. People who have maintained and taken care of the land while the industrialising and industrialised west waged warfare on their people and on the same ecosystems they so fiercely try, and tried to defend. However, when one does not belong to an indigenous peoples, these stories and ways of being may seem far away, as they do not belong to one's own ancestry – or *heritage*, and therefore are hard to relate to. Thereby, the risk of appropriation of indigenous knowledge and consequently the continuation of colonial power relations is imminent (Todd, 2016). However, Robin Wall Kimmerer, scientist and member of the Citizen Potawatomi Nation, reminds us that we have all once been indigenous to a place: "each one of us comes from people who were once indigenous. We can reclaim our membership in the cultures of gratitude that formed our old relationships with the living earth" (2013, p. 377). And as the indigenous climate justice and reparations activist Esther Stanford-Xosei pointed out to her predominantly young western audience during a speech at the closing ceremony in London of XR's August 2021 rebellion I attended: "you folx have to find you own indigeneity!".

For Wall Kimmerer (2013), this relationship is based on the power of gift, gratitude and reciprocity. This approach directly opposes the capitalist marketplace, as she explains: "The currency of a gift economy is, at its root, reciprocity. In western thinking, private land is understood to be a 'bundle of rights', whereas in a gift economy, property has a 'bundle of responsibilities' attached" (Wall Kimmerer, 2013, p. 28).

So, one of the ways the heritage sector may seek is to provide guidance and support the ontological transition needed to reinstate a sense of 'indigeneity' with a place and the more-than-human relationships existing in that place. For example, by including the stories of nonhuman others into heritage discourse and places, heritage can help to re-relate to our indigenous membership of a place. These more-than-human approaches have already gained traction in heritage studies (e.g. Bangstad & Pétursdóttir, 2021; R. Harrison & Sterling, 2020; Sterling, 2020) and provide starting points to recreate a deep spatial and spiritual relationship with place. This can be about bringing the nonhuman as co-creators into the discourse present in museum exhibitions (Owman, 2021), the inclusion of nonhuman others in the mourning of lost sites and places (van Dooren, 2014), or the expansion of concepts of time to surpass the linear and include the cyclical, the seasonal,

and the temporal experience of others. All these practices are directly related to climate action. Daniel R. Wildcat, an indigenous scholar and Yuchi member of the Muscogee Nation of Oklahoma, writes that "one way to indigenise our thinking about history is to grant space and place at least as much significance as time" (2009, p. 114). What emerges is an approach towards critically practicing heritage that places us within the "great procession of life that links us back to the first cellular organisms and forward to whatever we evolve into in the millennia ahead"(Krznaric, 2020, p. 63).

Much of the work done so far in response to climate change inside and outside of heritage practice continues to be focused on scientific information and evidence-based management and decision-making. The risk here lies in surpassing this 'change of heart' needed to engage in climate change work with those elements intrinsic to heritage places that speak to the emotional, the spiritual, the magical. What Timothy Morton calls "intimacy": "We have lost the world but gained a soul […] we now have the prospect of forging new alliances between humans and nonhumans alike […]" (2013, p. 108). To an extent, it seems the heritage sector is following the western scientific response to the climate crisis, all the while surpassing its own potential strengths, which may be situated more in the emotional than in the rational realms. In Roman Krznaric words (2020, p. 244, my emphasis):

> We must still, however, make space for the deeply personal. *To fall in love with a place* – a mountain, a woodland, a river – can transform us into guardians of the future, instilling a desire to preserve its life-giving wonders for generations to come. Such landscapes provide an anchor in an age of dislocation and broken communities to which we can attach our temporal longings. They reconnect us with the transcendent goal of one-planet thriving, so we take care of the living world that will take care of our offspring.

Conclusion

This thesis described the work of Historic England and the Riksantikvarieämbetet in response to climate change in a limited period of time and organisational setting. The thesis aims to *understand the actions, engagements and reflections of government authorities as a response to climate change, as well as the ideas regarding climate change and heritage that underpin these engagements*. The research has developed around three themes representing the main work of HE and the RAÄ in response to climate change: 'heritage at risk (adaptation)', 'heritage as mitigation agent (mitigation)', and 'participating in the climate change discourse (participation)' (chapters 4-6). Throughout this thesis, a discussion has taken place around what different ways of framing climate change mean for the subsequence responses and reactions to this hyperobject. Here, I framed the scientisation of climate change against its more interconnected understanding in the Anthropocene and Capitalocene discourses (chapters 1 and 2).

