

The Historic Environment: Policy & Practice

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/yhen20>

Articulating Loss: A Thematic Framework for Understanding Coastal Heritage Transformations

Tanya Venture, Caitlin DeSilvey, Bryony Onciul & Hannah Fluck

To cite this article: Tanya Venture, Caitlin DeSilvey, Bryony Onciul & Hannah Fluck (2021): Articulating Loss: A Thematic Framework for Understanding Coastal Heritage Transformations, The Historic Environment: Policy & Practice, DOI: [10.1080/17567505.2021.1944567](https://doi.org/10.1080/17567505.2021.1944567)

To link to this article: <https://doi.org/10.1080/17567505.2021.1944567>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 30 Jun 2021.



Submit your article to this journal [↗](#)



Article views: 119



View related articles [↗](#)



View Crossmark data [↗](#)

Articulating Loss: A Thematic Framework for Understanding Coastal Heritage Transformations

Tanya Venture , Caitlin DeSilvey , Bryony Onciul  and Hannah Fluck 

Environment and Sustainability Institute, College of Life and Environmental Sciences, University of Exeter, Exeter, UK

ABSTRACT

The coast is a dynamic landscape characterised by change. Although coastal change can provide opportunities to engage with the past as archaeological sites are exposed and uncovered, it also means that climate change pressures are likely to exacerbate and accelerate the inevitable loss of coastal heritage. Many projects and initiatives focus on protecting and saving threatened sites, but there has been less attention to developing tools that will help the heritage profession manage and communicate around loss. New strategies are needed to help heritage professionals engage with communities confronted with the vulnerability of valued coastal heritage sites, and to counter perceptions of mismanagement and misunderstanding. This paper aims to develop language to better articulate the ways in which change and loss are likely to be experienced at coastal heritage sites, so that the challenges and opportunities presented by each situation may be fully appreciated by heritage managers and communities navigating these changes. It does not address the question of how to preserve and protect, but conversely seeks to explore how to respond to and understand loss.

KEYWORDS

Coastal heritage; heritage loss; transformation; decision-making; heritage management; uncertainty

Introduction

Standing atop a cliff edge on the Cornish coastline looking out over the Atlantic Ocean is a granite monument: at the top of a tapered column, a globe framed by two curving crescents faces out across the sea, tracing the route of the first wireless transmission in 1901. This monument has commemorated the efforts of Guglielmo Marconi and his team at the wireless station in Poldhu since it was erected in 1937,¹ but, as coastal processes push the edge of the cliff inward, the monument is becoming increasingly vulnerable, squeezed between the sea and the field behind. And this monument is not alone. What is the future for this structure and others like it around the coast? In the field behind lie the remains of the now largely invisible tower structures that would have sent the original 1901 message. Following the coastal path south towards Mullion Cove is a harbour where managers, in response to pressures of sea level rise and increasing repair and maintenance costs, are likely to initiate a process of 'roll back' and consolidation in the next

CONTACT Tanya Venture  T.Venture@exeter.ac.uk

This article has been republished with minor changes. These changes do not impact the academic content of the article.

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

decade. Travelling northwards around the coast from the Marconi Memorial, the *Church of the Storms* at Gunwalloe, a tiny medieval church nestled on above a beach and below an eroding headland, also faces a radically uncertain future due to the anticipated effects of climate change. The adjacent farm buildings, first mentioned in the Domesday book, also share this uncertain future, but here plans are underway to implement a series of adaptive measures so that the buildings may continue to serve the local community while also responding to a changing coastline.

For now there is no immediate threat to the Marconi Memorial, but there will come a time when a tough choice will have to be made about its future. Around the world, communities are facing, difficult decisions about how to care for cultural heritage in the face of environmental changes that may increasingly challenge its continued physical existence. Perceived mismanagement of any of these valued heritage assets has the potential to cause tension and misunderstanding between heritage professionals and the communities that value them. There is a clear need for language that helps people and practitioners understand and engage with change in these contexts. This paper seeks to articulate different kinds of heritage transformation likely to be experienced in coastal landscapes like the one described, and in other similar landscapes, over the next decades. It does not address the question of how to preserve and protect, but conversely seeks to explore how to respond to and understand loss.

The stretch of coast from Gunwalloe to Mullion on the Lizard Peninsula represents only a small snap-shot of vulnerable heritage assets on one section of Cornish coast. However, the themes of anticipated loss identified within this comparatively small area can be applied beyond this stretch of this landscape to other coastal contexts. The coast is a dynamic place, and continual change is part of what makes the coast such an evocative place in which to live and work in, and to visit. The coastline that we see today is not the same one that we saw yesterday and will not be the same one that we see tomorrow.² Though there have been attempts throughout history to manage, reclaim, or even try to halt coastal change, these are natural processes and as such management offers no permanent solutions.³ There is an increasing recognition that with the effects of accelerated anthropogenic climate change, some loss of heritage will be inevitable.⁴ In debates and discussions, however, the prospect of 'loss' is often invoked in quite abstract terms, and there is no common language or framework to describe different drivers of and responses to anticipated loss. This paper therefore aims to interrogate what 'loss' will actually entail, with reference to both the physical presence of heritage assets and the emotional consequences of their encroaching absence.

Although this paper focuses primarily on physical heritage assets, cultural heritage encompasses a much wider set of traditions, practices, skills and features – some tangible and some intangible. The effects of climate change are likely to be most visible in relation to tangible, physical assets, but processes of environmental change will also have a profound effect on traditional cultures and intangible heritage practices in the coming decades.⁵ The relationship between material heritage and immaterial expressions of community, memory and belonging is complex and dynamic, and is likely to become more so as change accelerates. Climate change can lead to the emergence of new collective meanings and memories, as well as the erosion or erasure of old ones.⁶

The dynamic and processual aspects of heritage are not always addressed well in policy contexts. In England, heritage assets are defined by the National Planning Policy

Framework (NPPF) as, 'A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing)'.⁷ In this framing, heritage is assumed to be a non-renewable physical resource that, once lost, is gone forever.⁸ This paper acknowledges the continued relevance of this conception of heritage, but seeks to contribute to an emerging body of critical literature that frames heritage as a resource that is in a state of continual becoming, through future-making processes of selection, connection, curation, transformation and care.⁹

Through articulating a thematic framework for different kinds of loss likely to emerge in relation to coastal sites, this paper offers ways to navigate both the challenges and opportunities presented within this space. It is hoped that by recognising that loss is not absolute or universally experienced, and instead embracing the inherent fluidity and interplay between the themes of loss discussed in this paper, practitioners may gain the tools needed to engage in healthy and productive dialogues within the heritage sector and with the wider public. Although this paper focuses specifically on the relationship between climate change and coastal heritage, the ideas explored here have potential to inform new approaches and perspectives within the heritage sector more widely, as it responds to other drivers of social and environmental change – including calls for social justice and decolonialisation, and shifts in resource priorities post-pandemic.¹⁰ Though it is beyond the scope of this paper to fully interrogate the heritage impacts of each of the issues listed above, this paper argues nonetheless that it is a timely moment to start thinking about new ways to engage people with themes of cultural and natural heritage loss, change and transformation.

The ideas explored in this paper stem from an on-going doctoral research project which is developing strategies for communicating the anticipated impact of climate change on coastal archaeological heritage. Four distinct themes related to coastal heritage loss have emerged from the early stages of the research, and these form the basis of the framework presented in this paper (see [Figure 1](#)).

- (1) **Invisible loss**, which engages with previously unnoticed or overlooked heritage, and explores the loss of the unknown as well as the potential release of value through the process of discovery and recognition;
- (2) **Adaptive loss**, which recognises the transformational nature of a place, and allows for continued evolution of form and function, into new iterations, with potential support from external sources;
- (3) **Inevitable loss**, which involves the loss of heritage over an extended but unpredictable time period and provides opportunities for renegotiation of cultural and social relationships;
- (4) **Radical loss**, which requires the consideration of future histories associated with landscape scale change, and incorporates the loss of both heritage and non-heritage assets.

These themes will be outlined in further detail with reference to the wider literature throughout this paper.

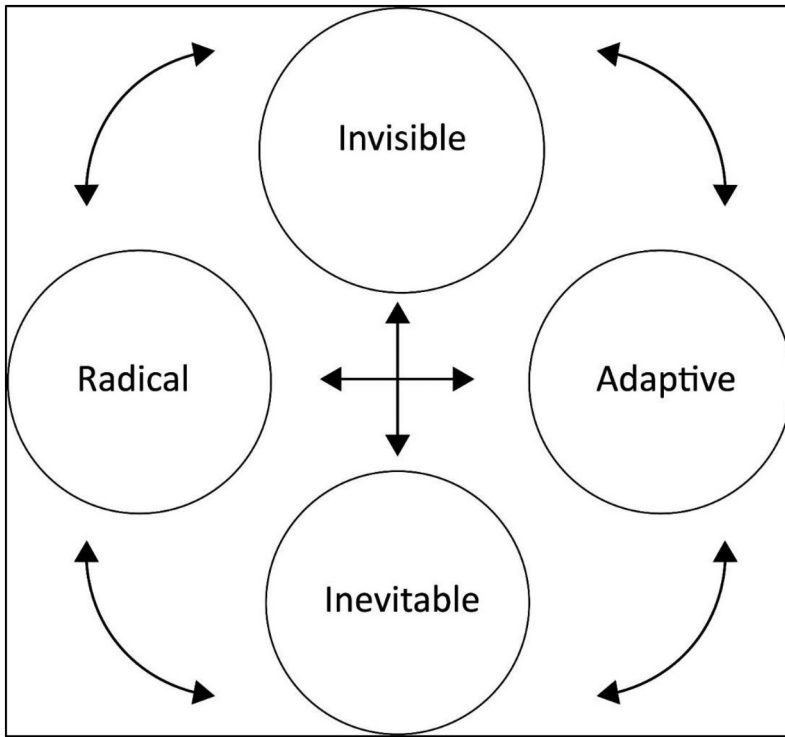


Figure 1. Though independent the themes may interact with each other over time.

