



# Encountering the Anthropocene: Reconfiguring human-nature relations on the North Norfolk Coast, UK

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## ABSTRACT

The Anthropocene, proposed as a new era in human-nonhuman relations, is potentially both profound and far-reaching. However, it has also been critiqued as a universalising concept detached from the realities of people's day-to-day lives. The aim of this paper is to address this shortcoming by examining the situations of coastal communities on the 'frontline' of global environmental change in North Norfolk in the UK. In this region, sea defences that have protected towns and villages for decades are deteriorating and, consequently, the effects of coastal erosion on human settlements are becoming increasingly evident. Through the conceptual framework of 'encountering', I explore how human-nature relations are being reconfigured as a result and with what consequences for the actors involved. The findings show that coastal communities are becoming more and more aware of nonhuman forces as the unruly sea impinges upon daily life in various, multisensory ways. These effects not only cause people to 'give way' to the encroaching waters through relocation of homes and businesses but also attempt to 'buy time' with an active nature by extending the life of existing defences. The revitalisation of nature in coastal regions is also intersecting with long-held experiences of marginalisation and disempowerment to produce new, 'bottom-up' naturalcultural discourses concerning social justice. Overall, I demonstrate how an approach that emphasises encountering in the global era of the Anthropocene helps reveal rather than conceal the personal traumas and injustices experienced by different groups as well as the emergent conditions for more politically active, hopeful futures.

## 1. Introduction

Since its declaration twenty years ago, the idea of the Anthropocene (Crutzen, 2002) has given renewed emphasis to long-standing debates in the social sciences and humanities concerning modernity and the positioning of human society relative to the natural world in Western thought. Proposed as a new ontology spanning multiple disciplines, including Geography (Lorimer, 2012), Law (Birrell and Matthews, 2020) and natural resource management (Benson, 2019), Anthropocene thinking brings two interlinked notions concerning culture-nature relations into focus. First, rather than existing as discrete entities, human and nonhuman worlds are entangled, hybrid and co-produced. Humans, therefore, are "always in composition with nonhumanity, never outside of a sticky web of connections or an ecology" (Bennett, 2004, p.365), part of "multispecies worlds" through which "divergent lifeways" gather in "multidirectional patterns and scales" (Tsing, 2015, p.23). Second – and following on from the first argument – agency, the capacity to make a difference (Bennett, 2010), is not solely a human characteristic, but is spread across the liveliness of the nonhuman world. According to this

perspective, a more active nature has reclaimed its rightful role in the making of the world instead of simply being a neutral backdrop to human activity (Latour, 2018). Nature is increasingly asserting itself, impinging upon the day-to-day realities of human lives in new and disruptive ways and leading to novel forms of human-nonhuman interaction. This has resulted, according to Löwbrand et al. (2015), in a more unpredictable and potentially dangerous era in which uncertainty, risk and precarity are seemingly the 'new normal'. At the same time, growing awareness of these dynamics and effects in the Western world has increased desire among some groups to accommodate and centre nature in modern life.

In these ways, the Anthropocene notion has been adopted by, and documented across, a wide array of scientific studies, government reports and media stories. This enthusiasm, however, has not been unanimous. Scholars such as Oppermann (2018) have expressed concern that the Anthropocene, as an essentialising idea focussed "on the quandaries of deep-time scales and a generic humanity" (p.3) tends to "undermine questions of politics, ethics, history, culture, and literature in relation to environmental issues, imparting a unified meaning upon

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the lived experiences of diverse human communities” (p.6). This, according to Lövbrand et al. (2015, p.216), “renders human beings invisible, both as agents and victims of environmental destruction”, producing “an empty view of humanity that tells us little about the... fears, vulnerabilities, ideas and motivations of real people, in real places”. As a result, the Anthropocene risks concealing rather than revealing the personal traumas and injustices experienced by different groups (Whitehead, 2014, p.9), reinforcing a “bewildering generalizing” of the impacts of environmental change on different populations (Clark, 2015, p.151) and overlooking Whitehead’s (2014, p.7) contention that although “we live in an interconnected biosphere, we experience very different ecological fates”.

The aim of this paper is to address these concerns by arguing that consideration of the experiential dimensions of human-nonhuman encountering can aid understanding of the Anthropocene in all its forms. As explained by Wilson (2017, p.454), the term ‘encounter’ conventionally denotes engagement between two or more entities where “a lack of commonality is assumed or where some form of existing conflict, prejudice or unease is present”. Significantly, encountering also signals a willingness to engage, to see the world as communicative and responsive (Mathews, 2003), even as sublime (Williston, 2016), thus giving rise to new ethical and political possibilities (Paulson, 2001). The notion of encountering is therefore well suited to revealing the liveness of the nonhuman world and its various affects in the Anthropocene (Fredriksen, 2021). To explore these ideas, I draw on a case study situated along the North Norfolk coastline in the UK to examine how new and emerging encounters between coastal communities and the ever more unruly sea unfold and progress in the context of deteriorating sea defences and coastal realignment. My goal is to understand the sea not just as an increasingly sensed and disruptive presence in people’s lives but also as an agent with which people engage in unexpected, unusual and productive ways. Moreover, I aim to show how the sea, as an entity that is responsive and alive rather than passive and inert, is participating in the formation of new social and political relations within coastal communities and between such communities and local and national authorities. In these ways, I explore how the Anthropocene era in planetary development and change is being experienced and with what consequences for the various actors involved.