The first two themes, discussed in chapters 4 and 5, debated the work of HE and the RAÄ themed around 'adaptation' and 'mitigation'. Firstly, I argued that the case study organisations are predominantly concerned with climate change as it poses a threat to heritage sites and places. Responding to this threat and an uncertain future, they prepare themselves through adaptation plans and risk assessments. However, over time, they have also become concerned with creating relevance for their work and the historic environment in the climate change discourse and low-carbon futures. Chapter 5 described how HE and the RAÄ have worked on situating the built historic environment as a positive agent within the mitigation discourse. This work responds to their government's net-zero mitigation agendas and indicates a shift from work that comes from a defensive and passive approach ('heritage is at risk') to a pro-active stance where they promote the role of heritage in mitigating the climate crisis. It also reflects the transactional alignment of the case study organisations to climate change opportunities.

I argued that these responses exist within the traditional framing of climate change as a risk and a problem of greenhouse gas mitigation. Chapter 1 addressed how this is the most dominant response within national and international policy frameworks. Following Garrard (2020), I argued that this represents the scientisation of the climate change discourse, resulting in the framing of climate change as an *external* environmental

problem. I continued to show how this framing has equally been prevalent in the heritage sector and studies, where this response is deeply rooted in the heritage conservation paradigm and endangerment sensibility (chapter 4). In this context, this paradigm works two ways: first, climate change is added as a risk factor to the vulnerability of the material fabric of heritage sites (chapter 4). Second, by presenting heritage as essential in moving towards net-zero, the relevance of heritage and its conservation is fortified in the present and future (chapter 5). These responses also directly relate to the conservation aims both organisations find their origins in. Therefore, they can be interpreted as a continuation of their work, albeit with added moral authority, while not demanding a radical change or rethinking of their work and its underpinnings in the light of climate change.

However, climate change is a wicked problem, and as a result, responses are formulated around how it is framed in particular settings. Chapter 2 discussed how a wider understanding of the climate crisis through framing it as an Anthropocene discourse opens up new concerns and conceptual frameworks. It requires a shift from questions posed by natural science to those by the humanities and social sciences. Through the Anthropocene framing, climate change becomes an ontological concern. Furthermore, I argued that in the particular setting of this research, the Capitalocene offers a more helpful framework to scrutinise the work done by the case study organisations. Namely, the Capitalocene situates the organisations within the relational network that causes anthropogenic climate change and prevents the option to externalise climate change from the heritage discourse.

The last themed chapter (chapter 6) moved towards responses related to these different underpinnings to what climate change entails, albeit tentatively. I discussed how staff at both the RAÄ and HE see their experience working and thinking with deep time as an asset of the heritage sector in response to climate change. In addition, they also frame the historic environment as a resource of knowledge for past climate adaptations. Chapter 6 continued to reflect on the work that followed up from the increasingly firmer footing both organisations hold in promoting and positioning heritage and their work within the climate change discourse. First, staff directly tasked with climate change-related work aim to get climate change recognised across their respective organisations as a relevant topic. These endeavours result from a more hyperobject-based framing of the climate crisis, where its entanglements can no longer be contained within the responsibilities of a small group of people. Secondly, particularly at HE, I described how staff work on promoting their

work outside of their sector and the friction they encountered doing so. It turned out that the division between natural and historic environment sectors caused representatives of HE and the historic environment to be excluded from the climate change discourse taking place in the natural environment sector. As a result of this friction, I came to discuss what the division or dissolution of the division between the natural and cultural environment entails for climate change engagements. This discussion mirrors theoretical debates taking place in the Anthropocene and Capitalocene discourses. However, I also argued that the fundamental underpinnings of their responses remain the same, representing business-as-usual, as the heritage work of the case study organisations remains anthropocentric, and climate change remains external to their heritage discourse.

In short, the themes described in chapters 4, 5 and 6 answer the research question: 'what activities and actions are initiated in response to climate change?'. In addition, in response to research question 2 'how do organisations regard their own position and the position of heritage in relation to climate change', it shows that this positioning is based around ideas of vulnerability and risk, as agents of mitigation, and as experts of a boundless field: in terms of timescales, and an integrated nature/culture understanding of the environment. These responses are based on ideas regarding climate change (RQ 3) that first and foremost consider climate change as an environmental threat and an *external* phenomenon and, to a lesser extent, as an interconnected wicked problem represented in academic discourse by an Anthropocene or Capitalocene. Last, due to a lack of discussion about what climate change entails, I also argued throughout that there is no clear idea of what futures are imagined and who these futures are for (RQ 4). Altogether, the heritage work of the case study organisations remains primarily based on the conservation paradigm. Therefore, it supports a business-as-usual approach, albeit with a reinforced moral authority. Essentially, climate change is not seen as part of *our cultural heritage,* preventing the case study organisations from seeing themselves as tangled within its past and present socio-natural dynamics.