Articulating Heritage Loss

The heritage sector has a complicated and long-standing relationship with the concept of loss. Loss is integral to the core methodology of archaeological investigation.¹¹ Actively investigating sites through excavation is in itself a destructive process, which has produced the majority of archaeological knowledge about the past. The loss of heritage through both natural processes and human action, such as deliberate erasure through conflict or development, or excavation itself, is well documented within the academic literature.¹² Fear of loss has been a major motivator for heritage legislation and policy, and it underpins the current designation programme in England and elsewhere.¹³ Protecting built heritage from the threats of loss due to extensive re-building works after the Second World War laid the groundwork for current legislative measures.¹⁴ However, avoiding all aspects of heritage loss is neither achievable, nor, arguably, is it desirable. This paper instead focuses on providing a language to inform a dialogue about loss, recognising that 'solutions' in this space are not tidy and rigid, and nor should they be expected to be. In fact, the open management of loss will require a willingness to sometimes accept messiness, and the blurring of professional and personal boundaries, as background to processes of negotiation and navigation.

Navigating any problem without clear boundaries in place is a lot like being put into a dark room without any walls. There is no way of moving forward that feels safe. The situation can generate feelings of fear and anxiety, which can lead either to paralysis and inaction or to an immediate and under-considered response. Boundaries are associated

with structure and are necessary to provide emotional control and comprehension.¹⁵ For the heritage sector, the policies and frameworks that are put in place to protect heritage and manage change can be seen as the comforting walls of that room. In moments of crisis or uncertainty, however, policies and guidelines may not be able to explain or contain change, and boundaries can appear unstable, generating feelings of anxiety. The prospect of prolonged and unpredictable loss of coastal heritage assets is, arguably, such a moment. There is a need for new approaches that help professionals and communities describe and debate the process of heritage loss, and provide some structure to help them address an apparently intractable problem.

Heritage professionals are in a unique position to bring their intimate knowledge of cultural landscapes to help broad audiences understand and communicate about future change, and make decisions about how to respond appropriately.¹⁶ Most of the landscapes that we experience, even so called 'wild' places, bear the mark of human intervention. Heritage scholars and practitioners can make a positive contribution to the climate change debate by helping people come to terms with loss and change, and by championing the environmental benefits of traditional buildings methods and encouraging the reuse of old structures.¹⁷ The Climate Heritage Network formed in 2019 to bring together a diverse group of heritage professionals, business owners, government officials and cultural practitioners to help connect the issues of cultural and climate change, and to take action.¹⁸ One of the aims of the Network is to aid communities in tackling climate change by drawing on knowledge of how people responded to past changes. The relationship that people have with heritage is often personal and complex,¹⁹ and as we develop strategies for coping with climate change there is the potential to explore different 'uses' for heritage, including use for creative adaptation and mitigation.²⁰ In turbulent times the past can provide comfort,²¹ but reflection on the past can also be a catalyst for renegotiating relationships between people and places as we move into an uncertain future.²²

Understanding Coastal Heritage Transformations

The effects of climate change on heritage will be complex, and will not be confined to coastal contexts. In the UK, warmer wetter winters and warmer drier summers are already causing significant stress to landscapes and structures:²³ in the last two years alone the UK has seen record breaking temperatures and above average rainfall;²⁴ at the beginning of January 2020 two named storms, Ciara and Dennis, caused widespread flooding and disruption in many parts of the UK, followed by the hottest recorded summer in 17 years.²⁵ While the impacts of climate change will be general and widespread, natural coastal processes – amplified by rising sea levels, increased precipitation intensity, and increasing flooding and drought – have been identified as the top concerns for the historic environment. Anticipated impacts will affect all aspects of heritage 'from built to buried'.²⁶ For heritage the 'risk of significant change' will occur not only from the physical processes of climate change but also human attempts at mitigation.²⁷ Responses to climate change pressures in the form of coastal and flood defences will have a lasting impact on the historic environment. A Heritage organisations are increasingly recognising that in addition to taking measures to reduce carbon emissions and mitigate the impacts of climate change it will sometimes be necessary to accept that the climate is changing

and to work with these changes rather than against them.²⁸ One of the measures highlighted specifically within the 2016 Historic England climate change adaptation policy document calls for the need to develop an approach for 'dealing with inevitable change, including loss'.²⁹

The majority of the academic literature on climate change and heritage emphasises methods of managing and conserving heritage assets to prevent or mitigate damage to historic fabric.³⁰ In recent years, however, a body of literature has begun to emerge which addresses aspects of inevitable change and loss, including publications such as *The Future of Heritage as Climates Change* (focusing on the role of climate change within heritage discourse from policy to practice) and *Public Archaeology and Climate Change* (based on a series of conference papers and concentrating on the role that global communities have in utilising citizen-centrist approaches to heritage recording and management) and *The Future of our Pasts* (highlighting the role of heritage in climate action).³¹ All of this works centres on the contribution that creative and cross-sector methods can make in responding to climate change, and highlights innovative community engagement strategies. Related scholarship has begun to explore transformational aspects of heritage loss and change, and the potential for value to emerge through accommodation of natural processes.³² In practice, much of the focus for heritage professionals has been directed towards collating information on the present state of heritage assets on the coast through desk based research, checking this information through walkover surveys before entry into historic record databases. The Rapid Coastal Zone Assessment Surveys (RCZAS) commissioned by Historic England for the English coastline and Historic Environment Scotland for Scottish coastlines aimed to create a baseline set of data on the current presence of archaeological heritage on the coast.³³ The long term intention was to record underrepresented heritage assets within the coastal landscape that may be vulnerable to the construction of defence works implemented as part of the Shoreline Management Plans. Funding for mitigation against loss in these cases is based on the 'polluter pays principle' common to inland development, however heritage threatened by natural processes has no such safeguard in place.

The Scotland's Coastal Archaeology and the Problem of Erosion (SCAPE) Trust, based at the University of St Andrews, has been working on a series of projects related to coastal heritage data sets in Scotland.³⁴ The most recent five year project, Scotland's Coastal Heritage at Risk Project (SCHARP), was designed to be delivered through two main sub-projects.³⁵ The first, ShoreUPDATE, trained citizen scientists in archaeological recording methods and the use of a specialist app that not only updated the condition of sites already recorded on the RCZAS but also had the capacity to add new sites.³⁶ The second, ShoreDIG, organised a variety of different archaeology projects on sites that local communities were seen to value, including some rescue archaeology of rapidly eroding features.³⁷ SCHARP was a great success and has influenced the creation of similar projects, such as CITIZAN in England, CHERISH in Wales and Ireland and the Florida Public Archaeology Network (FPAN) in the state of Florida.³⁸ Such projects, while often framed through language about 'saving' threatened heritage through recording, also highlight the 'ways in which apparent loss can open up opportunities for discovery, and the generation of new connections between people and place'.³⁹

Citizen science archaeology projects like those described above have been extremely successful in helping professionals engage creatively with change and loss on the coast,

but such innovation has not yet been carried effectively into decision-making contexts. Discussion still often focuses on prioritising high-value sites for attention, and Shoreline Management Plans may designate coastal areas as No Active Intervention but provide no clear framework for engaging people with what this decision means for them, and their local landscapes. This paper focuses on heritage decision-making processes that occur within a post-prioritisation space, when some form of loss is likely and decisions need to be made about how to respond. What happens when we know that some assets cannot be saved?

