

The Anthroposcenic

There is usually no clearcut gap between the realm of geography and details with which geography need not be concerned.

Benoit Mandelbrot, 'How Long is the Coast of Britain?' (1967, 636)

Anthroposcenic geography

If, today, a church tower, standing alone on a beach, fell in a storm, lashed by waves, leaving rubble on the shore, it might be taken as a sign of shifting climate, of rising seas, of a new epoch. Viewed from, say, the small height of nearby dunes, the scene might be taken to mark the Anthropocene. A toppled tower, Anthroposcenic.

On 23 January 1895, a church tower, standing alone on the beach at Eccles, on the North Sea coast of Norfolk in eastern England, fell in a storm, lashed by waves, leaving rubble on the shore. A curiosity, a seamark, a picnic place, Eccles tower had found geological fame in Charles Lyell's *Principles of Geology*, Lyell including two engravings of the tower, from 1839 and 1862, the structure buried under migrating sand, and emerging intact in beach isolation (Lyell 1866, 519). **[FIGURE 1A/B]** Lyell presented Eccles within a chapter on 'Destroying and Transporting Effects of Tides and Currents', an English east coast survey, reflecting on losses and levels. Does Lyell present a nineteenth century Anthroposcenic?

This paper reflects on English coastal material, and the relationship between present and past accounts of landscape change, to suggest the 'Anthroposcenic' as a line of geographic enquiry. A definition of 'Anthroposcenic' might be: 'landscape emblematic of processes marking the Anthropocene'. The diagnosis of the Anthropocene demands work moving across the natural

sciences, social sciences and humanities; the Anthroposcenic was initially proposed in a commentary piece for *Nature Climate Change* (Matless 2016).¹ Setting out the challenges of the Anthropocene for geography, Noel Castree invites geographers to be ‘semantic weather makers’, helping to shape ‘the frames of reference others use to comprehend life in a world where humans are said to be the equivalent of a geological force’ (Castree 2014c, 473). A range of human geographers, including Castree, have already made distinctive Anthropocene contributions (see for example Castree 2014a, 2014b, 2014c; Clark 2015; Cook, Rickards and Rutherford 2015; Lorimer 2015; Rickards 2015; Yusoff 2016), and this paper offers a semantic proposal from cultural and historical geography, harnessing the conceptual capacities of landscape, the understanding of science as cultural practice, and the anticipatory nature of historical enquiry.

The paper begins by elaborating on the term ‘Anthroposcenic’, and reflects on geological wordplay in science and the humanities. The role of historical enquiry is considered, in terms of the dating of the Anthropocene, and the resonance of past geological debate, such as the work of Lyell. The possibilities of the Anthroposcenic are then demonstrated through studies of eroding coastal landscapes, drawing on contemporary and historical material from the English coast, and showing the articulation of environmental change through different scales, whether regional, national, continental or global. The material considered here may be local to England, indeed predominantly to eastern England, but indicates how the Anthroposcenic entails translations of scale. English coastal material thereby acts as an Anthroposcenic demonstration piece. While the specific cultural and political questions raised through coastal landscapes across the world vary dramatically, and while other landscape scenes - glacier snouts, heatwave cities, ice sheet edges, felled forest, permafrost only sometimes frozen - might focus Anthropocene issues in different fashion, the Anthroposcenic as an idea might travel across landscape type and geographic location. Coastal studies also show past landscape achieving present resonance, and thereby indicate how the Anthroposcenic may encompass historical

material anticipatory of current debate. The paper reflects on how the Anthroposcenic past, present and future meet through questions of inheritance, and returns to Lyell's Eccles tower in conclusion. In form, then, the paper essays an idea, approaching the Anthropocene and Anthroposcenic not to give a comprehensive survey but to open up geographic possibility.

'Landscape' works here in a different sense to that of a recent collection on 'Landscapes in the Anthropocene', quantifying 'the effects of human disturbances on Earth surface processes' (Tarolli et al 2014, 1). Geography might instead inject a more complex sense of landscape into Anthropocene debate, with cultural geography showing the capacity of landscape to shuttle between different frames of reference; between solid grounds and imaginative subjects, entangling different registers and modes of value, and articulating plural voices (Wylie 2007a, Matless 2014). Geographers have also emphasised landscape as political matter, and this paper draws out an Anthroposcenic politics, less through direct political critique of science than via the imbrication of politics and culture in landscape narrative, including that produced through scientific study.

The 'scenic' component of the Anthroposcenic is in no sense narrowly visual (if the visual is ever narrow), but encompasses qualities of a scene, acts of looking, technologies of artistic and scientific representation, and multisensory scenes of performance, formally theatrical or otherwise. The 'scenic' here carries its own cultural geographic genealogy, and indeed occasioned a previous meeting of science and humanities geography, when Vaughan Cornish's 1928 proposal for an 'aesthetic geography' based on 'harmonies of scenery' was hailed by *Nature* as a basis for 'the science of scenery' (*Nature* 1928; Cornish 1928; Matless 1996). *Nature*, suggesting Cornish pointed to 'a practical maxim of great worth in view of man's increasing energy to change the surface of the earth', noted affinity with Patrick Geddes's promotion of the observational synoptic view: 'Large views in the abstract depend upon large views in the concrete' (*Nature* 1928, 310-311; Geddes 1915, 13-14). Cornish projected a narrowly normative

sense of harmony, 'a grouping in which one part enhances the appearance of the other' (Cornish 1928, 276), as 'a general aesthetic of Geography which can be applied *ad infinitum* in the description of localities' (275). Cornish could however move beyond the visual: 'it is well to recall the act that the word "scenery" is derived from the Greek skene, a tent or stage, and that "the natural scene" may be properly regarded as the stage on which Nature plays the drama of the senses' (Cornish 1934, 195). The Anthroposcenic seeks neither normative aesthetic judgement nor easy blanket coverage, but the geographic scenic might be revisited as a stepping point for Anthroposcenic stories.