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Appendix 1 – Interview guide

Climate change

- How do you understand climate change? – passionate about it?
- How do you think the organisation understands climate change? – Is it a priority of the organisation?
- In your experience, is climate change approached at Historic England as a separate item or something that is underlying everything? (example?)

Heritage

- How do you think climate change is related to heritage? Or heritage to climate change? – i.e. what role does heritage have/should have in the climate change debate?
- How is this reflected in the projects you work on? / Do you think this potential of heritage is reflected enough in the work of Historic England?

Networks

- The work you do on climate change or work you know about– is this initiated by Historic England itself, or by the government, or an individual, or ... ? (*e.g. reformers of change in organisation, reactionaries? For/against/agnostic of change?)*
- Are there any things you can point to which cause limitations to the initiation or the implementation of climate change related work or projects? (*e.g. organisational structure, 'path-dependency', policy implementation, governmental structure, communication between different organisations/partnerships – like in HE, division between natural and cultural organisations?)*
- When you work on projects related to climate change – do you see yourself as part of decisions for future generations? What sort of guidelines do you use to make these decisions?
- Do you think the current public debate in the UK, for example the XR protests and Brexit has an influence on the climate work done by HE? Why yes/no?

Change

- Do you think climate change has changed the work of Historic England, or discussions about the work of the organisation over the past years that you work here? *(e.g. ideas about heritage and its resources?)*
- Has it changed your ideas around climate change or of the work you are doing? *(Relation between personal and professional life)*
- How would you describe your personal attitude to, or relationship with climate change? (*sense of identity and/or self-worth)*

Futures

- How important do you think is the work that you do for the wider climate change discussion?

Appendix 2 – List of interviews

Interviews conducted with staff at HE

Date	Place	Duration Hours.minutes	In-text Reference
23-09-2019	Cannon Bridge House (CBH), HE London office	1.29	Interview, 23 September 2019, London
12-12-2019	CBH	1.31	Interview, 12 December 2019a, London
12-12-2019	CBH	1.24	Interview, 12 December 2019b, London
31-01-2020	CBH	1.06	Interview, 31 January 2020, London
06-02-2020	CBH	0.57	Interview, 6 February 2020, London
26-02-2020	CBH	0.44	Interview, 26 February 2020, London
28-02-2020	CBH	1.07	Interview, 28 February 2020, London
05-03-2020	CBH	0.41	Interview, 5 March 2020, London
06-03-2020	CBH	1.05	Interview, 6 March 2020, London
16-03-2020	phone	1.01	Interview, 16 March 2020, phone

Interviews conducted with staff at the RAÄ

Date	Place	Duration Hours.minutes	In-text Reference
17-04-2019	Visby office	1.30	Interview, 17 April 2019a, Visby
17-04-2019	Visby	0.48	Interview, 17 April 2019b, Visby
07-05-2019	Visby	1.15	Interview, 7 May 2019, Visby
14-05-2019	Visby	1.01	Interview, 14 May 2019a, Visby
14-05-2019	Visby	1.04	Interview, 14 May 2019b, Visby
15-05-2019	Visby	0.34	Interview, 15 May 2019a, Visby
15-05-2019	Visby	1.23	Interview, 15 May 2019b, Visby
16-05-2019	Visby	0.54	Interview, 16 May 2019a, Visby
16-05-2019	Visby	1.23	Interview, 16 May 2019b, Visby
17-05-2019	Visby	0.45	Interview, 17 May 2019a, Visby
17-05-2019	Visby	-	Interview, 17 May 2019b, Visby
23-05-2019	Stockholm	1.29	Interview 23 May 2019a, Visby
23-05-2019	RAÄ library	0.36	Interview 23 May 2019b, Visby

Appendix 3 – HPRA form: ethics approval

Human Participant Research Application Form for Student Dissertations

This form is intended for UCL Institute of Archaeology students and those doing the joint Archaeology/Anthropology degree. It should be filled in after consultation with your Dissertation Supervisor and submitted for approval to the Institute of Archaeology Ethics Coordinator, Rachael Sparks, at IoA.ethics@ucl.ac.uk. This form is designed to be filled in using Microsoft Word.

You will normally be notified of the outcome within 2 weeks of submitting your application.