The pressures confronting the heritage profession when faced with the loss of heritage were eloquently described in a talk presented at the Sea of Change Conference in 2019, where Dr Caitlin Vertigan spoke about the challenges of managing a coastal heritage site at Port Arthur, Australia, which is under increasing pressure due to climate change.⁴⁰ She spoke passionately and emotionally about the anxiety that both she and her colleagues feel about the seemingly monumental decisions they need to make, and how this apprehension and uncertainty about how to proceed has made definitive decision making difficult.⁴¹ Heritage agencies are already stretched and can experience a disconnect between managers on the ground and upper management, creating tension even within single organisations.⁴² The complexity of managing change and loss can introduce additional pressures on time and resources. The impulse, in many cases of potential loss, is to defer decision making to allow for the gathering of additional information about condition and significance, leading to further delays, and the perception of inaction. The concern surrounding the implications of potential mismanagement of heritage is experienced by heritage professionals internationally. Marcy Rockman talks about similar anxieties at Fort Jefferson in the US and in the UK similar feelings of concern have been highlighted at National Trust sites, where the intention to manage for loss and change is often in tension with the desire to conserve places for public access and appreciation.⁴³ Within the heritage sector there seems to be an overwhelming anxiety when faced with the potential loss of heritage assets, which leads to indecision and deferral.⁴⁴

Introducing the Themes

This paper aims, therefore, not to outline a rigid framework for approaching loss in decision-making contexts, but instead to look at loss from a new angle, breaking down the perception of loss as a large, intractable problem so that it can be understood in more depth and detail, in the context of specific places and conditions. High levels of uncertainty surrounding the scale and rate of loss makes planning for heritage loss challenging.⁴⁵ Therefore, this paper aims to identify a series of different themes that articulate the ways in which change and loss are likely to be experienced at coastal heritage sites, so that the challenges and opportunities presented by each situation may be fully realised by heritage managers and communities navigating these changes. Describing the physical and emotional aspects of discrete types of loss can help open up new narratives, and help people comprehend and compartmentalise an otherwise overwhelming issue, making it more manageable. Although all of the themes described below assume some element of anticipation and planning, there will also always be aspects of unanticipated change that can never be fully accounted for. This framework intends to

highlight the importance of approaching the subject of loss collaboratively with communities to foster engagement and facilitate conversations which will provide the confidence needed to address challenges and take advantage of opportunities, whilst leaving room for reaction when unexpected things do occur.

In developing these themes, it became clear that heritage loss will have emotional as well as physical impacts, and the framework used to describe the stages of grief emerged as a useful and resonant resource. The five stages of grief first outlined by Kubler-Ross include denial, anger, bargaining, depression, and finally acceptance. These stages have been applied to understand how people cope with a wide range of radical changes, including climate change.⁴⁶ Using the concepts first outlined by Kubler-Ross, Rosemary Randell specifically considers the emotional impact of climate-change induced loss, arguing that we need to be more honest about the sacrifices that we will need to make in the short term, rather than deferring our concern and action into the future.⁴⁷ Expanding on this work, Ashlee Cunsolo-Wilson draws attention to how, if healthy mourning is left incomplete, an inability to create a new relationship with the post-loss-landscape may develop.⁴⁸

In order to embrace the transformative power of heritage loss and change, we need to understand how the language that is used in these contexts shapes our understanding of processes and potentials. Practitioners currently do not have the terminology they need to talk about and explain the physical, emotional and mental challenges and opportunities associated with the loss of heritage. Language is a living thing that evolves to serve our needs, and it is clear that we need language that can describe what is happening more precisely and sensitively, to help prepare for what lies ahead.⁴⁹ The language of heritage loss also needs to be easily understood by everyone, within the professional heritage sector as well as within communities and the general public. Work completed by Barnett on the community of Lakes Entrance, Australia stressed the importance of communicating with the local community on climate change issues and creating adaption pathways based on triggers grounded in lived experiences.⁵⁰ Through making these 'triggers' relatable and easy to visualise, it makes it easier for people to act, and to find ways of negotiating uncertainty which generate greater future resilience.⁵¹ The following section introduces each theme in more detail, and provides examples to help illustrate their potential application.

Invisible Loss

In May 2013 storms uncovered a series of footprints on the beach at Happisburgh on the Norfolk coast.⁵² The footprints belonging to a group of adults and children were over 800,000 years old, making them the oldest hominin footprints outside of Africa⁵³ and the oldest archaeological site in the UK. Just two weeks after this incredibly rare find was uncovered and recorded the same forces that led to its discovery led to its destruction.⁵⁴ Coastal forces that can create important archaeological discoveries also make these discovered sites vulnerable to eventual loss.⁵⁵ The findings from Happisburgh have extended the timeline of human occupation of Europe by 350,000 years, which represents a significant find for studies of the Pleistocene.⁵⁶ Citizen scientists working with the British Museum continue to monitor this stretch of coast, which has also produced hundreds of stone tools, faunal remains and other

palaeoenvironmental finds. In the year after the discovery the Happisburgh coastline saw 30 metres of erosion.⁵⁷ With each storm there comes a chance for further discovery, but also the risk of further loss. The Happisburgh footprints are a good example of possibly the most ubiquitous type of archaeological heritage, invisible heritage, which is buried and hidden from view until it is uncovered through archaeological investigation, itself a destructive processes.⁵⁸

The scale and significance of sites related to the 'invisible loss' theme are highly variable, ranging from discrete find spots consisting of a few pot sherds to entire structures such as at Must Farm.⁵⁹ There are three major ways in which a site could be classed as initially 'invisible', though in some cases there may be professional awareness that does not extend to a wider public. Firstly, a site may not be physically visible: the majority of archaeological heritage lies buried beneath our feet waiting to be discovered. Secondly, sites that fall under this theme, such as those on private land closed to the general public, may also be classed as invisible due to their inaccessibility. Lastly, there may be sites that are both physically visible and accessible but the true extent of their significance is not widely known. For a casual visitor to a historic landscape there may be a lot that escapes their attention, however practitioners with experience in the area may be able to discern the potential of what landscapes have to offer. With excavation, that potential can be made more widely visible and shared. The site of Skara Brea in the heart of Neolithic Orkney is a well-documented and popular site. However geophysical surveys of the surrounding landscape show that the visible elements are only a fragment of the existing resource.⁶⁰ Archaeologically speaking, the most important aspects are the ones that have not yet been investigated.

Though invisible sites remain largely unseen or overlooked, they are by no means unaffected by climate change pressures. As well as the effects of more dramatic coastal processes such as erosion, buried heritage in particular is also vulnerable to the slower and less visible attritional damage, which was specifically identified as a challenge in the 2013 Atkins report on the environmental threats to heritage commissioned by Historic England.⁶¹ Indeed, invisible sites may be more vulnerable because they lack either statutory protection or vocal community groups to champion on their behalf. A significant amount of heritage is not officially protected, as it remains either undiscovered or falls outside of the protective remit dictated through heritage protection policies.⁶² This is especially relevant for coastal sites where less than 5% have statutory protection.⁶³

When the invisible become visible the values associated with these sites evolve accordingly. If change takes place rapidly then there is less time for new human relationships to form with a site, making it in some ways easier to conceptualise and accept its eventual loss or transformation into a different state.⁶⁴ The joy of discovery can in some ways mitigate the negativity around loss, especially if appropriate action is seen to be taken. In addition, situations that require quick and decisive action are often more easily accepted than ones that take place over a longer time frame, even if they require dramatic solutions.⁶⁵ This can be most clearly illustrated in comparing the acceptance of the immediate measures taken to contain the COVID-19 pandemic to the reluctance, on the part of individuals, corporations and governments, to make the sacrifices required to alleviate climate change.⁶⁶

Adaptive Loss

Adaptive loss relates to sites where there may be opportunities for partial retention, and reconsideration of the significance of a site, even if the overall site faces continuing processes of loss and erosion. This theme actively invites change and re-use of a site so that some parts of it may be conserved in some form for the future. An example of adaptive loss can be found in the recent reinstatement of the lifeboat station at Birnbeck Pier, Weston-super-Mare.⁶⁷ Built in 1867, the Victorian pleasure pier hosted a lifeboat station that opened in 1901, serving the Severn estuary.⁶⁸ After a turbulent history the pier was eventually closed to the public in 1994 and a combination of storm damage and disinterest under private ownership led to it being listed as one of two 'closed and derelict piers that are at risk of being lost' in the Pier Review toolkit.⁶⁹ The pier retained a strong local following and in response to the increasingly derelict nature of the site the Friends of the Old Pier Society was formed. In 2020, with support from Historic England, the decision was made to reinstate the lifeboat station.⁷⁰ Though the pier may never be returned to its former glory as a Victorian promenade it will carry on part of its legacy, adapted, in the future as a lifeboat station once again. Within in the academic literature on the management of built heritage this is known as adaptive re-use.⁷¹ Historic England specifically points to adaptive reuse of historic buildings as making an essential contribution to reducing carbon emissions associated with new construction.⁷²

Because adaptation may often be most appropriate and feasible for a specific section of a much larger complex site, this theme is most likely to be relevant for smaller scale projects (although wide scale adaption may also be necessary). It is therefore most likely to interact and overlap with one or more of the other themes described in this paper. Rates of change experienced at a site, and opportunities for responding creatively, will be highly dependent on aspects such as funding and/or community and academic interest, as well as external natural factors with impacts that are likely to be felt over a longer time scale. Levels of uncertainty associated with adaptive loss may fluctuate between high and low, as funding or interest is secured. Importantly, an approach aligned with this theme may attract attention from funders outside of the heritage profession, as is the case at Birnbeck Pier. In contrast to the invisible loss theme, sites where adaptive loss is possible are likely to have significant community or academic interest and may be supported through action groups or projects. Therefore, this theme centres on strategies of compromise and the development of shared ownership and agency in shaping the future of a site. The negotiation of values and interests between different groups needs to be managed carefully, to ensure that future plans proceed from a foundation of genuine engagement and mutual respect.