The UK represents a timely and important case study given the country’s long history of coastline protection as well as recent policy changes aiming to realign how coastal communities live alongside the ocean. Although early examples of sea defences date back to Roman and Medieval times (Historic England, 2018), the main phase of construction began in the Victorian period when coastal areas became important tourist destinations and business owners increasingly sought to protect their properties and assets from flooding. Coastal protection structures fixed the position of the land-sea interface, encouraging more and more people to build and settle close to the shoreline, but also increasing reliance upon human ability to control the ocean. Over time, as sea defences developed and became commonplace in the UK, many were passed from private to public ownership, to be managed by district councils. In recent years, coastal managers in the UK, as in numerous other countries around the world, have sought out more sustainable approaches to managing the shoreline, aiming to work ‘with’ rather than ‘against’ nature. This approach, for example, was adopted in 2006 when the UK Government released its ‘Making Space for Water’ strategy for coastal risk management, which envisaged working “with natural processes” (House of Commons, 2019, p.6). Today, climate change and sea level rise make the coastline what Glavovic (2015) has termed ‘the frontline in the Anthropocene’ or, to use Matless’ (2017) phrase, an ‘Anthroposcenic’ landscape that is emblematic of wider environmental change. Indeed, the UK Government has recently estimated that, in coastal areas, some 1.8 million homes are at risk of flooding and erosion and that between £120 and £150 billion GBP worth of assets are threatened, “including roads, railway stations, ports, schools, care homes, power stations and landfill sites” (House of Commons, 2019,

p.4).

The North Norfolk Coast – which forms the geographical focus of this paper – is situated in North Norfolk District in the east of England and faces the North Sea. In recent years, the area has become prominent in scientific and cultural debates concerning climate change and the Anthropocene (Matless, 2018a). Of the Coast’s 68 km span, 38 km is made up of a continuous section of soft maritime cliffs and slopes that are particularly vulnerable to erosion by the sea. Along this section, the loss and displacement of land has been prevented or slowed for decades due to the construction of sea defences, many after World War II. However, in the last few decades, a combination of factors, including growing awareness of coastal physical dynamics (Brown and Barton, 2013), the effects of global environmental change (IPCC, 2021) and fiscal constraints experienced by district councils, has led to the development of new approaches to coastal management that reflect an ethos of accommodation rather than containment of the sea. In practice, this has resulted in sea defences being allowed to deteriorate and collapse, which has accelerated coastal erosion, up to a few metres per year in some places. To investigate these processes and effects, and what they mean for coastal communities, I conducted fieldwork along this rapidly changing section of the North Norfolk Coast in April 2022. During this time, I undertook interviews and informal discussions with stakeholders, including council officials, coastal managers, and representatives of local campaign groups, and consulted policy reports and newspaper articles. These activities allowed insights into how, in the context of the Anthropocene, human-nonhuman relations are being reconfigured in a new ‘contact zone’ between people and nature (Pratt, 1991) and what these rearrangements mean for the actors involved.

This paper is structured as follows. In the next section, I situate the paper and its arguments in the relevant debates, further examining the Anthropocene as a proposed planetary era and how the idea of encountering can aid understanding of the ways in which new human-nature relations form and unfold in particular places. Section three introduces the case study from the North Norfolk coastline and the methods that were employed to collect data. In section four, the empirical findings are presented, exploring how the effects of the unruly sea are becoming more and more prominent and how historically and socially situated communities are interacting with, and reacting to, the effects of other species assemblages and abiotic forces. I conclude the paper in section five. Here, I argue that, while the global story of the Anthropocene typically portrays an essentialised, generic and increasingly helpless humanity, the situated encounters explored in North Norfolk demonstrate the everyday activeness of emerging societal-nature relationships as well as the political possibilities of geopower.

## 2. Understanding Anthropocene encounters

As outlined above, the idea of the Anthropocene foregrounds two interlinked understandings of human-nature relationships. First, the Anthropocene gives renewed prominence to debates in Geography concerning human-nature entanglements (Anderson, 2015). Oppermann (2018, p.8), for example, describes the Anthropocene as a “story of natures and cultures continuously coalescing in the changing landscapes of intersecting biological, geological, chemical, climatic, economic, political, and historical forces”. Under the Anthropocene, the Cartesian dualism between nature and society, we are told, “is broken down resulting in a deep intertwining of the fates of nature and humankind” (Lövbrand et al., 2015, p.211), a “mesh” or “uncanny interconnectedness” between living and non-living forms (Morton, 2001, p.19). Western research, which has conventionally relied upon separation of the human and natural sciences, is being urged to embrace the study of “relational, rhythmic, aesthetic and sensory attachments and dependencies between different life forms” (Birrell and Matthews, 2020, p.237). From these perspectives, “environmental problems emerge (or are ‘co-produced’) from dynamic, non-linear and cross-scale interactions between social, ecological, technological, economic and political

relations” rather than being defined in advance by objective experts looking in from the outside (Lidström et al., 2015, p.2).

Second, building on Western academic thought that extends back to the early 1990s (Grosz et al., 2017), the idea of the Anthropocene engenders renewed reflection on how agency is not a characteristic uniquely held by humans but is instead distributed among a global network of living and non-living beings. In other words, the Anthropocene is “not a story of hierarchically organised individual players, but of horizontally aligned agentic entities among which humans, like all other beings, figure as transient actors” (Oppermann, 2018, p.8). This includes the nonhuman materialities that make up the world, incorporating “the indifference of the cliff face, the glitter of liberated ore, the skyscraper’s tilt and soar, the writhing jet stream, and the slowly rotating ice shelf” all of which “form a distributed agency extending and proliferating beyond the reach of all cognition and capture” (Anderson and Wylie, 2009, p.321). Importantly, rather than forming a stable backdrop, nature is able to react to human activity in innovative and unexpected ways (Latour, 2018). This places humans sometimes in cooperation with nature but at other times in competition (Callon, 1986), the world “recast as a set of actors of various persuasions – natural, social or technical – all jostling together, forming relationships and testing each other’s mettle” (Hitchings and Jones, 2004, p.5). Such a recasting raises the prospect of ‘multinatures’ (Latour, 2007), hybrid, creative communities of humans and nonhumans living together under different configurations of society-nature networks (Lorimer, 2012).