Section A. Personal Details	
Name	Janneke oud Ammerveld
Email address	j.ammerveld@ucl.ac.uk
Degree	MPhil/PhD
Supervisor	Professor Rodney Harrison
Application date	22nd November 2017
Dissertation submission date	October 2020

Section B. Description of Proposed Research
B1. What is your current dissertation title? Climate change and the future of European heritage
B2. Give a brief overall description of your research. The aim of the project is to create a comparative framework of the ways in which heritage agencies respond to climate change. While heritage has often been framed as conservation of resources 'for the benefit of future generations', current discussions around climate change preparedness are forcing the heritage industry to become more focused on specific future scenarios in their planning. Heritage agencies which are concerned with the conservation of natural and cultural heritage will need to respond and adapt their strategies to (possible future) threats and consequences caused by climate change. The aim of this project is to explore climate change as a transactional reality which mobilises particular forms of action in a comparative European framework.
B3. Outline your main research questions and aims. Main research question:

"How are heritage agencies mobilized by climate change and how do they react to the contemporary and future issues connected to this wicked problem in terms of the preservation of heritage?"

Aims
- understanding how climate change as a concept mobilises activities within a variety of heritage agencies (natural and cultural, within and outside of Europe);
- creating a comparative framework for exploring these questions across different fields of conservation and in an international context;
- documenting and comparing how 'risks' and their management are governed and provoke particular kinds of action in natural and cultural heritage preservation

Section C. Participant Details

C1. What age groups will you be recruiting? *Tick all that apply.*

☐ Children (under 15 years)

☐ Young adults (15-17 years)

☒ Adults (18 and over)

C2. Will you be recruiting any of the following? *Tick all that apply.*

☐ Vulnerable adults *(those without capacity to give informed consent, including those with learning disabilities, mental health issues or dementia)*

☐ Prisoners or young offenders

☐ Asylum seekers or refugees

☐ Public figures, such as politicians, judges, journalists or artists

☐ NHS patients

☐ Friends or family

☐ Other UCL students

☒ I will not be recruiting from any of these groups

C3. Explain how you will be identifying and recruiting participants. *Potential participants might be identified via their company website, from an existing pool of contacts, or through introductions made by your supervisors or colleagues. Recruitment methods might include posting advertisements online or in a public place, emailing people with a request to participate, or approaching people directly in the street.*

The project is part Work Package 1 of the Horizon 2020 funded research project, "CHEurope: Critical Heritage Studies and the Future of Europe" for which two in-depth case studies have already been selected, in agreement with the organizations-Historic England and the Swedish National Heritage Board. These two agencies will host secondments in which the student will act as a participant observer. Participants in the study will be selected via 'snowball' sampling, working from the main contact within each organisation. All participants will be given a copy of the information sheet and asked to sign a clearance form and made aware of the fact that I am undertaking this research project prior to undertaking participant observation and survey.

As the research develops it may be necessary to contact additional participants as part of a general survey of climate change risk management within a range of additional heritage management agencies. In this case contact will be made through snowball survey and also using contacts via internet. These are most likely to take the form of email or phone interviews but may involve the use of online questionnaires should large numbers of agencies need to be contacted.

Section D. Proposed methods and data

D1. Which of the following methods will you be using? *Tick all that apply.*

☒ Interviews: ☒ in person ☐ via skype ☒ via email

☒ Questionnaires: ☐ in paper form ☒ online

☐ Focus groups

☒ Observations of human behaviour

☐ Existing datasets collected from human participants *(describe the type of information involved, who originally collected it, and whether the data has been anonymized).*

☒ Other *(please describe).*

Analysis of reports and written materials in the public domain.

D2. Describe how these methods will applied to your research subjects.

Case studies:
While fulfilling secondments at the organizations participant observation of the organizational structure and communication within the organization will be conducted.
Other subjects:
Via email subjects will be asked to complete questionnaires

D3. Where will you be collecting your data? *e.g.: schools, museums, public spaces, within particular communities. Please give the names of any organisations involved, if known.*

at - Historic England
- Swedish National Heritage Board
- other heritage organizations - not yet identified

D4. What data will your research generate? *Tick all that apply.*

☒ Notes

☒ Interview or focus group transcripts

☒ Photographs

☐ Film or video recordings

☒ Audio recordings

☒ Other (give details).

Other: internal communication within case study organizations - e.g. email, minutes of meetings, etc.

D5. What position will you take regarding anonymisation of participants during data collection and/or reporting? *Note that you do not need to name a person for their opinion to have weight. This may be achieved by using a role-specific pseudonym, such as 'a curator', 'a professional illustrator', 'an academic' etc.*

☒ Some or all participants will be anonymised

☐ Some or all participants may be identifiable

D6. Which of the following will apply to your participants? *Tick all that apply.*

☐ Participants will be **fully anonymised.** No individuals will be linked to the data they provide, at any stage of my research.