The adaptive loss theme challenges models of top-down management and communication, and invites active participation into exploring the transformational opportunities afforded by coastal change. Engaging with communities to explore shared and changing values unsettles a static understanding of heritage sites, opens up new perspectives on future change and encourages acceptance of the new role heritage may play for contemporary communities. An adaptive loss approach that embraces and engages with gradual transformation will ideally unfold over an extended time frame, giving people opportunities to understand and process change as it happens and adapt responses accordingly.⁷³ Actively engaging with sites creates a sense of ownership and therefore

legitimacy, allowing communities to take control of their own story.⁷⁴ The overall aim of the adaptive loss theme is to encourage sustained engagement with heritage to foster new relationships with sites as they change. Adaptation is not an attempt to return to the way things were but to assist in making better choices for the future.⁷⁵ However this can only be achieved successfully through effective and well-resourced community engagement strategies.

Inevitable Loss

Change to the coastal landscape is as natural as it is inevitable. The coastline is a dynamic environment, and ongoing processes of change have not only shaped the physical geography of the landscape but also people's relationship to it. Since the 16th century, Hurst Castle has protected the entrance to the Solent from its position at the end of a narrow shingle spit. Rising seas currently threaten the longevity of the site, which is precariously situated, and the only defence separating the salt marsh from the sea is increasingly in danger of being undercut and eventually breached. The inevitability of damage and awareness of the eventual loss of access to the physical structure at Hurst Castle was amplified by storm damage in 2019, when undercutting of the seaward wall caused a partial collapse.⁷⁶ Although repairs were conducted, in the future such damage may open up conversations about a transition to acceptance of the inevitable loss of the impressive fortifications.

Inevitable loss can affect sites as a whole or a portion of a site, as is the case at Hurst Castle, and can occur at different rates. Slow incremental damage may be followed by periods of extensive structural loss. Such loss will eventually affect aspects of site management, especially where aspects of public safety or site access become a concern. The changes associated with this theme can happen rapidly, as seeming stable sites may suddenly transition into a recognition of inevitable loss almost overnight, through large storm events. Increased vulnerability can also coincide with increased potential, as is seen at the Jurassic Coast, Dorset, where each landslide creates the opportunity for new discovery.⁷⁷ Sudden change can also trigger reactive defensive measures, which can create a high level of uncertainty about the immediate future of vulnerable sites.

Conversely, the rate of change associated with this kind of loss may also happen slowly, in some cases far longer than a single human lifetime. Issues of perception are central in relation to this theme, as acceptable of incremental change can be easily mistaken for inaction, especially if there is a surge in either community or academic interest into the site in question, which generates new value and perhaps sparks efforts to arrest or slow change processes. In such situations, uncertainty can generate anxiety, and an endangerment narrative may emerge, polarising perspectives between those who wish to 'save' a site and those who encourage the acceptance of change. Where opportunities for partial retention and adaptation are limited, inevitable loss must be managed in a way that makes it legible and accessible, though environmental or funding factors may limit the range of options available. At sites designated by Shoreline Management Plans under policies of No Active Intervention or Managed Realignment, for example, efforts must be made to clearly outline the different stages of rollback or retreat, and their likely effect on heritage resources. These sites may not be seen to warrant traditional methods of investigation or conservation, but investment in community engagement and

communication will help people come to terms with loss and imagine themselves into an uncertain future.⁷⁸

While it would be easy to see only the negatives associated with inevitable loss, this theme does in fact provide great opportunity. Research projects conducted at vulnerable sites can add more to local and professional knowledge of the past than would normally be presented at similar unthreatened and legally-protected monuments.⁷⁹ Sites that are experiencing inevitable loss also can offer greater opportunity for hands-on engagement than more stable sites.⁸⁰ Projects such as SCHARP in Scotland, CiTIZAN in England and the CHERISH project in Wales and Ireland are key examples in how knowledge and engagement with communities on vulnerable and transient sites can lead to great discoveries. As the name of this theme implies, inevitable loss is a process that cannot be stopped, although in some case opportunities may emerge to switch to adaptive loss management. However, embracing positive opportunities related to the management of archaeological heritage impacted by this theme can change the question from how to mitigate loss to one of how to accept loss and, in effect, renegotiate memories of place when there are no longer structural reminders.

Radical Loss

In some contexts, realisation of opportunities to engage with loss in the present may need to be followed by recognition of more radical and comprehensive loss in the future. The theme of radical loss shares many similarities with inevitable loss theme discussed above, in so far as it assumes a point of definite loss and change. What makes this theme stand apart however, is that change takes place at a much larger scale. This theme encompasses change and loss on a landscape, rather than site specific, scale and, is likely to include not only heritage loss but also changes associated with housing, infrastructure and the wider natural environment. The village of Fairbourne, Wales presents an example of radical loss in action. This village has been named as the site of 'Britain's first climate change refugees' in national newspapers, as the decision to move shoreline management to No Active Intervention was made public in 2019, and the village is likely to be claimed by the sea within the next 26 years.⁸¹ For Fairbourne, the opportunities to engage with radical loss may not lie in conserving what has come before, but instead reside in understanding what is likely to remain and become its future history.

Because radical loss operates at the landscape scale, rates of loss and change may seem slow compared to those experienced in relation to the other themes, but change is likely to follow a pattern of punctuated equilibrium, and generations of apparent stability may be followed by sudden rapid changes. If these changes are approached with a long view in mind, there may be opportunity to adopt forward-thinking and innovative plans for dealing with loss, in effect building in the anticipation of and preparation for eventual loss from the beginning of a process, rather than seeing it as just an end. However, much as in the inevitable loss theme above, perceived inaction may cause unnecessary tension and lead to demoralisation.⁸² Effective communication and engagement strategies are the only way to resolve these tensions, but even these will struggle to engage people when there is extensive uncertainty.⁸³ In one sense, radical loss may be seen as the terminal point of all these themes, especially inevitable loss, but this does not mean it is devoid of opportunity. Preparation for the recognition

of future heritage may involve, for example, developing relocation narratives and exploring the value of what will be left behind, perhaps, in the distant future, as underwater archaeology. As even hard defences will eventually fail, the need to consider the creation of future histories becomes more important than ever.⁸⁴

There are many places around the UK that have succumbed to different forms of radical loss throughout history. The medieval village of Dunwich, Suffolk is a good example of how past radical loss to the landscape has been integrated with identity of the modern day village.⁸⁵ In Wales, villages such as Capel Celyn, Tryweryn were deliberately flooded within living memory, to create a reservoir for Liverpool.⁸⁶ The village sites area still visible, though submerged, and have been effectively turned into underwater archaeology, standing as a bleak reminder of the power of UK government over Welsh communities. Although there are limited physical reminders of these places, they persist in social memory. In Dunwich the town actively celebrates and interprets way coastal erosion has shaped their history.⁸⁷ The plight of the Welsh villages have been kept alive in not only literature, music and film (such as the 2015 film *Yr Ymadawiad (The Passing)*) but also, indirectly, in the lasting legacy of Welsh nationalism and the achievement of Welsh self-governance, partly spurred by the perception of past injustice.⁸⁸

Opportunities for the radical loss theme include actively helping communities to develop future narratives which embrace change. Narratives around relocation, for example, can help smooth transitions to new places and make them meaningful. In the US, the town of Valmeyer, Illinois was relocated after the Great Flood of 1993.⁸⁹ The collective relocation effort, which involved a collaboration between the community and government officials, meant that not only was the relocation a success, but the new town, named New Valmeyer, became a beacon of hope and adaptation through continuing local traditions; those who decided to stay were considered as being 'consigned to the past'.⁹⁰ Actively engaging with and listening to communities, respecting the values that they feel are important, could, if handled well, become a cathartic experience, allowing people to process this complex and emotive issue. Through acts of remembering, forgetting, communicating, and negotiating relationships with heritage, a shared identity can be (re)created and expressed.⁹¹ Respecting the power of communities to act on and vocalise their values acknowledges their collective agency, and avoids categorising them as helpless victims.⁹²

The lifespans of buildings and other forms of heritage differ from human lifespans. Heritage is an intergenerational and transformational phenomenon; physical assets may be passed down between generations, but as aspects of value and significance change, the relationship between people and place changes. The aim then, with regard to both inevitable and radical loss, is to help people cope with absence and be open to the discovery of new presences in place, tangible and intangible. A perspective that sees people and buildings as persisting through processes of transformation and re-making may help avoid a classic 'loss aversion' response.⁹³ If seen in the context of transformation rather than final ends, the change of assets on the coast may not have to be viewed so negatively.⁹⁴ Ideas around anticipatory loss, although again complex emotionally, can be useful for helping people prepare for inevitable changes brought by climate change.⁹⁵ As people become more aware of the changing environment, adapting and accepting the inevitability of even radical change and loss will be more important than ever.

Navigating the Themes

The themes as they are presented in this paper are designed to be flexible, actively embracing the messiness intrinsically associated with these types of conversations. The application of these thematic descriptions is not intended to be prescriptive, but instead accepts the blurring of boundaries and the value of non-linear, open-ended conversation and consultation. Different people will perceive different kinds of loss and different opportunities within the same site, depending on their individual perspectives and interests. This framework acts therefore not as a strict exercise designed to organise and categorise loss into neat boxes, but as a guideline for recognising and structuring the different types of conversations that can emerge in response to these situations.