These core ideas have provided impetus to efforts by critical scholars to challenge Western, modernist understandings of human-nature relations that have endured for hundreds of years. However, as outlined above, they say little about new human-nature relationships formed ‘on the ground’ as old Cartesian divisions break down and the natural world is allowed ‘back into’ society and vice versa. What then, to use Haraway’s (2015, p.151) question, “are the effects of bioculturally, biotechnically, biopolitically, historically situated people... relative to, and combined with, the effects of other species assemblages and other biotic/abiotic forces”? How are these new human-nature dynamics and trajectories unfolding in particular places, what are people’s experiences of them, and what meanings and forms of political agency are they producing at particular times? As explained in section one, the idea of the ‘encounter’ can address these questions by decentering the universalising notion of the Anthropocene. According to Wilson (2017), encounters typically arise when different or opposing actors normally separated in time and/or space come together in new and unexpected ways. Encounters, therefore, commonly evoke feelings of the unknown and can lead to the dismantlement or reinforcement of taken-for-granted ideas and conditions. In this sense, encounters are not just markers of difference but *make* difference. Processes of encountering are particularly acute in sites of ‘throwntogetherness’ (Massey, 2005) where “species of all kinds, living and not” are “consequent on their subject- and object-shaping dance” (Haraway, 2008, p.4). From this perspective, species encounters include meetings between a wide range of entities, including people, living nonhumans such as invasive species of plant (Head and Atchison, 2015), and non-living matter such as rocks or the ocean (Bennett, 2004).

Between-species encounters, when they occur, can be shocking, with such meetings and interactions having the “potential to undo our faith in our ongoingness, our sense of our consistency as subjects (however inconsistently conceived) and to obtrude with an incoherence we cannot master” (Berlant and Edelman, 2014, p.8). This is because, during such moments of ontological disturbance, “the things on which people rely as unexamined parts of the material fabric of their everyday lives become molten” and they are compelled “to notice nature and attend to its powers and effects” (Whatmore, 2013, p.45). For these reasons, encounters have the potential to provoke negative emotions, such as fear (Hou, 2016; Listerborn, 2015). Encountering, however, can also be a positive experience, with the possibility of human subjects entering new kinds of relationship with the nonhuman other. This idea is captured by

Mathews (2003, p.10) via their notion of the ‘panpsychist outlook’, as follows:

“To encounter others involves recognition of and contact with their independent subjectivity, where such recognition and contact inevitably give rise to a certain respect for their integrity and sympathetic concern for their fate... To encounter an other is to approach it as another subject with whom it is possible to have a relationship... and from whom it is possible to elicit a response”.

Encounters, therefore, are ways of connecting with the world as responsive and alive rather than passive and inert, as expressed imaginatively through, for example, art and creative storytelling (Matless, 2018a). They describe a relatedness, sensibility and conviviality to the nonhuman that is open to new ideas and relations, a form of ‘enchantment’ (Woodyer and Geoghegan, 2012) or ‘sublime experience’ (Williston, 2016) that destabilises boundaries and generates hope.

For these reasons, encountering has become associated with emergent forms of politics, especially those emanating from subaltern groups (Paulson, 2001). Scholars have explored how new ethical configurations and political possibilities have arisen in relation to a wide range of human encounters with the nonhuman, including with jellyfish (Rothe, 2020), flamingos (Fredriksen, 2021), garden slugs (Ginn, 2014) and plants (Hitchings and Jones, 2004), as well as a host of other nonorganic objects, landscapes and materials (Bauch and Scott, 2012; Latour, 2015; Wright, 2017). Chief among these nonorganic entities are the various forceful elements of the Earth itself, which both constrain and make possible social and political agency. This is referred to as ‘geopower’ – “the energising, excessive and differential forces of earth and cosmos – that provokes humans and other living beings into new forms of collective expression and thus makes political power possible” (Clark and Yusoff, 2017, p.17). Eventually, with sufficient forcing of human thought by the physical world (Whatmore, 2013), wider changes in policy and practice arise. For example, in their study of Glasgow’s surface runoff and sewerage systems, Jones and Macdonald (2007) showed how unruly water has forced city planners to rethink their otherwise stubbornly-held approaches to managing the nonhuman environment by adopting a series of ‘softer’ interventions aimed at controlling the behaviour of water. In the new era of the Anthropocene, then, where “social and ecological dynamics intersect with compounding issues of environmental and social injustice” (Oppermann, 2018, p.7), there is considerable potential for the “disruption of existential certainty” to lead to “practices of affirmative critique and transformative social action” (Amsler, 2010, p.131).

Together, these studies of entanglement, distributed agency, relatedness and geopower point towards an increased intermingling of society and nature and a more active role for the natural world in influencing and affecting human societies. But what do these processes mean for communities directly encountering nature in new ways as the Anthropocene unfolds ‘on the ground’ and in the context of everyday life? The aim of the next section is to begin examining this question in North Norfolk.

### 3. The Anthropocene in context: situating the study

The themes and ideas described above are commensurate with how approaches to coastline management have changed in many countries, including the UK. For centuries, the physical coastline has been rendered as a passive backdrop brought into human culture (Schama, 1987). Engineered sea defences – as structures designed to exert control over an indifferent nature, moulding land and sea to conform to human desires and visions of progress (Paterson, 2001) – have been viewed as the epitome of modernisation. In the past few decades, growing awareness of land-sea dynamics (Brown and Barton, 2013) and problems associated with installing hard sea defences (Betzold and Mohamed, 2017), coupled with the rise of environmentalism and awareness of climate change (Cazenave and Le Cozannet, 2013), have

prompted a rethink among researchers, politicians and policymakers. Today, sea defences are often viewed as relics of a bygone era, no longer viable under the increasingly demanding conditions of the Anthropocene. Similarly, coastal managers have begun to advocate working with, rather than suppressing, the sea's unruly characteristics as a way of building coastal resilience. In practice, this has involved 'making room' for the sea through managed retreat (Gibbs, 2016). There is also growing interest in 'softer', nature-based defences centred on restoration of habitats such as sand dunes and saltmarshes (Morris et al., 2020). Similarly, scholars have begun to understand coastlines as more-than-human achievements, thus fundamentally blurring the once clear division between culture and nature. For example, Gesing (2021) explores natural-cultural care practices in constructing and maintaining soft sea defences along the New Zealand coast. And Arnall (2022), working in the Maldives, shows how sea defences are intimately involved in the formation of social and political life in small island communities.