There is a parallel here with Denis Cosgrove's analysis of scenes of earth from space, Cosgrove noting 'the inseparability of imagination, moral reflection, and practical action apparent in representations of the globe' (2001, xi; Cosgrove 1994; Lekan 2014). Politics, morality and imagination refract through landscape, which, with prismatic quality, becomes emblematic of environmental change. If conceptual frames such as the Anthropocene are inevitably shaped through the particular grounds on which they are projected, tested, critiqued and rethought, the abstract and concrete in mutual constitution, then the grounds of landscape shaping the Anthropocene may be termed the Anthroposcenic.

Wordplay in the geohumanities

The Anthroposcenic is of course a play on words. In discussions around the humanities' contribution to Anthropocene and climate change debate (Hulme 2011), one element would be attentiveness to wordplay, and its substantive effects. What is the Anthropocene if not an extraordinarily effective play on words, joining the specificity of the human to the breadth of geological time to mark the remarkable capacity of one species? The Anthropocene, as Zalasiewicz, Williams, Steffen and Crutzen note, has managed not to 'become a discarded footnote in the history of geological ideas' (Zalasiewicz et al 2010, 2228), but instead has gained

traction, having 'a resonance that goes beyond the modification of a geological classificatory scheme' (2230), resonance derived in part from the cultural power of scientific nomenclature.

The humanities have deployed perspectives of art to amplify or interrogate science, demonstrated in the climate change work of arts organisations such as Cape Farewell (Ingram 2011; Robin et al 2014; Hawkins et al 2015). Art practice may itself here work through scientific registers, as in the 'radical landscape poetry' anthologised by Harriet Tarlo, where words of natural science, archaeology and documentary history gather for poetic charge (Tarlo 2011). Thus, in an example pertinent to the coastal material discussed below, Wendy Mulford's 1998 'East Anglia Sequence' voices coastwise languages of scientific report, policy assessment, flood history, personal memory and myth (Mulford 2002). Neal Alexander and David Cooper highlight JH Prynne's 1969 poem 'The Glacial Question, Unsolved', with its academic reference list including geographers Gordon Manley and Karl Butzer, evincing 'a self-reflexive preoccupation with the limitations of the epistemological frameworks constructed by professional geologists' (Alexander and Cooper 2013, 15). Prynne's 1969 'unsolved' question encompassed contemporaneous scientific projections of a future Ice Age, with geologist William King quoted as asking whether 'the Pleistocene Epoch itself / has come to an end': 'the Pleistocene is our current sense, and / what in sentiment we are, we / are, the coast, a line or sequence, the / cut back down, to the shore.' (Prynne 2005, 65-67).²

Arguing for social science and the humanities to shape a changed 'intellectual climate', Castree et al call for attention 'beyond the cognitive to encompass the moral, spiritual, aesthetic and affective' (2014, 765), but it is important not simply to shift attention from science to other epistemological realms. The arts and humanities may bring insights into the cultures of science itself. As Roebuck and Sperling comment, Prynne's glacial poem 'resists parochial claims to the exact truth and objectivity of scientific methodologies by inviting the reader to historicize them' (Roebuck and Sperling 2010, 41). Earlier attempts to frame geological time may also here speak

to the Anthropocene. In 1835 Roderick Murchison labelled sedimentary fossiliferous rocks as 'Silurian', named from the Romano-British Silures tribe, led by Caractacus against imperial Rome. Murchison registered British nationalism in the geological table, and was himself acclaimed 'King of Siluria'. If the particular nationalisms underpinning such argument may be less evident in contemporary debate, contests around the Anthropocene carry echoes of earlier geological battles. For James Secord, the Silurian story shows how 'the language of the natural sciences resonates with meaning from the surrounding culture' (Secord 1982, 414; Secord 2014); the same can be said of the emergent Anthropocene, whose label catches hold after 50 years of anxiety concerning human environmental impact, and concurrent worries and joys over globalisation. The Anthropocene takes imaginative hold by joining, in one word, global humanity and jolted nature.

Secord also observes how 'Murchison and his supporters actively embraced the metaphorical consequences of their scientific language' (1982, 441); one notable dimension of the Anthropocene is that scientists have embraced rather than distanced themselves from the metaphorical, as in the popular scientific and part science fictional writings of Jan Zalasiewicz, convenor of the Anthropocene Working Group reporting to the adjudicatory International Commission on Stratigraphy. Thus in Zalasiewicz's *The Earth After Us* extra-terrestrial visitors 100 million years hence explore human remains on a warmer earth, pondering the stratigraphic imprint (Zalasiewicz 2008). The Anthropocene shows science reluctant to leave meaning, metaphor and wordplay to the arts, and seeking to speak across presumed intellectual unconformity.

From the geological vocabulary, 'unconformity' might indeed offer an apt image for Anthropocene geography. Unconformity denotes a stratigraphic break between older and younger rocks, an uneasy boundary with different ages adjacent, sometimes at discordant angle. If one challenge of the Anthropocene, itself an exercise in the stratigraphic imagination, is to

connect areas of knowledge which might find themselves at cross purpose, then geography, with its peculiar intellectual configuration, might shape the necessary language of unconformity; the Anthroposcenic might offer one such term.

Anthropocene times

Scott Kirsch notes: 'It is difficult to imagine anything more culturally-loaded, or more distinctly human, than thinking in epochal terms' (2015, 1). The relabelling of a chunk of earth-historical time begs questions concerning the nature of geological record, the consequences of precise dating, and history's propensity to anticipate the present, all of which constitute the times of the Anthropocene, and shape the Anthroposcenic.