Ideas about loss can be compared with the movement of water: originating from a single source, it moves downstream forming creeks and rivers, flowing through waterfalls and rapids, perhaps resting in lakes for a time, then slowly moving through estuaries and finally into the sea.⁹⁶ Though the water changes form, and requires different strategies in order to navigate it effectively, the water itself stays the same. As with the themes in this paper, the focus is not on exactly when these themes appear, or when they change into one another, but on how we alter our course to navigate them (see [Figure 2](#)). Themes may overlap, or blend into one another; ultimately engaging with loss and uncertainty requires a commitment to pluralism.⁹⁷ While each of these themes may inspire different approaches and responses, the fundamental point of this framework is flexibility.

Heritage sites are often managed in alignment with a particular point in time, a period of significance selected as appropriate for telling the story of that specific site. Past changes and adaptations are often included in interpretive narratives in a way that contemporary and future changes are not.⁹⁸ The presumption of present day stability and conservation can make current and future changes harder to understand and accept. Underlying all of the themes outlined above is the appreciation that loss is not inherently a negative nor necessarily a linear process. The prospect of loss can even reinvigorate interest in certain sites or subjects, giving them a new lease on life.⁹⁹ The transformational process of change can present opportunities for the human world, as well as natural

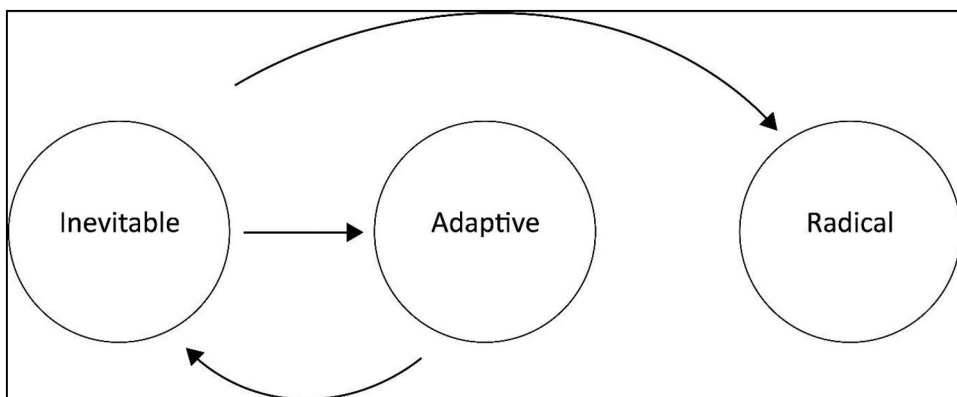


Figure 2. A site may be originally classed as subject to inevitable loss, however through sourcing of funding and community interest a transition to adaptive loss may begin. If funding or interest wanes then the site may turn back to inevitable loss, or even begin the journey towards radical loss.

world.¹⁰⁰ Through actively embracing the positive aspects of loss, we can help to create new relationships with the environment which will be increasingly important as we face an uncertain and unknown future.¹⁰¹ This will involve reassessing relationships with loss, and embracing the plurality of heritage as an evolving phenomenon, that reflects our modern sensibilities and values.¹⁰²

As noted above, in the current context, decision making within the heritage sector about sites at risk of inevitable change and loss can create feelings of anxiety and lead to deferral and delays.¹⁰³ Apparent indecision within public bodies and a lack of transparency can easily generate mistrust and suspicion between decision-makers and the wider public, effectively driving a wedge between the two.¹⁰⁴ Communicating about difficult subjects in thoughtful and emotionally-intelligent ways is of paramount importance in gaining acceptance and trust, and establishing a foundation for cooperation.¹⁰⁵ Conversations about anticipated loss (around heritage as with other topics) need to be sensitive and well considered, and they also need to acknowledge that dissonance is likely, and sometimes necessary. The thematic framework presented here allows for the expression of complex and sometimes contradictory emotional and personal perspectives, but it also provides some structure for heritage practitioners who need to engage communities in difficult conversations. The framework can help practitioners contextualise how change and loss was experienced historically, and how this experience may inform contemporary responses. Publics and practitioners can work together to frame narratives of past change that link to uncertain futures, and highlight how transitional moments have released new opportunities in the past and may do so again.¹⁰⁶

Although this framework was developed with specific reference to the physical loss of heritage assets affected by accelerated coastal change, it has clear relevance for understanding other types of loss, and the range of possible responses. By approaching loss as a transformational rather than terminal, process, a journey rather than an end, the heritage sector will hopefully be able to have more constructive conversations around vulnerable sites, to guide their management in the present and into the future.

Notes

1. "Marconi Memorial."
2. Murphy, *Englands Coastal Heritage. A Review of Progress since 1997*. 2, 32.
3. Berenfeld, "Planning for Permanent Emergency," 10
4. DeSilvey and Harrison, "Anticipating Loss," 92; and Woodham et al., "'Enduring Connections.'"
5. ICOMOS, "The Future of Our Pasts: Engaging Cultural Heritage in Climate Action" 57; Fluck and Wiggins, "Climate Change, Heritage Policy and Practice in England," 159.
6. DeSilvey and Harrison, "Anticipating Loss," 2–4
7. Secretary of State for Housing Communities and Local Government, *National Planning Policy Framework*, 2019. 67.
8. Wylie, "The Promise and Perils of an Ethic of Stewardship"; and Spennemann, "The Futurist Stance of Historical Societies," 11
9. Harrison et al., *Heritage Futures*, 68
10. Harrison et al.; DeSilvey AHRC Pathways presentation, 23 July 2020
11. Fluck and Wiggins, "Climate Change, Heritage Policy and Practice in England," 164; and Grant, Gorin, and Fleming, *The Archaeology Coursebook*, 45
12. Holtorf, "Can Less Be More?" 102–7; Harrison, *Heritage. Critical Approaches*; and Schofield, Carman, and Belford, "A History of Archaeology in Great Britain."

13. Schofield, Carman, and Belford, "A History of Archaeology in Great Britain," 34; and Holtorf, "Averting Loss Aversion in Cultural Heritage," 412
14. Schofield, Carman, and Belford, "A History of Archaeology in Great Britain," 36
15. Winnicott, *Deprivation and Delinquency*. 180–1
16. Dawson, Hambly, and Graham, "A Central Role for Communities; Climate Change and Coastal Heritage Management in Scotland"; and Harkin, "Using the Past to Inspire the Future."
17. Historic England, "What Are the Effects of Climate Change on the Historic Environment?"; Dunton, "Reusing Our Heritage Is "Vital" to Meet Net-Zero Ambitions."
18. "Climate Heritage Network."
19. Smith, *Uses of Heritage*; Timothy and Boyd, "Heritage Tourism in the 21st Century," 2; and Timothy, "Tourism and the Personal Heritage Experience."
20. Smith, *Uses of Heritage*.
21. Diane Barthel-Bouchier, "Heritage and Climate Change," 11; and Brabec and Chilton, "Toward an Ecology of Cultural Heritage," 282.
22. Harkin, "Using the Past to Inspire the Future."
23. Fung et al., "UKCP18 Factsheet: Wind."
24. Madge, "Increasing Influence of Climate Change on UK Climate."
25. Iqbal and Tapper, "Storm Dennis"; Rawlinson and Carrington, "UK Weather."
26. Croft, "Assessment of Heritage at Risk from Environmental Threat," 8; Cassar, *Climate Change and the Historic Environment*; Change 5–6; "CCRA UK 2017 Report"; MET Office, "UK Climate Projections"; and Heathcote, Fluck, and Wiggins, "Predicting and Adapting to Climate Change," 97.
27. Fluck, "Climate Change Adaptation Report," 21; and Heathcote, Fluck, and Wiggins, "Predicting and Adapting to Climate Change," 97.
28. Fluck, "Climate Change Adaptation Report," 11
29. Fluck, 3, 11
30. Fatorić and Seekamp, "Are Cultural Heritage and Resources Threatened by Climate Change?," 236.
31. Harvey and Perry, *Futur. Herit. as Clim. Chang. Loss, Adapt. Creat.*; Dawson et al., *Public Archaeology and Climate Change*; and ICOMOS, "The Future of Our Pasts."
32. Caitlin DeSilvey, "The Art of Losing"; DeSilvey, *Curated Decay 145*; and Harrison et al., *Heritage Futures*.
33. Murphy, *Englands Coastal Heritage*, 1–21.
34. Dawson, "Erosion and Coastal Archaeology," 79–82; and Dawson, Hambly, and Graham, "A Central Role for Communities," 27.
35. Hambly, "Final Evaluation Report," 4.
36. Hambly, 5
37. Ibid. 6
38. Dawson et al., "Coastal Heritage, Global Climate Change, Public Engagement, and Citizen Science," 8282.
39. Bartolini and DeSilvey, "Recording Loss," 5.
40. Vertigan, "On the Other Side of the World."
41. Vertigan.
42. Erlandson, "As the World Warms"; and Moser, "Communicating Adaptation to Climate Change," 338.
43. Parsons, "The Unbearable Lightness of Cultural Resources"; DeSilvey, "Palliative Curation," 85; and DeSilvey, *Curated Decay*.
44. Högborg et al., "No Future in Archaeological Heritage Management?" 645.
45. Rockman, "How to Pack a Cultural Suitcase."
46. Running, "The 5 Stages of Climate Grief."
47. Kubler-Ross, *On Death and Dying*; Randall, "Loss and Climate Change," 121–3.
48. Cunsolo Willox, "Climate Change as the Work of Mourning," 144.
49. Boroditsky, "How Language Shapes Thought"; DeSilvey, *Curated Decay*; and Saussure, Bally, and Sechehayé, *Course in General Linguistics*.