As is the case in many places in the UK, this shift from domination of the sea to its accommodation is evident on the North Norfolk Coast. This is a geomorphologically diverse and physically dynamic area, being made up of a wide variety of coastal habitats including saltmarsh, sand dunes and maritime cliffs, as well as areas of built environment, mostly small coastal towns and villages. Official scientific interest in the region's flora and fauna goes back to the early twentieth century, when historic human-nature encounters were documented by international teams of ecologists working in the Norfolk Broads National Park (Matless and Cameron, 2011). As stated in section one, 34 km of the North Norfolk Coast's 68 km span is a continuous section of soft, erodible cliffs and slopes, these structures running between Kelling Beach in the west and the village of Cart Gap in the east (Fig. 1). Many of the cliffs in this section are prone to slumping and landslip; as a consequence, access to the sandy beach that fronts them is frequently only possible by humanmade ramps or steps cut into the steep face. Happisburgh beach, shown in Fig. 2, is a typical example of this setting. Much of the land adjoining the clifftops is flat and arable, although there are also numerous coastal towns, villages and holiday parks positioned close to cliff edges. In this region, the disruptive effects of the sea on human activity on the land, including the destruction of buildings and infrastructure, have been observed and documented by local authorities, scientists and artists since the early 19th century (Matless, 2018b). In recent years, numerous buildings have become undermined by the encroaching cliffs and collapsed onto the beach below, which has attracted much media attention in the UK (Fig. 3).

Historically, the North Norfolk Coast was mainly populated by small, isolated fishing villages situated close to the ocean. These were mobile hamlets that could be relocated inland in response to coastal erosion. Active management of the coastline by regional authorities began in the early 19th century when a 10 km expanse came under the jurisdiction of the Sea Breach Commission (Matless, 2019). However, the main period of sea defence construction was prompted by the North Sea Flood of 1953, which inundated 1000 square kilometres of land and killed 307 people in England, with North Norfolk being badly affected (Kelly, 2017). This disaster occurred during what Wakefield (2018, p.5) refers to as an "expansive technosphere", part of the post-1950s Great Acceleration. During this period, the UK, which had recently emerged from World War II, had strong interests in protecting its territory from 'foreign' invasion. These factors engendered a 'never again' mentality towards the North Sea Flood, which resulted in a major construction programme of sea defences along much of the North Norfolk coastline (Brennan, 2007). Building began in the immediate aftermath of the flood and continued until the 1970s, with defences being given a 20–30 year

design life (Frew, 2012). A wide range of structures was built, with wooden groyne and low-lying revetments being the most common installations in the beach zone (Fig. 4). Closer to the cliff face, seawalls and gabions were typically constructed<sup>1</sup>.

This dominant approach of 'holding the line' was not to last, however. In the UK, coastal policy is guided by 22 Shoreline Management Plans (SMPs), which, together, cover the entire length of the British coastline. The first generation of SMPs was produced in the mid to late 1990s and mostly reflected historical defence practice. However, the second generation of SMPs, SMP2, articulated a desire to 'work with nature', thus reflecting the changing attitudes to coastline management outlined above. In North Norfolk, debates over coastal defence policy have intensified since the 1990s, as protective structures have begun to fail and fiscally restricted councils have been unable or unwilling to repair and replace them (Myatt-Bella et al., 2002). Accordingly, in 2006, SMP2 proposed moving to 'managed realignment' or 'no active intervention' for many areas. In practice, this would involve allowing sea defences to deteriorate and relocating affected settlements inland or to larger, protected towns elsewhere along the coastline. Unsurprisingly, this policy shift has been unpopular among residents, many of whom feel that their properties should be protected by the government. Although a few examples of successful coastal 'rollback' projects exist in the region (Frew, 2012), the prospect of widespread managed realignment is creating major challenges for local populations and authorities (Few et al., 2007; Milligan et al., 2009; O'Riordan et al., 2014). Local stakeholders are raising significant questions about fairness and social justice as a result (Cooper and McKenna, 2008).

During the fieldwork – which, as stated in section one, focussed on the section of the North Norfolk Coast characterised by erodible cliffs and slopes – I visited the coastal settlements of Cromer, Overstrand, Bacton and Happisburgh to speak with local stakeholders over a period of two weeks. Fifteen people were interviewed, including five local residents whose homes are directly threatened by the sea, two business owners, four district councillors, two coastal managers, and two campaign group managers. All of the local residents are long-time inhabitants of the North Norfolk region, having lived in the area for over ten years, but who now expect their homes to last no more than twenty years due to the encroaching cliff edge. The two businesses are a pub and a caravan park, both of which had been given a ten-year remaining lifespan. Interviewees were selected using a snowballing methodology, as this provided maximum freedom to adapt the research strategy on the ground as the visit progressed as well as to access harder-to-reach populations (Atkinson and Flint, 2001). Discussions took place either indoors or as walking interviews to witness first-hand the changes taking place (Evans and Jones, 2011). For example, in Overstrand, I walked with a district councillor along the nearby beach to view and discuss the eroding cliffs. I also walked two sections of coastline – Cromer to Overstrand and Happisburgh to Ostend – to familiarise myself with the area. These walks provided opportunities to meet and talk informally with local residents and tourists about erosion, sea defences and coastal settlements. These discussions, as well as my own thoughts and feelings about the changes that I saw in the area, were recorded in a field diary. Prior to these activities, ethical clearance to carry out the fieldwork was granted by my research institute. In addition, a series of policy documents, either downloaded from the internet or provided by local stakeholders, were reviewed for background information on the social and environmental dynamics of the area. A selection of ten online newspaper articles about coastal erosion and protection was also consulted to better understand the range of perspectives. Five of the articles were from the national press and five were from local news sources.

<sup>1</sup> Groynes are long, rigid structures built perpendicularly to the shoreline to slow longshore drift; revetments are sloping banks constructed on the beach that absorb the energy of incoming sea waves; gabions are metal cages filled with rocks that are used to reinforce cliffs or slopes.



Fig. 1. North Norfolk District, showing the section of coastline characterised by soft, erodible cliffs and slopes that was the focus of the research.