Zalasiewicz, Williams, Steffen and Crutzen state that the Anthropocene is 'a unit of time, and not of process', and thus encompasses sediment layers in themselves 'bereft of measurable human influence' (Zalasiewicz et al 2010, 2230). A human stamp is therefore not required to place something within the Anthropocene, and one might add that if the Anthropocene is a unit of time, then for much of that time people lived without any sense of their likely retrospective reclassification. Historical studies of objects and events retrospectively labelled Anthropocene should acknowledge that these may have formed and proceeded through other awareness of what the human geological imprint might entail.

At the time of writing the Anthropocene epoch has yet to be formally approved and dated, but the term gains common currency. If, in Secord's phrase, 'the language of the natural sciences resonates with meaning from the surrounding culture', then the choice of date, and indeed the stratigraphic requirement for there to be a precise date, may significantly frame that resonance. The substantial majority view in the international scientific Anthropocene Working Group, presented in September 2016, is that the Anthropocene is 'geologically real', and that it should

be formalised as an epoch beginning in the mid twentieth century, with the 'primary signal' a geological 'golden spike' of traces in the rock record, most likely derived from atmospheric nuclear testing, and coincident with a 'Great Acceleration' in industrial production and consumption. ³ The Working Group state:

Formalization is a complex question because, unlike with prior subdivisions of geological time, the potential utility of a formal Anthropocene reaches well beyond the geological community. It also expresses the extent to which humanity is driving rapid and widespread changes to the Earth system that will variously persist and potentially intensify into the future. (Waters et al 2016, 137)

If the 'King of Siluria' might have disputed the first sentence here, it is worth reflecting further on what the choice of lower boundary might express. While nuclear testing may not be a human activity fundamentally reshaping the atmospheric earth system (a dimension often defined as a key feature of the Anthropocene), tying the epoch to the ultimate symbol of human destructive capacity will likely generate negative narrative. The geology of humankind is signalled by the Bomb. Earlier Anthropocene formulations presented a likely starting point around 1800 (Crutzen and Stoermer 2000; Crutzen 2002), fossil fuel industries driving global environmental change, with echoes of earlier expert discourse around resource use and the limits to growth (Agar 2015). Emphasis on a post-1950 'Great Acceleration' (Steffen et al 2007) conversely taps into environmental critiques focused on the effects of consumption, Western consumer society culpable for a new epoch; the geology of humankind turns plastic.

Others push the story further back, Lewis and Maslin offering not only nuclear traces from 1964 as a possible marker, but changes traceable to population loss in the Americas following contact between European migrants and indigenous peoples (Lewis and Maslin 2015a, 2015b; Hamilton 2015; Maslin and Lewis 2015; Zalasiewicz et al 2015). If the Anthropocene begins in 1610, the epoch becomes colonial, and its anxieties and culpabilities post-colonial. Others push still further to the earliest human imprints on earth, the Anthropocene coeval with the Holocene,

and thus nothing new except in name (Smith and Zeder 2013). Elsewhere a scientific ‘informal use’ is proposed, rather than chronological definition (Ruddiman 2013, 66; Ruddiman et al 2015). Whatever the case, as Lewis and Maslin observe: ‘The event or date chosen as the inception of the Anthropocene will affect the stories people construct about the ongoing development of human societies’ (2015a, 178). Yet even when the date is fixed, the Anthropocene is unlikely to settle.

Whatever stratigraphic marker is chosen, the processes it registers did not begin on that date. Emblematic landscapes of environmental change thus carry complex histories to the Anthropogenic present; work on climate history also indicates such complexity, and shows how historical study may inform present debate.⁴ What DeSilvey terms history’s ‘anticipatory’ quality (DeSilvey 2012; DeSilvey, Naylor and Sackett 2010) is evident again in Cosgrove’s work: ‘The meanings of the photographed earth were anticipated long before the photographs themselves were taken’ (Cosgrove 2001, ix). Present-resonant, rather than presentist, attention motivated Cosgrove’s historical account in *Apollo’s Eye*, and his statement might also apply to the Anthropogenic. While the analytical claims of the Anthropocene may be new, the environmental sensibilities and outlooks often invoked - hubris, folly, anxiety, pride, greed, melancholy - pre-date diagnoses of global human effect. If the meanings of processes were anticipated before they were formally diagnosed and named, history and the present may usefully converse, and history might even on occasion speak uncannily to the present, as when Lyell, in one of the founding documents of geological science, *Principles of Geology*, states: ‘The earth’s crust must be remodelled more than once before all the memorials of man which are continually becoming entombed in the rocks now forming will be destroyed’ (Lyell 1866, 563).

The Anthropogenic coast: cultural geography at sea level

On the national edge

The remainder of this paper examines the coastal Anthroposcenic via examples from England, especially eastern England, where the coast, as elsewhere across the world, has been prominent in climate change debate; Glavovic terms the coast 'the frontline in the Anthropocene' (Glavovic 2015, 51; Turner and Luisetti 2015).

In *Species of Spaces*, Georges Perec reflects:

Like everyone else, I presume, I feel an attraction for zero points, for the axes and points of reference from which the positions and distances of any object in the universe can be determined:

- the Equator
- the Greenwich Meridian
- sea-level (Perec 1997, 91).

Perec's points are all humanly defined, but sea level and the Equator appear to delineate natural configurations. If sea level has however historically been held to move regardless of the human, the Anthropocene has it moving in consequence, and cultural and historical geography might track sea level's Anthroposcenic repertoire.

Global movements of sea level refract and are refracted through national cultural geographies. In the British Isles, and England in particular, two aspects are key here; senses of island nationhood, and of national nature. Both show ostensibly global concerns shaped in variation. British sea level thus makes sense through a particular natural history, at once holding to the sea as (whatever the human influence on its level) a source of potential sublime power, yet also as domesticated through intimate nautical knowledge and coastal management. The coastlines of the British Isles have seldom been labelled wilderness, indeed landscape aesthetics, coastal policy and conservation strategy have developed through acute reflexivity concerning artifice

and the natural (Matless, Watkins and Merchant 2005; MacDonald 2001). Whatever their 'wild' qualities, sites which might now be termed Anthroposcenic were never simply natural before.