50. Barnett, "Inside/Outside: Competing Discourse on Sea Level Rise."
51. Barnett.
52. Kennedy, "850,000-Year-Old Human Footprints Found in Norfolk."
53. Ashton et al., "Hominin Footprints from Early Pleistocene Deposits," 11.
54. Ashton et al. 4
55. Milner, "Destructive Events and the Impact of Climate Change," 223–4.
56. Ashton et al., "Hominin Footprints from Early Pleistocene Deposits," 1.
57. See note 52 above.
58. Fluck and Wiggins, "Climate Change, Heritage Policy and Practice in England," 167
59. Marchini, "Must Farm."
60. Card et al., "Bringing a Landscape to Life?," 428.
61. Croft, "Assessment of Heritage at Risk from Environmental Threat," 3.
62. Fluck and Wiggins, "Climate Change, Heritage Policy and Practice in England," 159.
63. Flatman, "A Climate of Fear," 4.
64. Davies, "Report of Discussion, Environmental Education and Citizenship Conference."
65. Fluck, "Climate Change, Covid and Heritage.?"
66. Fluck.
67. "Council Receives Full Council Backing to Begin Acquiring Birnbeck Pier."
68. "History."
69. Chapman, *Pier Review*, 5.
70. "New Future for Historic Birnbeck Pier."
71. DEH, "Adaptive Reuse"; Misirlisoy and Günçe, "Adaptive Reuse Strategies for Heritage Buildings," 92
72. "Buildings Must Be Recycled and Reused to Help Tackle Climate Change."
73. Rockman, "How to Pack a Cultural Suitcase."
74. Moser, "Communicating Adaptation to Climate Change," 368; and Onciul, *Museums, Heritage and Indigenous Voice*.
75. Caitlin DeSilvey, "The Art of Losing."
76. Waters, "Storm Damage Sparks Fresh Fears for Future of Historic Hurst Castle."
77. Ferraby, "Narratives of Change on the Jurassic Coast World Heritage Site," 31–41
78. Woodham et al., "Enduring Connections."
79. Dawson, Hambly, and Graham, "A Central Role for Communities," 86.
80. Dawson, Hambly, and Graham; Graham, Hambly, and Dawson, "Learning from Loss," 87–8, <https://www.theguardian.com/environment/2019/may/18/this-is-a-wake-up-call-the-villagers-who-could-be-britains-first-climate-refugees>
81. Wall, "This Is a Wake-up Call."
82. See note 38 above.
83. Onciul, "Engagement Zones."
84. Berenfeld, "Planning for Permanent Emergency," 10; and Woodham et al., "Enduring Connections."
85. Morris, "In Defence of Oblivion," 197.
86. Atkins, "Building a Dam, Constructing a Nation," 455.
87. Morris, "In Defence of Oblivion," 208.
88. Griffiths, "Water under the Bridge?" 450–3; and Bryn, *Yr Ymadawiad*.
89. Koslov, "The Case for Retreat," 370–374.
90. Koslov. 373
91. Solli, "Some Reflections on Heritage and Archaeology in the Anthropocene," 44.
92. Moser, "Communicating Adaptation to Climate Change," 343.
93. Ingold, "No More Ancient"; and Holtorf, "Averting Loss Aversion in Cultural Heritage," 410–3.
94. DeSilvey, "Palliative Curation," 88; and DeSilvey, *Curated Decay*.
95. Randall, "Loss and Climate Change," 125.
96. Lyons, "Sensitive Chaos," 402–3.
97. Dryzek, Norgaard, and Schlosberg, *Climate Challenged Society*, 18.

98. Harrison, *Heritage*, 103–6; and Högberg et al., “No Future in Archaeological Heritage Management?” 644.
99. Holtorf, “Averting Loss Aversion in Cultural Heritage,” 413,418.
100. DeSilvey, *Curated Decay*, 185.
101. DeSilvey, 131.
102. Rockman and Hritz, “Expanding Use of Archaeology in Climate Change Response,” 8297–8.
103. See note 40 above.
104. Cumming and Norwood, “The Community Voice Method,” 434.
105. D’Ancona, *Post Truth*, 126; Olson, *Houston, We Have a Narrative*, 181–2; and Cumming and Norwood, “The Community Voice Method,” 442.
106. Ferraby, “Narratives of Change on the Jurassic Coast World Heritage Site,” 40–1; and Caitlin DeSilvey, “Making Sense of Transience,” 49–50.

Acknowledgments

Research discussed in this paper was funded by an Art and Humanities Research Council Collaborative Doctoral Partnership Award to the University of Exeter and Historic England (AH/S001794/1), supervised by Caitlin DeSilvey, Bryony Onciul, and Hannah Fluck.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by an AHRC Collaborative Doctoral Partnership under Grant AH/S001794/1.

Notes on contributors

Tanya Venture is a doctoral researcher based at the Cornwall Campus at the University of Exeter. Her current research is on the use of interactive documentaries as a tool for understanding and communicating inevitable archaeological change on the coast. Tanya has previously worked as a filmmaker and archaeologist for the SCAPE Trust.

Caitlin DeSilvey is Professor of Cultural Geography at the University of Exeter's Cornwall campus, where she is Associate Director for Transdisciplinary Research in the Environment and Sustainability Institute. Her research into the cultural significance of material change has involved extensive collaboration with archaeologists, heritage practitioners, ecologists, artists and others, and has informed new approaches in heritage practice, focused on accommodating process rather than securing preservation. Her monograph, *Curated Decay: Heritage Beyond Saving* (UMP 2017), received the 2018 Historic Preservation Book Prize. Recent publications include *After Discourse: Things, Affects, Ethics* (Routledge 2020), an edited collection stemming from a 2016-17 fellowship at the Centre for Advanced Study in Oslo, and *Heritage Futures: Comparative Approaches to Natural and Cultural Heritage Practices* (UCL 2020), a co-authored volume arising from work on the AHRC Heritage Futures Research Programme (2014-2019). She is currently leading a Heritage Futures follow-on project with the National Trust and Historic England, Landscape Futures and the Challenge of Change (2020-2022).

Bryony Onciul is Associate Professor in Museology and Heritage Studies at the University of Exeter. She specialises in community engagement, decolonisation, and heritage in relation to environmental and climate change. Bryony is the author of *Museums, Heritage and Indigenous Voice: Decolonizing Engagement*, published by Routledge, and lead editor of *Engaging Heritage, Engaging*

Communities published by Boydell and Brewer. She founded the UK Chapter of the Association of Critical Heritage Studies (ACHS).

Hannah Fluck is Head of Environmental Strategy at Historic England where she has overseen strategic work on climate change and heritage, approaches to threats to heritage and environmental value of cultural heritage. Hannah has a PhD in Pleistocene Archaeology and human evolution and joined Historic England in 2015 after working for over a decade in heritage management, planning and archaeology in Local Government in England. Hannah is a founding Steering Committee Member of the International Climate Heritage Network and regularly presents on climate change and heritage including at the COP26 in Madrid and the first G20 Cultural Ministerial in 2021. Hannah is author of the Historic England Climate Adaptation Report and a contributing author to the third UK Climate Change Risk Assessment evidence report (2021). She is a Fellow of the Society of Antiquaries of London, and a visiting fellow at the University of Southampton.

ORCID

Tanya Venture  <http://orcid.org/0000-0001-9259-371X>
 Caitlin DeSilvey  <http://orcid.org/0000-0003-1629-8414>
 Bryony Onciul  <http://orcid.org/0000-0001-7500-0054>
 Hannah Fluck  <http://orcid.org/0000-0003-2400-0884>

Declaration of interest statement

In accordance with Taylor & Francis policy and my ethical obligation as a researcher, I confirm that I have no relevant financial or non-financial competing interests to report that may be affected by the research reported in the enclosed paper.

Bibliography

- Ashton, N., S. G. Lewis, I. De Groot, S. M. Duffy, M. Bates, R. Bates, P. Hoare, et al. "Hominin Footprints from Early Pleistocene Deposits at Happisburgh, UK." *PLoS ONE* 9, no. 2 (2014): 1–13. doi:[10.1371/journal.pone.0088329](https://doi.org/10.1371/journal.pone.0088329).
- Atkins, E. "Building a Dam, Constructing a Nation: The 'Drowning' of Capel Celyn." *Journal of Historical Sociology* 31, no. 4 (2018): 455–468. doi:[10.1111/johs.12186](https://doi.org/10.1111/johs.12186).
- Barnett, J. "Inside/Outside: Competing Discourse on Sea Level Rise." Lecture Delivered 13/11/2018: University of Exeter.
- Barthel-Bouchier, D. "Heritage and Climate Change. Organisational Conflicts and Conundrums." In *The Future of Heritage as Climates Change. Loss, Adaptation and Creativity*, edited by D. C. Harvey and J. Perry, 151–166. London: Routledge, 2015.
- Bartolini, N., and C. DeSilvey. "Recording Loss: Film as Method and the Spirit of Orford Ness." *International Journal of Heritage Studies* 26, no. 1 (2019): 19–36. doi:[10.1080/13527258.2019.1570311](https://doi.org/10.1080/13527258.2019.1570311).
- Berenfeld, M. "Planning for Permanent Emergency: 'Triage' as a Strategy for Managing Cultural Resources Threatened by Climate Change." *The George Wright Forum* 32, no. 1 (2015): 5–12.
- Boroditsky, L. "How Language Shapes Thought." *Scientific American* 304, no. 2 (2011): 62–65. doi:[10.1038/scientificamerican0211-62](https://doi.org/10.1038/scientificamerican0211-62).
- Brabec, E., and E. Chilton. "Toward an Ecology of Cultural Heritage." *Change Over Time* 5, no. 2 (2015): 266–285. doi:[10.1353/cot.2015.0021](https://doi.org/10.1353/cot.2015.0021).
- Bryn, G. *Yr Ymadawiad*. UK: Wales: Severn Screen, 2015.