Fig. 2. Happisburgh Beach, North Norfolk, UK (credit: author's photograph).

Together, these primary and secondary data sources provided insights into how residents and authorities situated on the ‘frontline’ of the Anthropocene are coming to terms with the sea’s encroachment and the new perspectives on, and relationships with, the natural world that are emerging as a result.

#### 4. Making and unmaking coastal communities through Anthropocene encounters

In this section, I explore the various ideas established above through the presentation and discussion of the empirical data. My aim is to demonstrate the main ways in which new human-nature processes of encountering are taking place along the North Norfolk coastline in response to approaches and practices that aim to accommodate the sea rather than contain it. Specifically, I show how these dynamics manifest in three interconnected but distinct ways: first, in terms of how the natural world is increasingly impinging upon the rhythms and flows of everyday human life; second, in how communities and local authorities threatened by the ceaseless process of coastal erosion seek to ‘make way’

but also ‘buy time’; and third, how the liveness of the shifting coastline is ‘forcing thought’ and stimulating the formation of new political possibilities and alliances in the local area and further afield. Each is examined in turn.

##### 4.1. Multisensory impingements on the everyday

In the North Norfolk area, coastal communities are becoming increasingly aware of nonhuman forces as the actions of the sea impinge upon, and affect, people’s day-to-day lives. According to one coastal manager in the region, “There are farmers who for decades have understood and accepted that their land is eroding away, that this is just how it is in this area. They don’t mind it so much as a result”. For local residents, however, many of whom have had their homes and properties protected by coastal defences for decades, the accelerated rates of erosion seen in the past decade have been shocking, their sense of ongoingness in their lives being increasingly endangered. Indeed, community members described how, in 20 years’ time, their homes and businesses will be “gone”, the pace of shoreline loss described by at-risk



Fig. 3. Coastal buildings collapsing down the cliff face, Overstrand, UK. Wooden groynes are visible on the beach (credit: author's photograph).



Fig. 4. View of Overstrand beach, looking northwest towards Cromer. Groynes and revetments are visible on the beach. On the left, the presence of fresh earth indicates recent slumping of the marine cliff (credit: author's photograph).

residents as “extraordinary”, “unbelievable”, “incredible” and “terrifying”. This sense of shock is heightened by the episodic nature of erosion, which tends to occur sporadically, in unpredictable fits and starts, rather than in a gradual, foreseeable manner. As one community member, whose home is positioned thirty metres from the cliff edge, explained, “There can be years when nothing seems to happen and then all of a sudden you wake up one morning and ten metres [of land] has gone overnight. That can be scary. Seeing that really brings the message home, that your house is not secure. Not secure at all”.

This phenomenon, of nature's disruptive effect on the human day-to-day, is a multisensory experience, not just a visual one. Whereas the rumble and crash of the ocean waves striking the beach and cliffs were once muted and out of mind, many residents now describe how the sound of the sea forms a part of their daily lives, a constant reminder of limited time. The smell and taste of the ocean is much stronger,

especially on blustery days when the wind whips up the ocean foam and blows it over people's properties. When it is stormy, it is possible in some homes to feel the sea striking the base of the cliff. As one affected resident commented, “The whole house trembles, from the foundations up. I can feel it in my bed at night... On those kind of nights it's not possible to sleep”. These experiences provoke much anxiety, making day-to-day life a struggle for some, and inhibiting people's abilities to manage and plan for eventual relocation away from the coastline. One district councillor summed up this problem, saying, “There are a lot of people from the community in survival mode. They are thinking day-to-day, ‘How am I going to live?’ It does not work like that, that you can just demolish your home and leave, it is too difficult to manage when you are traumatised”.

Although, on an everyday basis, many residents would prefer to forget about the sea's unrelenting encroachment, evidence of natural-cultural entanglements along the coastline is everywhere and

increasingly encountered by local populations. Sea defences were once easily identifiable by their distinct arrangements and clean lines. Today, however, many stand in states of disrepair or partial collapse, their inevitable unbecoming evidenced by the seaweeds, crustaceans and molluscs that cling on to their sides, obscuring them in the surf and sand. Here, the defences' leftover materials are further penetrated and broken down by the actions of the waves, sea currents and wind, the roots of seaweeds, and burying activities of crabs and other small animals. Whereas once the beach presented a clean division between culture on the land and nature in the sea, this separation has become blurred by the remnants of people's homes that have collapsed down the encroaching cliff face and scattered across the sands. In the coastal village of Overstrand, for example, the foundations of the old Overstrand Hotel are visible in the eroded cliff. The hotel was destroyed by fire in 1947 and then collapsed into the sea in the 1950s. Residents and tourists often pass by the foundations via the clifftop path, which is now also being steadily undermined by coastal erosion. Whereas in years gone by the hotel's ruins were simply a curiosity, the contemporary experience of the Anthropocene has given them increased significance for passers-by who often stop to point and comment, and to take photographs. In this manner, recent concerns about climate change and sea level rise make present-day residents more receptive to historic examples of Anthropocene encounters and occurrences (Matless, 2016).

As the inevitability of the coastline's impermanence has become more and more evident, attempts have been made by local authorities and residents to acknowledge and 'own' the phenomenon, as "traumas of present loss mix with fascination for, and even inspiration from, that which has passed" (Matless, 2018a, p.7). DeSilvey (2012, p.33) wrote that in Birling Gap on the UK's South Coast artists have "created visual markers of the past and predicted coastline in flags and stones" and at Dunwich in the southeast "brushwood wave sculptures have been used to signal the anticipated extent of coastal erosion". Similarly, in Happisburgh, artists are planning to install a large bell along the shoreline as part of the 'Time and Tide Bell' project. The installation, which "celebrates and reinforces connections... between the land and the sea, between ourselves and our environment"<sup>2</sup>, is intended to function as a reminder that sea level rise will cause the bell to ring at different times in the future. Other examples of coastal art inspired by changing human-nature encounters in this region, such as lines of disappearing flags and oil paintings of caravans located by clifftops, have been documented by Matless (2018a). Moreover, in addition to building and maintaining sea defences, local authorities now market North Norfolk as the 'Deep History' coast, with local museums collaborating with tourist bodies to present erosion to the wider public as an attraction (Matless, 2016). According to the UK Government, this work "has been instrumental in educating local, regional and national audiences about the importance and dangers of erosion processes" (DEFRA, 2011, p.110).