☒ Participants will be **partially anonymised**. Names will be withheld, but it may be possible to identify individuals from the data they provide.

☐ Participants will be **named in my research notes**, and their identity linked to the data they provide, but names will not appear in the final report.

☐ Participants will be **clearly identified** in the final report.

D7. If you ticked more than one box in the previous section, please explain in more detail which recruits the different degrees of anonumisation/identification refer to.

D8. If any participants will be identified, or potentially identifiable during data collection and/or reporting, please explain why this is considered necessary.

Given the individuals I will be working with in my study are part of small sections of named government departments, although they will be anonymised there is the possibility that they may be identifiable or partially identifiable from written materials.

D9. Will you be filming or photographing people, in such a way that they could be identifiable from the images.

☐ Yes ☒ No

If 'yes', please explain further.

Section E. Risks and benefits

E1. List all the countries where you will be working.

England, Sweden

E2. Will data collection pose any risks to yourself? *Risks might include lone working in potentially unsafe environments, physical risks associated with experimental research, or visiting countries where the Foreign and Commonwealth Office has advised against all travel (see https://www.gov.uk/foreign-travel-advice).*

☐ Yes ☒ No

E3. Will you be dealing with sensitive or potentially distressing subject matter? *This might include experiences of violence, abuse or exploitation or illegal behaviour.*

☐ Yes ☒ No

E4. Is there likely to be significant risk of harm to the rights and wellbeing of participants (physical, emotional, psychological, reputational, legal or financial) as a result of taking part in your research?

☐ Yes ☒ No

If 'yes' please explain further.

E5. Will any of your research be conducted covertly *(carried out without the knowledge or active consent of the participants, or by misleading participants about the purpose of the research)?*

☐ Yes ☒ No

If 'yes' please explain why this might be necessary.

E6. How might your research benefit participants?

By contributing to the research participants will help creating a better insight in the role of climate change within their own organisation and work, and that of other agencies working in the same field. This might help create a better understanding of the impact of climate change and the possible ways of appropriately adapting to this crisis. The work undertaken as part of the secondment will also assist the production of a general template for climate risk reporting which will be used by a number of government departments in the UK.

Section F. Dissemination of results

F1. Will the results of your research be reported to participants?

☒ Yes ☐ No

If 'yes', please explain how you plan to do this.

copy of research report/dissertation or summary of relevant parts, copies of any other written materials (e.g. journal articles) will also be cleared with participants prior to publication

Section G. Further comments and statement of understanding
G1. Do you have any further comments or questions?
G2. Please check the following boxes to complete your application. ☒ I agree that I have read the ethical guidelines for student dissertations provided online at: http://www.ucl.ac.uk/archaeology/research/ethics. ☒ I undertake to conduct this research in the manner advised. ☒ I agree that, if any of the answers given above change due to modification of my research design, I will inform the Ethics Coordinator immediately, and seek additional approval for my research. ☒ I understand that I must wait for ethics approval before collecting any research data from human participants.

FOR OFFICE USE ONLY

UCL Research Ethics Committee approval required? ☐ Yes ☒ No

REC reference Date obtained:

DBS checks required? ☐ Yes ☒ No

External ethics approval required? ☒ Yes ☐ No

UCL Data protection to be informed? ☒ Yes ☐ No

Risk Assessment required? ☒ Yes ☐ No

Special Instructions for student:

1. You will NOT need to seek additional approval from the UCL Research Ethics Committee, as your proposal falls into their list of exemptions. This is based on the fact that you will not be working with anyone under the age of 18, or who might be otherwise considered vulnerable, or collecting data covertly, and because the subject matter is unlikely to put participants at particular risk of harm or adverse consequences. Should any of this change, please contact me again for further advice.

2. You will need to fill out a risk assessment form before you start collecting data, as you will be conducting your research overseas. Please fill out the fieldwork form attached to this email, and send it to Sandra Bond (sandra.bond@ucl.ac.uk). Sandra can advise you if you have any questions about how to fill in the form, or risk assessment in general. Bear in mind that you are assessing the risks associated with your methods of data collection, as well as with foreign travel.

You should take note of whether there are any current warnings against travel to your research destination, by checking this webpage for foreign travel advice https://www.gov.uk/foreign-travel-advice. If advice has been issued against travelling to your destination country, then you should contact me for further advice.