- Card, N., J. Downes, J. Gibson, and S. Ovenden. "Bringing a Landscape to Life? Researching and Managing 'The Heart of Neolithic Orkney' World Heritage Site." *World Archaeology* 39, no. 3 (2007): 417–435. doi:10.1080/00438240701464889.
- Cassar, M. *Climate Change and the Historic Environment*. Centre for Sustainable Heritage, UCL. London: UCL, 2005.
- Chapman, A. *Pier Review. Sustainability Toolkit for British Seaside Piers*. Bournemouth University, Bournemouth, 2020.
- "Climate Heritage Network." Accessed September 1, 2020. <http://climateheritage.org/>
- Committee on Climate Change. "CCRA UK 2017 Report." *Synthesis Report: Priorities for the next Five Years*, 2017.
- "Council Receives Full Council Backing to Begin Acquiring Birnbeck Pier." *North Somerset Council [Online]*, July 14, 2020. <https://www.n-somerset.gov.uk/news/council-receives-full-council-backing-begin-acquiring-birnbeck-pier>
- Croft, A. "Assessment of Heritage at Risk from Environmental Threat." *Atkins Heritage: Key Messages Report*, 2013.
- Cumming, G., and C. Norwood. "The Community Voice Method: Using Participatory Research and Filmmaking to Foster Dialog about Changing Landscapes." *Landscape and Urban Planning* 105, no. 4 (2012): 434–444. doi:10.1016/j.landurbplan.2012.01.018.
- Cunsolo Willox, A. "Climate Change as the Work of Mourning." *Ethics and the Environment* 17, no. 2 (2012): 137–164. doi:10.2979/ethicsenviro.17.2.137.
- D'Ancona, M. *Post Truth. The New War on Truth and How to Fight Back*. 1st ed. London: Ebury Press, 2017.
- Dallen, T. "Tourism and the Personal Heritage Experience." *Annals of Tourism Research* 24 (1997): 751–754. doi:10.1016/S0160-7383(97)00006-6.
- Dallen, T., and S. W. Boyd. "Heritage Tourism in the 21st Century: Valued Traditions and New Perspectives." *Journal of Heritage Tourism* 1, no. 1 (2006): 1–16. doi:10.1080/17438730608668462.
- Davies, A. "Report of Discussion, Environmental Education and Citizenship Conference." *Ethics, Place and Environment* 2, no. 1 (1999): 82–87.
- Dawson, T. "Erosion and Coastal Archaeology: Evaluating the Threat and Prioritising Action." In *Ancient Maritime Communities and the Relationship between People and Environment along the European Atlantic Coasts : Proceedings of the HOMER 2011 Conference, Vannes, France, 28 Sep - 1 Oct 2011*, edited by E. Normand, C. Scarre, M.-Y. Daire, C. Dupont, A. Baudry, C. Billard, J.-M. Large, and L. Lespez, Vol. 3, 77–83. Oxford: Archeopress, 2013. https://research-repository.st-andrews.ac.uk/bitstream/handle/10023/4183/Dawson2013BAR_Homer_Erosion.pdf
- Dawson, T., J. Hambly, and E. Graham. "A Central Role for Communities; Climate Change and Coastal Heritage Management in Scotland." In *Public Archaeology and Climate Change*, edited by E. Lopez-Romero, M.-Y. D. Tom Dawson, and C. Nimura, 23–33. Oxford: Oxbow Books, 2017.
- Dawson, T., J. Hambly, A. Kelley, W. Lees, and S. Miller. "Coastal Heritage, Global Climate Change, Public Engagement, and Citizen Science." *Proceedings of the National Academy of Sciences of the United States of America* 117, no. 15 (2020): 8280–8286. doi:10.1073/pnas.1912246117.
- Dawson, T., C. Nimura, E. López-Romero, and M.-Y. Daire, eds. *Public Archaeology and Climate Change*. Oxford: Oxbow Books, 2017.
- DEH. "Adaptive Reuse: Preserving Our Past, Building Our Future." *ACT:Department of Environment and Heritage. Commonwealth of Australia* 17. 2004.
- DeSilvey, C. "Making Sense of Transience: An Anticipatory History." *Cultural Geographies* 19, no. 1 (2012): 31–54. doi:10.1177/1474474010397599.
- DeSilvey, C. "Palliative Curation." In *Ruin Memories: Materialities, Aesthetics and the Archaeology of the Recent Past*, edited by B. Olsen and Þ. Pétursdóttir, 79–91. Abingdon and New York: Routledge, 2014.
- DeSilvey, C. *Curated Decay*. Minneapolis: University of Minnesota Press, 2017.
- DeSilvey, C. "The Art of Losing." *University of Minnesota Press Blog*, 2017. <http://www.umnpressblog.com/2017/02/the-art-of-losing.html> .
- DeSilvey, C. "Pathways and Barriers to Climate Action through Heritage Research." *Workshop: UCL (online)*, July 23, 2020.

- DeSilvey, C., and R. Harrison. "Anticipating Loss : Rethinking Endangerment in Heritage Futures." *International Journal of Heritage Studies* (2019): 1–8. doi:10.1080/13527258.2019.1644530.
- Dryzek, J. S., R. B. Norgaard, and D. Schlosberg. *Climate Challenged Society*. Oxford: Oxford University Press, 2013.
- Dunton, J. "Reusing Our Heritage Is 'Vital' to Meet Net-Zero Ambitions." *Building Design [online]*, 2020. <https://www.bdonline.co.uk/news/reusing-our-heritage-is-vital-to-meet-net-zero-ambitions/5104510.article>
- Erlandson, J. M. "As the World Warms: Rising Seas, Coastal Archaeology, and the Erosion of Maritime History." *Journal of Coastal Conservation* 16 (2012): 137–142. doi:10.1007/s11852-010-0104-5.
- Fatorić, S., and E. Seekamp. "Are Cultural Heritage and Resources Threatened by Climate Change? A Systematic Literature Review." *Climate Change* 142 (2017): 227–254. doi:10.1007/s10584-017-1929-9.
- Ferraby, R. "Narratives of Change on the Jurassic Coast World Heritage Site." In *The Future of Heritage as Climates Change. Loss, Adaptation and Creativity*, edited by D. Harvey and J. Perry, 25–42. Oxon: Routledge, 2015.
- Flatman, J. "A Climate of Fear: Recent British Policy and Management of Coastal Heritage." *Public Archaeology* 8, no. 1 (2009): 3–19. doi:10.1179/175355309x402727.
- Fluck, H. "Climate Change, Covid and Heritage." *Historic England [online] Blog*, 2020. <https://historicengland.org.uk/whats-new/debate/climate-change-covid-and-heritage/> .
- Fluck, H. "Climate Change Adaptation Report." 28, Historic England, Portsmouth: 2016.
- Fluck, H., and M. Wiggins. "Climate Change, Heritage Policy and Practice in England : Risks and Opportunities." *Archaeological Review from Cambridge* 32, no. 2 (2017): 159–181.
- Fung, F., P. Maisey, J. Lowe, C. McSweeney, J. F. B. Mitchell, J. Murphy, J. Rostron, D. Sexton, and K. Yamazaki. "UKCP18 Factsheet: Wind." *Met Office Hadley Centre, Exeter*, 2018. www.metoffice.gov.uk .
- Graham, E., J. Hambly, and T. Dawson. "Learning from Loss: Eroding Coastal Heritage in Scotland." *Humanities* 6, no. 4 (2017): 87. doi:10.3390/h6040087.
- Grant, J., S. Gorin, and N. Fleming. *The Archaeology Coursebook: An Introduction to Themes, Sites, Methods and Skills*. 3rd ed. London: Routledge, 2008. doi:10.4324/9780203193792.
- Griffiths, H. M. "Water under the Bridge? Nature, Memory and Hydropolitics." *Cultural Geographies* 21, no. 3 (2014): 449–474. doi:10.1177/1474474013510109.
- Hambly, J. "Final Evaluation Report." August, 2017, 1–30.
- Harkin, D. "Using the past to Inspire the Future." *Historic Environment Scotland Blog*, 2018. <https://blog.historicenvironment.scot/2018/10/cultural-heritage-climate-action/> .
- Harrison, R. *Heritage. Critical Approaches*. London: Routledge, 2013.
- Harrison, R., C. DeSilvey, C. Holtorf, S. Macdonald, N. Bartolini, E. Breithoff, H. Fredheim, et al. *Heritage Futures: Comparative Approaches to Natural and Cultural Heritage Practices*. Edited by Rodney Harrison, Caitlin DeSilvey, Cornelius Holtorf, Sharon Macdonald, Nadia Bartolini, Esther Breithoff, Harald Fredheim, et al. London: UCL Press, 2020. doi:10.1017/CBO9781107415324.004.
- Harvey, D. C., and J. Perry, eds. *The Future of Heritage as Climates Change. Loss, Adaptation and Creativity*. London: Routledge, 2015.
- Heathcote, J., H. Fluck, and M. Wiggins. "Predicting and Adapting to Climate Change: Challenges for the Historic Environment." *The Historic Environment: Policy & Practice* 8, no. 2 (2017): 89–100. doi:10.1080/17567505.2017.1317071.
- Historic England. "Buildings Must Be Recycled and Reused to Help Tackle Climate Change." *Historic England [online]*, (2020). <https://historicengland.org.uk/whats-new/news/recycle-buildings-tackle-climate-change/> .
- Historic England. "What are the Effects of Climate Change on the Historic Environment?" *Historic England [online]*. Accessed February 25, 2020. <https://historicengland.org.uk/research/current/threats/heritage-climate-change-environment/what-effects/> .
- "History." *Friends of the Old Pier Society [online]*. Accessed August 17, 2020. <http://www.birnbeck-pier.co.uk/history.html> .