In addition to expressing fear and concern, local residents have responded to the threat of coastal erosion in creative, unusual and surprising ways. One resident recounted how, a few years ago, there was a man who lived alone in an Overstrand home that went over the cliff edge: "He was quite elderly. He had a World War I-style tin hat and he joked that he wasn't worried about his home falling off the cliff because he could wear his tin hat at night in bed. So, he became known locally as the 'tin hat man'". On another property that is a couple of metres away from the cliff edge, the homeowner has created a series of sculptures in their garden made from locally sourced materials, primarily driftwood. These small structures further the mingling of the humanmade with the natural along this area of coastline. Their peculiar shapes – blending stone, wood and bolts of rusted iron in various configurations – draw attention to, even celebrate, the 'throwntogetherness' of this section of the land-sea interface. For the unwary visitor, unexpectedly encountering the endangered garden during their journey along the narrow

road that runs parallel to the clifftop, the sculptures enhance the sense of the unknown in this zone, eliciting feelings of unease over what is happening and what is to come.

#### 4.2. Giving way and buying time

Many people living along the North Norfolk Coast accept that climate change and sea level rise are happening and causing problems for society. Many also recognise the futility of trying to 'hold back' the North Sea in the long term using coastal defences. In areas experiencing rapid erosion, the future extent of inland encroachment by the sea is demarcated by fifty and one hundred-year lines. In some coastal towns and villages there are hundreds of properties positioned within these zones. These are places of significant uncertainty, where homeowners face unclear futures and the prospect of rapidly depreciating property values. There are some people who are willing to purchase properties within erosion lines, who are aware that their new homes are going to have little or no financial value in a few decades' time, but who are not overly concerned as they do not have relatives to leave their estates to. In these cases, a home with, for example, a 20-year life span, is typically valued at the price of 20 years' rent. In Overstrand, one resident explained that the historic manor house, which has nationally protected status, "recently sold for just £600,000 GBP because of its location. It won't make it to one hundred years". Other people purchase property within erosion zones only to realise later on that there is a problem. It is at this point that they contact the district council for information and advice.

The district council has developed planning legislation specifically to account for the effects of coastal erosion on property. Policy EN12 permits "proposals for the relocation and replacement of dwellings affected by erosion... provided that the development replaces a permanent dwelling... which is affected (or threatened) by erosion within 20 years of the date of the proposal" (NNDC, 2019). Under this policy, numerous homes and businesses have been relocated and infrastructure, such as carparks and public toilets, has been demolished and shifted inland. One of the largest businesses to move in this way was Manor Caravan Park in Happisburgh, which was granted permission to relocate its 134 static caravans, 60 touring caravan pitches and associated infrastructure 400 metres away from the clifftop to the southwestern side of the village. For many homeowners, however, the legislative and planning processes associated with EN12 are too difficult to navigate and the costs involved are prohibitive. In addition to EN12, several government-led schemes developed specifically to help people move inland have been implemented. The most notable of these was the Coastal Change Pathfinder Programme, a national 'road test' project to "explore ways of helping coastal communities plan and adapt to coastal change" (NNDC, 2010). Much of the programme's money was allocated to Happisburgh, primarily to fund the relocation of nine households away from the cliff edge. One district councillor, when asked about the effects of the scheme in the village, commented, "Before pathfinder you could see the desperation in people's eyes. Pathfinder liberated people from this burden. It took the burden off people and enabled them to move forwards". Despite this assistance, however, the scheme was limited by a short-term funding horizon and a lack of impact monitoring and evaluation (O'Riordan et al., 2014). Other property owners are changing their activities in response to the fifty and one hundred-year lines without external assistance. For example, the owner of a local hotel recently received planning permission to construct a £14 million GBP extension facing towards the sea. However, the owner retracted their plan in 2021 because of coastal erosion, intending instead to develop a series of mobile units that can be moved inland as the cliff edge shifts closer.

These cases show that, among some residents and business owners, the historic mindset of 'holding the line' has changed to acceptance of the need to accommodate the unruly sea. In other cases, a more complex human-nature relationship has emerged, one in which coastal managers seek "to 'buy time' and take incremental defensive action which will

<sup>2</sup> <https://timeandtidebell.org/>.

allow them to defer the decision to let go" (DeSilvey, 2012, p.33). In North Norfolk, this alternative approach is epitomised by the case of the Bacton Gas Terminal, a large coastal facility of national importance situated to the north of Bacton village. In recent years, rapidly eroding cliffs have threatened to undermine the terminal. In response, the operating company of the facility, Shell, commissioned in 2019 a Dutch engineering company to undertake a giant 'sandscaping' scheme, adding 1.8 million cubic metres of sand to the beach directly in front of the site. This intervention has extended the beach by tens of metres towards the ocean, building the sand dunes up by several metres in some places and preventing further erosion of the cliff (Brown, 2019). Over the coming years, the wind, waves and sea currents will distribute the sand along the shoreline as part of a giant 'sand engine', buying time for the terminal (Vikolainen et al., 2017). As such, the sand engine, according to Van Der Voet (2021, p.100), is "a way of working with nature", an intervention that "spreads awareness of coastal dynamics, of the way entire coastlines were shifted, destroyed, created, by the slow and simple movement of millions of grains of sand". Despite this apparent human-nonhuman alliance, however, the natural world can still unsettle coastal communities, reminding people of its capacity for unpredictability and surprise. This was demonstrated in September 2020, for example, when three days of high winds blew tonnes of sand off the beach and into the communities of Walcott and Bacton, covering cars, roads, houses and gardens. This resulted in mesh netting being installed along the top of the seawall in a bid to keep the intruding sand on the beach where it 'belonged'.