British sea level also articulates national political narrative. In *Archipelagic Modernism*, John Brannigan explores 20th and 21st century Irish and British writers 'returning to an overburdened symbolism of the nation as beleaguered island in order to read the archipelago anew' (Brannigan 2015, 252). Brannigan begins with Richard Jefferies' 1885 novel *After London*, where sea level rise blocks river outlets, including the Thames, drowning southern England under a lake, prompting a 'relapse into barbarism' (Jefferies 1980). Brannigan draws out marine cultural geography, with the Irish Sea, termed by Mackinder a 'British Mediterranean', becoming a possible 'inland waterway of the archipelago' (Brannigan 2015, 68; Mackinder 1902, 20). A south-eastern question is also posed: 'Is there some sense in which the Thames and the Rhine mingle more than water and silt in the southern reaches of the North Sea?' (Brannigan 2015, 10). Brannigan finds post-imperial, post-unionist possibilities, 'seas, coastlines and islands' offering recalibration of 'identities, cartographies, and ecologies' (2015, 17). Sea level is refracted through geographical particulars.

Sea level might itself become one of Perec's 'species of spaces', manifest on the shore. Coastal landscapes have indeed become emblematically Anthroposcenic, most notably where human constructions are undermined by erosion. There is a long cultural history of coastal loss, discussed below, but from the late twentieth century climate change stories colonised the shore. Erosion receives striking rendition in the work of Julian Perry, who in 2010 exhibited 'An Extraordinary Prospect: the coastal erosion paintings', works in oil showing Norfolk, Suffolk and Yorkshire coastal scenes (Perry 2010). **[FIGURE 2]** Perry lets human dwellings, notably caravans and bungalows, hover in mid-air, still grounded on grass and topsoil, but with the land below removed. The medium of oil paint, rather than, say, watercolour, allows ordinary objects to retain their substance as they contemplate, and make for, an extraordinary prospect.

Paintings such as 'Cliffs at Happisburgh', 'Skipsea Bungalow', 'Coastal House Suffolk', 'Happisburgh Defences' and 'Caravan Holiday' make for exemplary Anthroposcenes.

East Anglian coasts have become prominent in cultural engagements with climate change, in part through local artistic and literary networks, but also from proximity to public and commercial institutions in London, and the not unrelated gentrification of coastal areas through second home ownership, notably in Suffolk and north Norfolk. The interpretation of processes defined as global is inflected by local social geographies, which themselves shape geographies of creativity. Art works have tracked erosion, as in 2005 at Bawdsey, Suffolk, where Dutch artist Bettina Furnee's 'Lines of Defence' placed flags in lines stretching back from the cliff edge, spelling out 'SUBMISSION IS ADVANCING AT A FRIGHTFUL SPEED', their subsequent disappearance between January and September marking 'the invading force of the sea'; a 30-minute time lapse film records their toppling, the message lost as it is confirmed.⁵ At the close of the 20th century, WG Sebald's *The Rings of Saturn* influentially meditated on and through Suffolk coastal loss, journeying to Dunwich, where a major medieval town succumbed to erosion: 'If you look out from the cliff-top across the sea towards where the town must once have been, you can sense the immense power of emptiness' (Sebald 1998, 159; Morris 2014; Weston 2011; Wylie 2007b).

Pasts deep and shallow

Erosion not only marks loss, but may signal recovery, ancient pasts exposed for present resonance. And the sea itself may not be devoid. Debates on rising seas proceed alongside historical and archaeological research concerning the human occupation of lands now lost, as shown in Nunn and Reid's corroboration of scientific analyses of post-glacial sea level rise and Australian Aboriginal oral histories of inundation (Nunn and Reid 2016). Such investigations

may concern a period well before any designated Anthropocene, but speak to present preoccupations.

East Anglia has been a key site for the Ancient Human Occupation of Britain (AHOB) project, with key findings made at Happisburgh in north-east Norfolk, and Pakefield in Suffolk. The 2006 AHOB book, *Homo Britannicus*, opens with an Anthroposcenic landscape description; a huge river bed, hippos and elephants, and humans: 'This is not some scene from our ancestral African homelands of two million years ago ... This is Suffolk, about 700,000 years before the recent emergence of evidence from sea cliffs near Lowestoft provided such a vivid picture of the landscape inhabited by the first Britons' (Stringer 2006, vi). Subsequent findings at Happisburgh, including 800,000 year old footprints in exposed forest bed deposits in May 2013, pushed the human story back to a million years (Ashton et al 2014). Happisburgh has been important in coastal defence argument over the degree to which existing coastal lines should be maintained, or managed retreat pursued (O'Riordan, Gomes and Schmidt 2014); AHOB research sites were exposed by erosion following the destruction and non-replacement of defences. As houses fell over the cliffs, signs of older human life became apparent.

Narratives of climate change make 21st century Britons receptive to these ancient Anthroposcenes. The Norfolk coast is now marketed as the 'Deep History Coast', local museums collaborating with the AHOB and tourist bodies to develop erosion as attraction in the 'cradle of British civilisation'.⁶ The nonhuman relics of former lives also shape the archaeological performance. In 1990 a 600,000 year old steppe mammoth skeleton was discovered in the cliffs at West Runton, near Cromer; in the 'Deep History Coast' logo the mammoth's rounded back echoes the Norfolk coastal line, and remains are displayed in local museums. In August 2014 a full-size wooden frame model of the 'West Runton elephant', made by Suzie Lay and Jeremy Moore, was walked along the beach, 700 onlookers making for a spectacle akin to a folk ritual.⁷

Model outings reanimate a creature, presented, in the light of AHOB findings, as once more cohabiting with the human.