- Högberg, A., C. Holtorf, S. May, and G. Wollentz. "No Future in Archaeological Heritage Management?" *World Archaeology* 49, no. 5 (2017): 639–647. doi:10.1080/00438243.2017.1406398.
- Holtorf, C. "Can Less Be More? Heritage in the Age of Terrorism." *Public Archaeology* 5, no. 2 (2006): 101–109. doi:10.1179/pua.2006.5.2.101.
- Holtorf, C. "Averting Loss Aversion in Cultural Heritage." *International Journal of Heritage Studies* 21, no. 4 (2015): 405–421. doi:10.1080/13527258.2014.938766.
- ICOMOS. "The Future of Our Pasts: Engaging Cultural Heritage in Climate Action." 2019. 62. https://adobeindd.com/view/publications/a9a551e3-3b23-4127-99fd-a7a80d91a29e/g18m/publication-web-resources/pdf/CCHWG_final_print.pdf.
- Ingold, T. "No More Ancient; No More Human: The Future past of Archaeology and Anthropology." In *Archaeology and Anthropology*, edited by D. Garrow and T. Yarrow, 160–170. Oxford: Oxbow Books, 2010.
- Iqbal, N., and J. Tapper. 2020. "Storm Dennis: Anger and Fear across UK as Second Storm Wreaks Havoc." *The Guardian*, February. <https://www.theguardian.com/world/2020/feb/15/anger-and-fear-across-uk-as-second-storm-breaks-ciara-dennis>
- Kennedy, M. "850,000-Year-Old Human Footprints Found in Norfolk." *BBC News [online]*, 2014. <https://www.theguardian.com/science/2014/feb/07/oldest-human-footprints-happisburgh-norfolk>
- Koslov, L. "The Case for Retreat." *Public Culture* 28, no. 2 79 (2016): 359–387. doi:10.1215/08992363-3427487.
- Kubler-Ross, E. *On Death and Dying*. London: Tavistock, 1970.
- Lyons, A. "Sensitive Chaos: Geopoetic Flows and Wildings in the Edgelands." In *Heritage Futures: Comparative Approaches to Natural and Cultural Heritage Practices*, edited by R. Harrison, C. DeSilvey, C. Holtorf, S. Macdonald, N. Bartolini, E. Breithoff, H. Fredheim, et al., 396–422. London: UCL Press, 2020.
- Madge, G. "Increasing Influence of Climate Change on UK Climate." *Met Office [online]*, 2020. <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2020/state-of-the-uk-climate-report-2019>
- Marchini, L. "Must Farm: An Extraordinary Tale of the Everyday." *Current Archaeology [online]*, 2016. <https://www.archaeology.co.uk/articles/features/must-farm.htm>
- "Marconi Memorial." *Historic England*. Accessed August 26, 2020. <https://historicengland.org.uk/listing/the-list/list-entry/1141890>
- MET Office. "UK Climate Projections: Headline Findings September 2019. Version 2." Met Office, Exeter (2019): 1–12.
- Milner, N. "Destructive Events and the Impact of Climate Change on Stone Age Coastal Archaeology in North West Europe: Past, Present and Future." *Journal of Coastal Conservation* 16, no. 2 (2012): 223–231. doi:10.1007/s11852-012-0207-2.
- Misirlisoy, D., and G. Kağan. "Adaptive Reuse Strategies for Heritage Buildings: A Holistic Approach." *Sustainable Cities and Society* 26 (2016): 91–98. doi:10.1016/j.scs.2016.05.017.
- Morris, B. "In Defence of Oblivion: The Case of Dunwich, Suffolk." *International Journal of Heritage Studies* 20, no. 2 (2014): 196–216. doi:10.1080/13527258.2012.746718.
- Moser, S. C. "Communicating Adaptation to Climate Change: The Art and Science of Public Engagement When Climate Change Comes Home." *Wiley Interdisciplinary Reviews: Climate Change* 5, no. 3 (2014): 337–358. doi:10.1002/wcc.276.
- Murphy, P. *Englands Coastal Heritage. A Review of Progress since 1997*. Swindon: English Heritage, 2014.
- "New Future for Historic Birnbeck Pier." *Life Digital Digest North Somerset Council [Online]*, June 26, 2020. <https://northsomersetlife.wordpress.com/2020/06>
- Olson, R. *Houston, We Have a Narrative*. London: The University of Chicago Press, 2015.
- Parsons, D. 2019. "The Unbearable Lightness of Cultural Resources: An Adaptation Story with Dr. Marcy Rockman." *America Adapts Podcast*. <https://www.americadapts.org/episodes/the-unbearable-lightness-of-cultural-resources-an-adaptation-story-with-dr-marcy-rockman>

- Randall, R. "Loss and Climate Change: The Cost of Parallel Narratives." *Ecopsychology* 1, no. 3 (2009): 118–129. doi:10.1089/eco.2009.0034.
- Rawlinson, K., and D. Carrington 2020. "UK Weather: 36.4C Recorded on Hottest August Day for 17 Years." *The Guardian*, August. <https://www.theguardian.com/uk-news/2020/aug/07/uk-weather-being-outdoors-could-become-dangerous-during-heatwaves>
- Rockman, M. "How to Pack a Cultural Suitcase," *Medium*, November 3, 2017 <https://medium.com/@marcyrockman/how-to-pack-a-cultural-suitcase-d8c02a6c455d>
- Rockman, M., and C. Hritz. "Expanding Use of Archaeology in Climate Change Response by Changing Its Social Environment." *Proceedings of the National Academy of Sciences of the United States of America* 117, no. 15 (2020): 8295–8302. doi:10.1073/pnas.1914213117.
- Running, S. "The 5 Stages of Climate Grief." *Numerical Terradynamic Simulation Group Publications* 173, 2007.
- Saussure, F., C. Bally, and A. Sechehaye. *Course in General Linguistics*. New York: McGraw-Hill, 1966.
- Schofield, J., J. Carman, and P. Belford. "A History of Archaeology in Great Britain." In Schofield, J., J. Carman, and P. Belford. (eds) *Archaeological Practice in Great Britain. A Heritage Handbook*, 25–41. New York: Springer-Verlag, 2011. doi:10.1007/978-0-387-09453-3.
- Secretary of state for housing Communities and local government. *National Planning Policy Framework*, 2019.
- Smith, L. *Uses of Heritage*. London: Routledge, 2006.
- Solli, B. "Some Reflections on Heritage and Archaeology in the Anthropocene." *Norwegian Archaeological Review* 44, no. 1 (2011): 40–88. doi:10.1080/00293652.2011.572677.
- Spennemann, D. H. R. "The Futurist Stance of Historical Societies: An Analysis of Position Statements." *International Journal of Arts Management* 9, no. 2 (2007): 4–15.
- Vertigan, C. "On the Other Side of the World." Presentation, Blackpool Winter Garden, Blackpool: Sea of Change Conference, 2019.
- Wall, T. 2019. 'This Is a Wake-up Call': The Villagers Who Could Be Britain's First Climate Refugees." *The Guardian [Online]*, May. <https://www.theguardian.com/environment/2019/may/18/this-is-a-wake-up-call-the-villagers-who-could-be-britains-first-climate-refugees>
- Waters, R. 2019. "Storm Damage Sparks Fresh Fears for Future of Historic Hurst Castle." *Advertiser and Times*, November. <https://www.advertiserandtimes.co.uk/hurst-castle-storm> .
- Winnicott, D. W. *Deprivation and Delinquency*. Tavistock: Tavistock Publications, 1984.
- Woodham, A., S. P. Jones, B. Onciul, and M. Gordon-Clark. "Enduring Connections: Heritage, Sustainable Development and Climate Change in Kirbati." *Journal of Museum Ethnography* 31 (2018): 199–211.
- Wylie, A. "The Promise and Perils of an Ethic of Stewardship." In *Embedding Ethics*, edited by L. Meskell and P. Pels, 47–68. Oxford: Berg, 2005. doi:10.4324/9781003085249-4.