Despite these setbacks, coastal communities located to the south of the Bacton Terminal have benefitted from the extra sand being washed onto their beaches by longshore drift, thus slowing erosion rates in front of their homes and providing crucial 'breathing space'. In some villages, such as Happisburgh, there was so little sand before the creation of the sand engine that the underlying clay was exposed. In 2014, this resulted in the discovery of the well-known 'Happisburgh prints', human footprints dated at between one and 0.78 million years old, the oldest example to be found outside of the African continent (Ashton et al., 2014). Since then, the sand has returned and these glimpses into the past afforded by the Anthropocene have passed. In addition to the sand engine, there are other ways in which time has been 'bought' for coastal settlements. For example, in 2006, the district council, urged on by local communities, implemented a ten-year programme of additional expenditure on defences, increasing its annual maintenance budget from £350,000 to £550,000 GBP. The programme aimed to extend the life of "the critical elements of existing structures, providing low-level defence that affords partial protection or providing defences with a finite life, say 10–20 years" (Frew, 2012, p.133). Examples of this selective approach can be found dotted along the North Norfolk coastline today. This includes in Overstrand, where the base of the seawall has been reinforced, and in Happisburgh, where a low-level rock bund has been positioned along the beach. Measures such as these provide temporary respite for coastal communities. New encounters with the erosive sea, however, are increasingly occurring as coastal defences continue their process of unbecoming and the ocean progressively impinges on people's everyday lives.

#### 4.3. Forcing thought and prompting political action

The human-nonhuman encounters set out above are stimulating new ways of thinking about social justice and fairness. In the UK, coastal communities are among the most economically and socially disadvantaged demographic groups in the country (Zsomboky et al., 2011). Although in North Norfolk there has been an influx of wealthy retirees in recent decades, which has produced some areas of relative affluence, many communities are comparatively deprived, being geographically isolated and economically dependent on the summer tourist trade. In the past few decades, these problems have intersected with the unruly sea with the result that new and emerging discussions about the future of

coastal towns and villages in the region can no longer be said to be exclusively human processes (Whatmore and Landström, 2011). Many North Norfolk communities feel powerless as coastal defences deteriorate and wash away and people's homes are forsaken to the vagaries of the North Sea. One prominent local campaigner summed up this sentiment in a UK House of Commons report (2019) stating, "All we have had thus far is the Government machine coming along, doing a Shoreline Management Plan and saying, 'Sorry, guys, we are no longer going to protect you although we have done so for 50 years. Bye'. That is not adaptation; that is abandonment". The sentiment is exacerbated by homeowners being liable for clear up if their homes go over the cliff edge. As explained by a district councillor from the area, "People on coastlines have less protection than those affected by flooding. If your home falls onto the beach then you must pay for the clean-up... You can get a small grant that helps with demolition, but it is not much".

Local residents, increasingly anxious about these new forms of human-nonhuman encounter, have raised questions about the distribution of costs and benefits in coastal management policy at a variety of scales. Locally, community campaigners argue that they are often overlooked in decision-making on the placement of sea defences. To illustrate, Happisburgh is described by its residents as "half protected and half not", a decision that has been made "due to money". As one local business owner explained, "There are reefs between Happisburgh and Sea Palling [to the southeast] but Happisburgh is left unprotected. They are protecting the Norfolk Broads, they are protecting Bacton Works. So why not here?" Indeed, a recent government report on coastal erosion and flooding pointed out the difficulties involved in directing resources for coastal defences towards areas with "small or scattered populations" due to cost concerns (House of Commons, 2019, p.14). Similarly, national-level schemes designed to provide coastal populations with financial security are also proving challenging to design and implement. The district council, for example, has discussed the potential role of re-insurance in protecting homes in a mode like the UK's 'Flood Re' scheme whereby government collaborates with national insurers to make flooding cover more affordable. However, to date, little progress has been made on this front with regard to coastal protection due to the scheme's complexities. The council also considered the introduction of a county-wide levy to support households threatened by coastal erosion, calculating that it would cost around £5 GBP per household per year. However, as a coastal manager explained, the UK's 'cost of living crisis'<sup>3</sup> means that "this is not possible nor up for discussion at present". More widely, local campaigners portray coastal communities as situated on the 'frontline' of climate change and yet "expected to shoulder the consequences with little or no help from central government". This was described by one prominent campaigner as a "gross injustice" because "coastal dwellers are not the only communities to contribute to our carbon footprint. Everyone in the country has an equal responsibility. Therefore, we should all foot the bill and all funding should come from the centre". The problem is especially acute because "we are talking here about ordinary people with modest homes and incomes" (Milmo, 2019).

Similar concerns relating to distribution exist in cases where government intervenes to support communities as a response to accelerated coastal erosion. In North Norfolk, as in many areas of the UK, approaches to managing the coastline in the Anthropocene are often couched in terms of 'adaptation' and 'resilience' (Buser, 2020). Some local campaigners have adopted these terms, believing them to be the best way to communicate with national politicians about needs in the district. Other residents, however, are dismissive of using such terms, with one local business owner stating, "Adaptation is basically bullshit.

<sup>3</sup> The 'cost of living crisis' refers to "the fall in 'real' disposable incomes (that is, adjusted for inflation and after taxes and benefits) that the UK has experienced since late 2021" (Hourston, P. [2022]. Cost of living crisis. London, Institute for Government).

It means not defending'. There are particularly acute worries about the implementation of 'rollback' schemes to move people's homes inland. A district councillor explained that people want permanent, static residences, not "'lift and shift' homes". Moreover, the relocation of residents away from the coastline, the councillor argued, is not "a socially equal process", with most of the new homes being developed described as unaffordable for local residents. Instead, it is necessary to look "at the local area and decide what local needs are, otherwise people will have to leave... A planning application has gone in for fourteen affordable homes in Happisburgh, but what has happened there? Nothing is moving forward". Residents have also raised concerns that local businesses are being prioritised over domestic properties for rollback assistance on the basis that the former are more important for the local economy. However, this basis is questioned by some, who argue that it is not a "people-oriented use of money". For example, one district councillor, commenting on a caravan park that was relocated inland, stated, "This is a lucrative business. It has been promoted as important for the village economically. However... in reality not much money goes to the community. There are maybe two jobs there for community people. However, council money was put into the park as it is about saving local businesses".