Various settlements lie under the East Anglian North Sea, with Dunwich the most famous; places lost to the sea in historical time. Further out however lies 'Doggerland', named from the Dogger Bank, a shallower sea area, and site of prehistoric human life. The recent upsurge in commentary on Doggerland's Anthroposcenery is striking. Doggerland evocations unfix coastal cartography, highlighting stratigraphic continuities across land-sea boundaries, and undersea topographies echoing or departing from onshore landscape. In a period preoccupied with sea level, prehistory chimes, though to varying effect; as a warning of how lands have been lost before and might be again if extra care isn't taken, or to naturalise change, confirming that seas have always risen and fallen and that maps will thereby shift.

From a British perspective, attention to a lost continental space may also recall a former common name of the North Sea, the 'German Ocean', phased out in British atlases before the First World War for geopolitical reasons, though with the irony that, as Richard Scully notes, 'by adopting 'North Sea', British cartographers were acknowledging the preferred German name, *Nordsee*' (Scully 2010, 53). Pre-1914 seas indeed provide the inspiration for Doggerland, the name coined by archaeologist Bryony Coles in 1998 in tribute to geologist Clement Reid (1853-1916): 'It is in recognition of Reid's ... appreciation of the former landscape, that the name 'Doggerland' is used in this paper for the region now submerged by the North Sea' (Coles 1998, 47; Bicket and Tizzard 2015). Reid's 1913 book *Submerged Forests* included a chapter on the Dogger Bank, with a map 'Showing approximate Coast-line at the period of the lowest submerged forest' (Reid 1913, 40). **[FIGURE 3]** North Sea becomes former land, and a quick shading in of Reid's outline reconfigures the geography of Britain and Europe. Reid suggested: 'it might be worth while systematically to dredge the Dogger Bank, in order to see whether any implements made by man can be found there' (Reid 1913, 121).

Coles' Doggerland paper offered a 'speculative survey', shifting the archaeological narrative from a former land bridge between Britain and continental Europe to Doggerland as 'a place to be' (Coles 1998, 45). Stories of lost settlement, rather than lost passage, connect to present settled anxieties. Maps trace submergence, and familiar shapes emerge. At 13000 years BP the North Sea is an inlet between southern Norway and a northern European coast; at 10000 BP something like Scotland is clear, and the North Sea extends south to the Dogger Hills; after 7000 BP Britain and Denmark appear, the East Anglian coast defined, with Dogger Island stranded (Coles 1998). Subsequent research has mapped Doggerland with data from oil, gas and aggregate industries, imaginative restoration shaped by resource exploitation. Doggerland residents could, Gaffney, Fitch and Smith speculate, have been conscious of submergence: 'The legacy of this landscape and its loss may also have persisted through oral histories and folk memories, and ultimately occupied a special place in the cultural geography of the region' (Gaffney, Fitch and Smith 2009, 141). Doggerland speaks not only through its submergence, but in its possible propensity to memorialise loss.

Ancient pasts achieve Anthroposcenic resonance, archaeological research underpinning a range of commentary, as in a 2007 Channel 4 'Time Team' archaeological programme on Doggerland, 'Britain's Drowned World', beginning with presenter Tony Robinson on the cliffs at Happisburgh, and 'Discover Doggerland', a November 2015 event in Halesworth, Suffolk, exploring archaeology and 'mythic geography'.⁸ Coles' 1998 paper provides a departure point for artist Stephan Takkides's website 'Reclaiming Doggerland', 'an attempt to remap Europe and claim back the lost territories of the North Sea'. Site blogposts report photographic excursions in Germany, Holland and England, including Happisburgh: 'Adventures in Doggerland: Day Four. 30 May 2011'. A provisional flag is identified for 'Nation Building', a piece of 1918 dazzle painting for ship camouflage: 'Camouflage by outdoing the movement of the water: it seems apt for a nation whose centre is the sea and whose lands are reclaimed from it'.⁹

While Doggerland may be labelled as ‘Britain’s Lost Atlantis’,¹⁰ the prevailing tone of most discussion is counter-mythic, and indeed counter-nationalist. Contemporary Britain has been preoccupied not only with climate change but with Europe, and in Doggerland the two meet. Archaeological work presents a European story, ‘Europe’s Lost World’ off the English east coast, an ancient past undercutting island identity, though one with its own potential distinction: ‘Doggerland may well have had a significantly different character, in cultural and environmental terms, in comparison with Britain and possibly all the surrounding countries’ (Gaffney, Fitch and Smith 2009, 138). Doggerland could also though mark remaining eastern areas as distinctive *within* England, part of a former territory now lost, but which once ran seamlessly into surrounding lands. Why look out to sea for Doggerland? Look underfoot instead, North Sea lowlands lingering.

If Doggerland is not a landscape of the Anthropocene in terms of the time period under consideration (unless the Anthropocene is coeval with the Holocene), its recent narration is an Anthroposcenic story. Here are lost landscapes, emerging from sea and memory for a Europe preoccupied with changing climate, rising seas, and the capacity of humans to cope. Present resonant Doggerland shows how the Anthroposcenic may encompass past evocations, recalling Walter Benjamin’s comment in his 1940 essay ‘Theses on the Philosophy of History’: ‘To articulate the past historically does not mean to recognize it “the way it really was” ... It means to seize hold of a memory as it flashes up at a moment of danger’ (Benjamin 1970, 257).

Reference back

In his poem ‘On a Raised Beach’, published in 1934, Hugh MacDiarmid stated: ‘What happens to us / Is irrelevant to the world’s geology / But what happens to the world’s geology / Is not irrelevant to us.’ (MacDiarmid 1978, 428) MacDiarmid takes a classic sea level change site, the

raised beaches of northern Scotland, for a statement on human-geological relations from which the Anthropocene departs. The 'geology of mankind', in Crutzen's phrase (Crutzen 2002), conveys 'relevance' both ways. Elsewhere though, distinctions of past and present analysis are less secure. The coastal examples discussed above chiefly concern recent active reflections on environmental change, but earlier analyses might also speak to the Anthroposcenic.