3. You will need to get permission from the organizations listed in section D3 where you wish to collect your data.

4. With regard to anonymization, because some of your participants may be identifiable, you will need to comply with the UK Data Protection Act 1998 (http://www.ucl.ac.uk/archaeology/research/ethics/data_protection). You will also need to follow UCLs Data Protection procedures. This means you will have to inform various people about the data that you will be collecting and how it will be stored.

- First of all, you need to contact the Institute's Data Protection Officer and tell him how you plan to keep the personal data you collect secure (when you fill out your UCL Data protection form,

they ask if you have done this). Our officer is David Bone, and his email is d.bone@ucl.ac.uk. This is done as a matter of information only – so make it clear that you are informing him of your plans and don't need a reply. He can however also advise you on any specific issues you might be having with data security.

- Next, you also need to inform our IT officer, Alex Uhde of your proposal. He can be contacted at: ioa-it@ucl.ac.uk. This is also done as a matter of information only – so again, make it clear that you are informing him of your plans and don't need a reply.

- Once David and Alex have both been informed (and don't worry if neither replies), the final step is register your project with UCLs Data Protection Officer. To do this, go to the UCL Legal Services http://www.ucl.ac.uk/finance/legal/dp-foi-overview and download their 'Research Registration Form (form 2)'. Complete the form, and email it to: data-protection@ucl.ac.uk. Your application will probably take around 5 days to process. They assign you a reference number, which you don't actually have to do anything with (its intended to be used for anyone who is putting in a formal Research Ethics Committee application). When they ask you for the name of the principal researcher on this project, put the name of your supervisor (as it is not allowed to be a student). You may also need to tell them that you are not putting in a Research Ethics Committee application, as your research has been judged exempt from this by the Chair of the Institute of Archaeology's Ethics Committee.

- This registration should be done before you begin collecting your non-anonymised data.

. You will also need to follow ethical procedures for gaining informed consent from potential recruits, which will involve providing them with an information sheet to read, and consent form to sign. Sample versions of both forms are available on the IoA ethics for human participant research guidelines page for downloading (http://www.ucl.ac.uk/archaeology/research/ethics/human_participant_guidelines); adapt these to your specific needs, but take note of the information that they should include (such as mentioning who you are, and that you are doing this research as part of your UCL degree, what will be required from the participant, your position with regard to anonymization, and their right to withdraw without penalty).

You can set a date, up until which people can withdraw; this should be when you plan to start collating and analysing your data. In order to allow people to do this, you will need to put some kind of individual code on each information sheet (which is given to recruits), that is also recorded on the interviews. Then if someone wants to withdraw after interview, they can contact you and say 'please destroy interview no. 6', and you know which one to delete from your research.

Where you plan to interview people remotely, via skype or email, you will have to modify your methods for gaining informed consent slightly. In these cases, you can send the information sheet electronically, in advance of the interview.

For email interviews, you can either ask for an electronic signature on the consent form, or add a tick box that they fill in to show they give consent. You also have to take extra measures to maintain their anonymity. Ask your subjects to send their interview answers as an email attachment, rather than in the body of the email. When the email arrives, save the attachment anonymously to your hard drive, and delete it from the original email. That way, you do not have any link between their identity (email address and name) and the data they have sent you.

For online questionnaires, use the first page of the questionnaire to provide the necessary information about the project; you capture consent by having some sort of button they click on to go to the question, with a statement attached such as 'I agree that I am over 18, that I have read the information provided, and I consent to take part in this research'. By clicking on this button, they are then giving their consent. Anyone who fails to complete a questionnaire fully should be assumed to have withdrawn their consent to take part; discard any such partial answers.

6. Your plans for reporting back to participants on the outcomes of the research seem appropriate.

Date IoA Approval Granted: 21 Dec 2017, Approval number 2017-18-027

Authorized by: ☐ Rachael Sparks ☐ Kathy Tubb ☒ Other (please specify) Julia Shaw

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Appendix 4 – Participant information sheet and consent form

Participant Information Sheet for Heritage Professionals

UCL Institute of Archaeology's Ethics Committee Approval ID Number: 2017-18-027

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of Study:

Climate change and the future of European heritage

Department:

Institute of Archaeology

Name and Contact Details of the Researcher(s):

Janna oud Ammerveld

j.ammerveld@ucl.ac.uk

[redacted]

Name and Contact Details of the Principal Researcher:

Professor Rodney Harrison

r.harrison@ucl.ac.uk

[redacted]

1. **Invitation Paragraph**

I would like to invite you to participate in a research project I am conducting for my PhD dissertation at University College London. Before you decide to take part you need to understand why the research is being done and what it will involve for you. Please take the time to read the following information carefully and contact me if there is anything you do not understand.