In addition to forcing thought about resource distribution, the impinging North Sea is stimulating new forms of political association. A frequently cited problem in population resettlement away from coastlines is "a lack of meaningful [local] involvement in the decision-making process" (Brennan, 2007, p.594). Whereas those with the most "social capital and wealth" are often able to "advance things", poorer communities can be "left behind" (House of Commons, 2019, p.14). In North Norfolk, one Overstrand resident explained that people's "strong emotional attachments to the communities where they live" and a desire for coastal villages "not just to exist but also to thrive" has meant a surge in new forms of political activity as a result of the encroaching sea. The best-known example of this is the Coastal Concern Action Group (CCAG), which was "formed in 1998 to fight for renewal of Happisburgh's failing sea defences" and "gained national and international recognition for its work campaigning for proper coastal governance and social justice"<sup>4</sup>. Moreover, the impinging sea has stimulated the development of solidarity within and between affected communities. For example, a district council member explained how, in their village, the threat of coastal erosion prompted a gradual "coming together" of residents over a period of a few years. He explained, "The SMP, when it came out in '95, there were a lot of individuals thinking, 'What about me?' But slowly, over time, the community has come together to think like a community. They see the sea daily and they ask, 'What is best for the community?'" Community solidarity effects were also recognised by officials on the Pathfinder project, who stated in an evaluation report, "Intangible benefits from the project included... improved community relationships and cohesion" (NCCARF, 2016, p.3).

## 5. Conclusion

The North Norfolk coastline is continually being made and remade because of human-nonhuman encounters taking place along it. This is an ongoing, open-ended process consisting of hybrid communities of different configurations of social-natural spaces (Latour, 2007) as people and nature attempt to live together in a changing world (Bingham, 2006). Rather than sitting passively, waiting for the designs and interventions of 'man', the sea is an active participant in the shaping of the coastline's future, restrained for decades by engineered sea defences but now increasingly imposing upon the day-to-day lifeworlds of coastal communities in multisensory ways. As a result, in North Norfolk, as in many areas of the UK, the coastline can no longer be viewed as a clean division between the orderliness of human culture on land and the

wildness of the natural world out at sea. Instead, these two zones are becoming increasingly entangled as the sea makes its presence felt. In response, many residents attempt to accommodate the unruly ocean, making way as the sea continues its inexorable journey inland, whereas others try to buy time, continuing to hold the seawaters back, but only on a temporary basis. There are also residents who have embraced their fates, determined to 'own' and draw attention to the issue through stories, exhibits and art installations. Similarly, the district council is attempting to position coastal erosion in a more profound 'deep time' context in a bid to promote public understanding of the problem.

At first glance, this emphasis on the increased agency of the sea and the movement of the land-sea boundary seems to support Last's (2017, p.165) contention that, in the Anthropocene, we increasingly appear "geophysically active but politically passive". In other words, human capacities of association, cooperative action and solidarity look worryingly diminished in the face of an increasingly lively, creative and, potentially, destructive natural world. However, as the case study presented in this paper also shows, 'staying with the trouble' and 'making-with' nature (Haraway, 2016) in North Norfolk is prompting the emergence of new political associations as the Anthropocene, often portrayed as a universalising, unifying notion, becomes exposed as a multiple object with different meanings and unequal consequences for particular places and social groups (Brondizio et al., 2016). Coastal communities, aggrieved by what they view as unfair distribution of costs and benefits in coastal management, are raising questions about social justice in how the UK government responds to climate change and where it locates its sea defences. New political associations have also formed, some of which have received national and international attention. Of course, many of the physical processes affecting the North Norfolk area, including climate change and sea level rise, are global in scope, part of, as outlined in section one, an interconnected, planetary-scale biosphere. In the face of these, the challenges being experienced by coastal communities can appear overwhelming. Nonetheless, despite these difficulties, the Anthropocene story can still begin to incorporate Callon's (1998, p.260) "ever-growing, ever-more-varied cast of characters", potentially including "people living in poverty" in "disaster-prone areas" and others who are far from participating in decision-making about their own fates (Gaard, 2014, p.4).

In addition to thinking about political in/activity, the insights afforded by an encountering perspective on the Anthropocene have implications for the temporal and spatial scales at which human-nature entanglements and nonhuman agency are considered. As outlined above, much Anthropocene-related research in the past twenty years has occurred at the global level, creating an image of a generic, abstracted humanity increasingly at the mercy of impending worldwide crises and catastrophes. In contrast, this paper stresses the importance of connecting Anthropocene thinking to "the realm of immediacy where meaningful action is possible and most likely to be effective" (Litfin, 1997, p.38). Recent scholarship has attempted to instate this particularisation of place by exploring the Anthropocene as a visual, situated phenomenon under which "attention is drawn to those scenes through which processes interrogated under Anthropocene and climate change rubrics become evident" (Matless, 2016, p.118). This present study adds to this work by presenting the Anthropocene as an everyday, multi-sensory unfolding consisting of visual, aural and tactile components. The notion of 'encountering' helps to capture these distinct but interconnected elements as the familiar and day-to-day is increasingly upended, generating negative emotions but also potentially producing a sense of relatedness to, and conviviality with, other human and nonhuman agents (Mathews, 2003). What we see in people's accounts from North Norfolk, therefore, "are momentary destabilizations where borders are shifted, exposed, crossed, made, unmade and undermined", sometimes interpreted as threatening – as a form of security breach – but at other times resembling communicative engagement with the wider world (Wilson, 2017, p.456). It is through these processes, operating as tensions between closure and openness, between horizontally aligned

<sup>4</sup> <https://happisburgh.org.uk/>.

agentive entities, that social and political agency is both constrained and made possible by the forces of planet earth.

### CRedit authorship contribution statement

**Alex Arnall:** Conceptualization, Funding acquisition, Investigation, Methodology, Data curation, Writing – original draft, Writing – review & editing.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

The data that has been used is confidential.

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