In her study of the National Trust property of Mullion Cove harbour in Cornwall, Caitlin DeSilvey develops the idea of 'anticipatory history': 'The project of anticipatory history lies ... at the intersection of the imagined future and the imagined past. It attempts to unsettle the narrative foundations that stabilize landscape and block reflection on future change' (DeSilvey 2012, 35). DeSilvey's term seems apt for the Anthropocene, itself an anticipatory designation, the only geological epoch in part prospectively defined, its rock record nascent. DeSilvey gives an 'experimental narration' of Mullion in chronological reverse, showing how present assumptions emerge and depart from the past; the Trust have decided to work 'with the grain of nature', letting rising seas erode harbour walls in due course. Anticipatory history becomes a way 'to craft an effective history of an ephemeral place' (34), and indicates how moving between present and past accounts may complicate and enrich the Anthroposcenic.

The coastal analytical enfolding of human and natural has a long history. James Winter (1999) highlights Victorian and Edwardian awareness of anthropogenic coastal effects from groyne building and sand dredging, with natural/artificial distinctions questioned in consequence. Thus geologist William Whitaker suggested to the 1906 Royal Commission on Coast Erosion that 'our coast is artificially treated to a very large extent' (Royal Commission on Coast Erosion 1907, 88), while Whitaker and Clement Reid argued for working with rather than against nature, suggesting that 'nature had once worked out its own way to deal with attacks from the sea but was no longer being allowed to do so' (Winter 1999, 245). Historical enquiry also shows a long genealogy of the sea level melancholy harnessed by Sebald, journalist Beckles Willson's 1902

The Story of Lost England anticipating a morbid Anthroposcenic at Owthorne on the Holderness coast of Yorkshire:

The churchyard and its slumbering inmates, removed from time to time down the cliff by the force of the tempest; whitened bones projecting from the cliff, and gradually drawn away by the successful lashing of the waves; and, after a fearful storm, old persons tottering on the verge of life, have been seen slowly moving forth, and recognizing on the shore the remains of those whom, in early life, they had known and revered. (Willson 1902, 88)

The title of Willson's book however indicates another coastal register, that of worries over national identity on an eroding island; the narrative Brannigan seeks to undercut through an archipelagic modernism, but which itself has a complexity and durability. *The Story of Lost England* documents loss around the English (and Welsh) coasts, Willson's tactic being in part to describe landscapes now lost, as at Selsey, where a 'Chart of Lost Sussex' maps lost prospects:

Perhaps no point off the coast of Sussex presents such interest to the student of Lost England as the waste of waters immediately fronting Selsey Bill.

Standing on the verge of that promontory, the visitor to-day, directing his face seaward, may, if he chooses, and his imagination aiding him, conjecture that in the ruffled expanse of breakers, exactly one mile distant from where he stands, was founded the first monastery in Sussex ... Landward from the Saxon cathedral and the episcopal palace stretched a great wood, known as Selsey Park, containing many thousands of acres, and stocked with choice deer. Here, truly, is a choice and memorable fragment of Lost England. (Willson 1902, 164) **(FIGURE 4)**

As if in calenture, Willson turns sea to greenery.¹¹ Undersea worlds are described as if preserved in aspic, lending enchantment and value to the lost. Imagination here makes whole what has been eroded, and the effect is at once cultural and political. For Willson, tracing lost England underscores nationalistic arguments for coastal defence, as he alludes to John Seeley's

prominent 1883 imperialist vision of the 'expansion of England': 'The loss by coast erosion in England is probably not less than 2000 acres a year ... It is undeniable ... that, however much we may strive to be Expansionists in our Empire, we are little Englanders all, living in a little England which is annually shrinking into smaller geographical dimensions' (Willson 1902, 182). Writing of lost land in 1902 catches prevalent narratives of supposedly island English nationhood, just as today climate change and the Anthropocene frame coastal stories.

The Anthroposcentic is also anticipated in accounts of submerged forests, whether within general coastal works such as Willson's, or in dedicated texts such as Reid's *Submerged Forests*: 'Should we conquer our natural repugnance for such soft and messy deposits, and examine more closely into these submerged forests, they turn out to be full of interest' (Reid 1913, 2). As noted above, Reid projected Doggerland from such material, arguing that forest submergence could not be ascribed to landslips, strata compression or the removal of defences: 'Nothing but a change of sea-level will account for its present position' (Reid 1913, 5). For Reid, these 'modern deposits' would repay scrutiny:

We desire to know not merely what was the sea-level at each successive stage, but what were the climatic conditions. We must enquire also what the flora and fauna were like, what race of man then inhabited the country, how he lived, what weapons and boats he used, and how he and all these animals and plants were able to cross to this country after the passing away of the cold of the Glacial period. (Reid 1913, 10)

Reid discussed possible shifts in levels of land as well as sea, but saw in sea level possible future portents. In a 1906 *Geographical Journal* paper, also cited by the Royal Commission on Coast Erosion, Reid stated:

If what I have said is correct, and since civilised man lived in Britain there has been a rapid change of sea-level, followed by a long rest, what are the prospects of a similar period of rapid change again setting in? ... It is a problem of great importance, for a new rise or fall of the sea-level to the extent of a few feet would have most disastrous effects

on all our coasts and harbours, and would seriously interfere with our inland drainage until things were again adjusted. Are we now living in a period of exceptional stability, both of sea-level and climate; or is it, as geology suggests, a mere interlude which may at any time give place to rapid change? (Reid 1906, 491; Royal Commission on Coast Erosion and Afforestation 1911, 6)