2. **What is the project's purpose?**

This research is undertaken as one of fifteen PhD projects that are part of "CHEurope: Critical Heritage Studies and Future of Europe – Towards an integrated, interdisciplinary and transnational training model in cultural heritage research and management". This PhD training program is the result of a collaboration between universities and heritage institutions in Sweden, the United Kingdom, The Netherlands, Portugal, Spain, Belgium and Italy and is funded by the European Commission. By bringing together a network of key European academic and non-academic organisations, the project explores the processes by which heritage is 'assembled' through practice-based research in partner institutions.

My dissertation (October 2017- October 2020) will investigate how climate change is being engaged in the work of a variety of heritage managers and policy makers in a number of different countries. I will do this by documenting and comparing the ways in which they are responding to, engaging with, or attempting to mitigate the effects of climate change.
Part of the project involves two periods seconded at two different heritage organizations; Historic England and the Swedish National Heritage Board. In addition to undertaking specific tasks for the seconder, I will also carry out research as a participant observer during these secondments. My observations will focus on the connection between climate change and the work, management and policies of the organization and their connection to other national and international policy instruments.

3. Why have I been chosen?

You are invited to take part as someone with whom I have come into contact via my work at one of my secondments at Historic England and/or the Swedish National Heritage Board

4. Do I have to take part?

No, you are not in any way obliged to take part in this study and you can withdraw from participation at any point. However, you will be of great help and contribution to my research if you chose to participate (see 'what are the benefits of taking part?').

5. What will happen to me if I take part?

Since the research is based on observation, you will not need to do anything specific. I may ask you to participate in a formal interview if I want to ask more specific questions on your work or experiences, in case I will ask your consent prior to doing so. If I will make use of an audio recording device I will tell you beforehand, and again only with your permission. All written observations in my notes will be anonymised. In the case of an interview, I can provide you with a transcript so you can fact-check information I will use in my further research.

6. Will I be recorded and how will the recorded media be used?

As mentioned above, I may ask you if I can use a voice recorder during our interview. If you would prefer not to have your interview recorded you can clarify this on the consent form (see consent form box 14).

Recordings will only be used for transcription purposes for this specific research. Transcription will take place as soon as possible after the interview has taken place and

will be destroyed within a maximum of 6 weeks after the transcription. Until then they will be stored at my personal laptop, which is secured with a password, and erased from any external device.

7. What are the possible disadvantages and risks of taking part?

There are no potential risks or disadvantages involved with taking part in this research

8. What are the possible benefits of taking part?

By contributing to the research and sharing information participants will contribute to a comparative evaluation of the ways in which climate change is being engaged across the heritage sector, in Europe and beyond. Understanding how other organizations are engaging with climate change risk management and mitigation may help us to develop a range of creative solutions to these shared problems. As part of the project I will aim to develop a comparative study of the risk reporting and management frameworks currently being employed by different heritage management agencies and this may be of use developing more 'linked up' thinking across the sector, within Europe, and internationally.

9. What if something goes wrong?

In case you would like to make a complaint concerning your experience with participating in the research project, or if for unforeseen reasons you are experiencing any negative effects caused by participating in the research, you can address these to my supervisor, Professor Rodney Harrison – see contact details at the top of this document.

In case you feel your complaint has not been handled to your satisfaction, you can contact the the Chair of the UCL Institute of Archaeology Research Ethics Committee:

Rachel Sparks

IoA.ethics@ucl.ac.uk

10. Will my taking part in this project be kept confidential?

All the information that I collect about you during the course of the research will be kept strictly confidential. All collected data will be securely stored and only I will have access to it and be able to use it.

In all cases the information you provide will be anonymised, quotes included, following the UK Data Protection Act 1988 and the General Data Protection Regulation (May 2018 onward), unless you choose otherwise. If you choose not to be anonymised or only partially, you can indicate this in box 4 on the consent form.

11. Limits to confidentiality

- Please note that confidentiality may not be guaranteed; due to the relative small size of the organizations that are being observed there is the possibility that you may be identifiable or partially identifiable by the information you and others provide.
- Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.

12. What will happen to the results of the research project?

During my secondments I will make notes and observations and record these in my research notes. I may also ask you to participate in a formal interview, which may be audio recorded but only with express permission as noted earlier. These notes and recordings will form the basis for the empirical chapters of my PhD dissertation (expected to be finished in Oct. 2020) and may also be used in (academic) publications and presentations at conferences.

If you would like to receive a digital copy of the final dissertation please let me know.