Submerged forests also preoccupied Arthur De Carle Sowerby, whose 1923 *A Naturalist's Holiday by the Sea* included a chapter on the submerged forest of Mount's Bay, Cornwall: 'centuries ago ... Mount's Bay was a wooded valley' (Sowerby 1923, 51). Sowerby viewed submerged wood as future coal: 'to discover on the shores of our own country, under our very noses, as we laze through the hours of a well earned holiday, coal in the making!' (49). Sowerby asserted: 'Coal has made Great Britain ... that can proudly claim to have set the pace and an example for the rest of mankind' (48), and concluded:

when we realize that a small twig or nut, a few sprays of moss, or a glittering beetle, that lived and grew in the days of Edward the Confessor, may be found still intact, neither crushed out of shape, nor very materially altered in composition, in the ancient forest mould that lies to-day at the earth's surface, between tide marks in Mount's Bay, so are assisted in no small degree to a comprehension of how the infinitely more ancient vegetation of the coal measures survived the passage of time to yield in this, the age of industrialism, the energy we require for our own mighty works and inventions. (56)

Today, submerged forests would likely prompt different reflections on sea levels and fossil fuels, and on Britain's industrial past; on the follies of mighty works, on the vulnerability of ancient remains to coal-fuelled rising seas, on the ironies of it all. Sowerby's confident meditations on Mount's Bay set present narratives in relief.

Complex anticipations of coastal futures emerge too from past science fiction. In 1953, John Wyndham's *The Kraken Wakes* dramatized rising seas in a Cold War allegory of human

overreach and vulnerability, with intelligent aliens colonising ocean deeps. Atomic weaponry failing to dislodge them, the 'Bathies' take shipping, send sea-tanks ashore, and melt the polar ice caps. Seas rise by 100 feet to drown coastal cities, with London under water and the east coast flooded. The populations of the European North Sea lowlands migrate. Wyndham's key scientific character is an 'eminent geographer' (Wyndham 1955, 46) and oceanographer, Alastair Bocker, who initially seeks co-operative communication with the 'Bathies', but eventually proposes destruction, having identified rising sea levels as the aliens' weapon, against which humans have no defence: 'I draw attention to the fact that in January of this year the mean sea-level at Newlyn, where it is customarily measured, was reported to have risen by two and a half inches' (199). Weaponry ultimately destroys the aliens, but with human population drastically reduced and climate changed. *The Kraken Wakes* ends with its leading protagonists, Phyllis and Mike Watson, escaping London by boat along the English Channel to their cottage in Constantine, Cornwall. Phyllis looks down from what was a hill, but is now an island:

I was just thinking. ... Nothing is really new, is it, Mike? Once upon a time there was a great plain, covered with forests and full of wild animals. I expect our ancestors hunted there. Then one day the water came in and drowned it all – and there was the North Sea....

I think we've been here before Mike. ... And we got through it last time ... (240).

The book ends with Doggerland as consoling reference back.

If, in relation to the Anthropocene, we *haven't* been here before, it is in the sense that human processes are marking the rock record. The Anthropocene extends through many aspects of a novel such as *The Kraken Wakes*; the unforeseen consequences of human technological capacity, the prospects for humanity under rising seas, the lessons and consolations to be drawn from the past. Wyndham's descriptions of a drowning London, and the structural legacy it might leave, are indeed echoed in Zalasiewicz's *The Earth After Us*, where a contrast is drawn between

futures of slow and gradually erosive sea level rise, and rapid rise whereby 'landscapes may be drowned entire' (Zalasiewicz 2008, 82), put 'beyond the reach of erosion ... and into the kingdom of sedimentation. Our drowned cities and farms, highways and towns, would begin to be covered with sand, silt, and mud, and take the first steps towards becoming geology. The process of fossilization will begin' (84-5).

What is due to us: Anthropogenic inheritance

If there is nothing new in connecting the human and physical worlds, the terminology and designation of the Anthropocene marks a novel, part anticipatory, conjoining of human and geophysical (Chakrabarty 2009). To raise the human to the status of geological epoch-making creature prompts responses from humility to hubris; the human tiny and hopeless in the face of forces it has shaped, or buoyed through its impact into dreams of control; the human humble enough to acknowledge responsibility by labelling an epoch, the human so full of itself as to claim geology as its own. Whatever the response, the marking out of the Anthropocene raises questions of inheritance, of the intended or unintended bequests of previous generations in particular parts of the world. How might such inheritance be figured Anthropocentrically? Landscape has often been a medium for meditations on legacy, whether cultural legacies of heritage or familial and institutional legacies of property. The Anthropocentric might offer one point of access to questions of environmental inheritance, at once local, national, continental, maritime and planetary.

In a series of papers reflecting on 'the historical drama in which ... sciences are, from now on, deeply entangled', with the Earth 'an agent of ... our common *geostory*', Bruno Latour examines 'the time of the Anthropocene' (Latour 2014a, 2-3; Hamilton, Gemmene and Bonneuil 2015). For Latour the Anthropocene 'gives another definition of time, it redescribes space, and it reshuffles what it means to be entangled within animated agencies' (Latour 2014b, 16). Latour argues

that: 'time does not flow from the present to the future – as if we had to choose between scenarios, hoping for the best – but as if time flowed from what is coming ... to the present'. The Anthropocene thus becomes 'apocalyptic' in 'the sense of the revelation of things that are coming *toward* us' (Latour 2015, 153; Braun 2015). In 'Theses on the Philosophy of History', Benjamin posited an 'angel of history', facing the past and propelled to the future by a storm of progress, viewing 'one single catastrophe which keeps piling up wreckage upon wreckage' (Benjamin 1970, 259-260). In Latour's Anthropocene, the angel does an about turn, an angel of the passing modern, caught in future headlights, figuring out *what is due to us*: what we are culpable for, what we deserve, what is in store for us, what's coming to us, what's left to us, what is our legacy. And what might be due; about to arrive, coming just around the corner, on time or unavoidably delayed. Playing on Anthropocene 'dues' may help navigate inheritance.