13. Data Protection Privacy Notice

Notice:

The data controller for this project will be University College London (UCL). The UCL Data Protection Office provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk. UCL's Data Protection Officer is Lee Shailer and he can also be contacted at data-protection@ucl.ac.uk.

Your personal data will be processed for the purposes outlined in this notice. The legal basis that would be used to process your personal data will be the provision of your consent.]You can provide your consent for the use of your personal data in this project by completing the consent form that has been provided to you.

Your personal data will be processed so long as it is required for the research project. If we are able to anonymise or pseudonymise the personal data you provide we will

undertake this, and will endeavour to minimise the processing of personal data wherever possible.

If you are concerned about how your personal data is being processed, please contact UCL in the first instance at data-protection@ucl.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner's Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/

14. Who is organising and funding the research?

I am conducting this research as a PhD student at the Institute of Archaeology, part of University College London. The research is funded by the Horizon 2020 project "CHEurope: Critical Heritage Studies and the Future of Europe" and is supported by the European Commission under the Marie Skołodwska-Curie actions (MSCA) –Innovative Training Network (ITN) scheme.

16. Contact for further information

If you have any further questions or concerns about this study, please contact:
Janna oud Ammerveld
j.ammerveld@ucl.ac.uk

You can also contact my supervisor, Professor Rodney Harrison:
r.harrison@ucl.ac.uk

If you still have any concerns about the way in which the study has been conducted, please contact the Chair of the UCL Institute of Archaeology Research Ethics Committee:
Rachel Sparks
IoA.ethics@ucl.ac.uk

Prior to participation you will be given a copy of this information sheet and your signed consent form to keep.

Thank you for reading this information sheet and for considering to take part in this research study.

LONDON'S GLOBAL UNIVERSITY

CONSENT FORM FOR HERITAGE PROFESSIONALS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study:

Climate change and the future of European heritage

Department:

Institute of Archaeology

Name and Contact Details of the Researcher(s):

Janna oud Ammerveld

j.ammerveld@ucl.ac.uk

[redacted]

Name and Contact Details of the Principal Researcher:

Professor Rodney Harrison

r.harrison@ucl.ac.uk

[redacted]

Name and Contact Details of the UCL Data Protection Officer:

data-protection@ucl.ac.uk

This study has been approved by the UCL Institute of Archaeology's Ethics Committee

Project ID number: 2017-18-027

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the

researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

	*I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction and would like to take part in: an individual interview	
	*I understand that I will be able to withdraw my data up to 4 weeks after the interview	
	*I consent to the processing of my personal information related to my professional experiences for the purposes explained to me. I understand that such information will be handled in accordance with all applicable data protection legislation.	
	Use of the information for this project only Anonymity is optional for this research. Please select from the following 3 options: I agree for my real name and role/affiliation to be used in connection with any words I have said or information I have passed on. I request that my comments are presented anonymously but give permission to connect my role/affiliation with my comments (but not the title of my position). I request that my comments are presented anonymously with no mention of my role/affiliation.	
	*I understand that my information may be subject to review by responsible individuals from the University for monitoring and audit purposes.	
	*I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason. I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.	
	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
	I understand the indirect benefits of participating as stated on the Information Sheet.	
	I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher(s) undertaking this study.	

	I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.	
	I agree that my anonymised research data may be used by others for future research. [No one will be able to identify you when this data is shared.]	
	I understand that the information I have submitted will be published as a report and I wish to receive a copy of it. Yes/No	
	I consent to my interview being audio/video recorded and understand that the recordings will be destroyed within 6 weeks following transcription. To note: If you do not want your participation recorded you can still take part in the study.	
	I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher.	
	I hereby confirm that: I understand the exclusion criteria as detailed in the Information Sheet and explained to me by the researcher; and I do not fall under the exclusion criteria.	
	I have informed the researcher of any other research in which I am currently involved or have been involved in during the past 12 months.	
	I am aware of who I should contact if I wish to lodge a complaint.	
	I voluntarily agree to take part in this study.	
	Use of information for this project and beyond I would be happy for the data I provide to be archived at UCL (Research Data Storage). I understand that other authenticated researchers will have access to my anonymised pseudonymised data.	

If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in follow up studies to this project, or in future studies of a similar nature, please tick the appropriate box below.

	Yes, I would be happy to be contacted in this way	
	No, I would not like to be contacted	

_____	_____	
	_____	
Name of participant	Date	Signature

_____	_____	
	_____	
Name of witness	Date	Signature
(If applicable)		

_____	_____	
	_____	
Researcher	Date	Signature