To move towards the conclusion of this essay, and in keeping with material discussed earlier, one further eastern English coastal illustration on what is due to us. The example is particular, the forms of inheritance considered are conventional Western familial, and the mood glum, though with sardonic humour. The third and final verse of Philip Larkin's well-known poem 'This Be The Verse' begins: 'Man hands on misery to man. / It deepens like a coastal shelf.' (Larkin 2003, 142). First published in *The New Humanist*, the journal of the Rationalist Association, in 1971, and collected in his 1974 volume *High Windows*, Larkin's environmental image gives a finely judged gloom, the gentle rather than plunging gradient of the shelf, inheritance gradually, predictably, pulling under. Were they to have been written thirty years later, such lines might well have been taken as alluding to climate change, the vulnerabilities of land to rising sea, and inter-generational responsibility and guilt.

In 1971, however, if one had wanted to read Larkin as a geological poet, one might have pointed to a different environmental story, a mid-20th century preoccupation with the tilting of Britain from post-glacial isostatic uplift, the south-eastern parts of the island inexorably heading slowly

down while the north-west rose (Matless 2014). Tilting was an important frame for debates on sea defence following the 1953 east coast floods, and Larkin might be taken east from his Hull home to the eroding Yorkshire coast of Holderness. Tilting however was an absolutely non-human process about which nothing could be done, a doom with neither blame nor escape; climate change and the Anthropocene offer a different predicament, in both attribution and possible amelioration, and the dues of the verse migrate. Today Larkin might be playfully adopted as an anticipatory Anthroposcenic poet, if on the resigned wing, with the first lines of 'This Be The Verse', conveying ambiguous meanings of intended or accidental generation, and anxieties handed down, most familiar: 'They fuck you up your mum and dad. / They may not mean to, but they do.'¹²

An Anthropocene

Two miles south along the shore from Happisburgh's 800,000 year old footprints is the site of the fallen Eccles tower, with which this paper began.¹³ All you see is sand. In the 1980s and 1990s severe scour stripped the beach to reveal the foundations of church and village, and threats to the extensive low-lying inland prompted sea defence work, anxiety heightened by diagnosis of sea level rise. Granite offshore breakwaters built up Eccles beach; if Happisburgh cliffs crumbled to make houses fall and footprints appear, sand blanketed Eccles remains. In 1998 a plaque was unveiled on the sea wall marking the former church site, but today the beach has accumulated such that even the plaque is buried. Eccles offers Happisburgh Anthroposcenic counterpoint.

The coastal Anthroposcenic carries complex capacity to project across time, with nuances of memory and history challenging any formulations of the Anthropocene seeking more straightforward past dating and future projection. Facing the Anthropocene through a cultural and historical geographical sensibility may thus both unsettle and enrich epochal diagnosis.

Lyell's engravings of the standing Eccles tower, reproduced at the beginning of this essay, may in this context be labelled Anthroposcentic, as works which can, like the tower they depicted, 'seize' (in Benjamin's term) the 21st century present.

But now all you see is sand, and every August bank holiday an Eccles 'beach service' marks the old church spot, a coastal group of parishes meeting at former St Mary's. On Sunday 28 August 2016 a predominantly local crowd, many long-term attenders, hymned those in peril on the sea, and heard readings on the calming of storms, as a lifeboat crew made a collection. A tractor and trailer carried speakers and cables, organ music projected to the dunes, a processional cross stood in sand. A leaflet carried the order of service, and gave the parish history of Eccles-juxta-Mare, the juxta now sub. To the north, squally clouds preoccupied Happisburgh. Father and son departed as the sermon began:

F: So the village was washed away, the tower was left, and then it fell, somewhere over there.

S: Did the sea say sorry?

F: I don't think the sea minded what it did.

S: Yes, it's just made of water.

Acknowledgements

Thanks to Georgina Endfield and to three *TIBG* referees for their insightful comments on an earlier draft of this article. Thanks also to Jo Norcup and Edwyn Matless for field accompaniment.

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Notes

¹ An initial Anthroposcenic paper was presented at the RGS-IBG annual conference in summer 2015, and developed as a commentary piece in *Nature Climate Change*. Web searches show other independent uses of the term 'Anthroposcenic'. In a November 2015 talk, 'Into the Anthroposcenic', William L Fox suggested that the Anthroposcenic might be a broad 'cultural

corollary' for the Anthropocene (www.ngv.vic.gov.au/program/into-the-anthroposcenic/). A November 2015 talk in Munich by Bernhard Malkmus addressed 'anthroposcenic fenlands' in the work of WG Sebald and Graham Swift (www.carsoncenter.uni-muenchen.de/events_conf_seminars/event_history/2015-event-history/2015_lc/lc_malkmus/index.html). In August 2015 short experimental films were screened under the 'Anthroposcenic' heading by 'Survivalist Cinema', a solar-powered micro-cinema in Vermont (www.rachelstevens.net/project/survivalist-cinema/). Elsewhere the 'loveyouepoch' site proposes the Anthroposcenic as a counterpoint to Anthropocene gloom, asking 'Can the Anthropocene be enchanting?' (<http://loveyouepoch.anthroposcenic.net/about>). Bruno Latour uses the term 'anthroposcenes' in passing in his reflections on 'Anthropology at the Time of the Anthropocene', in the context of 'the institutional innovations proliferating all around the world to handle those new anthroposcenes (a term used by artists where "scenes" is now used as in scenography) the most famous of those innovations being the very protocol of the IPCC' (Latour 2014b, 11-12).

² Prynne's quotation, relating to marine fauna, is from King's 'The Pleistocene Epoch in England' (King 1955, 207). On geological poetics see also Hayden Lorimer on Jacquetta Hawkes' 1951 book *A Land* (Lorimer 2012).

³ 'Media note: Anthropocene Working Group (AWG)', University of Leicester, accessed 22 September 2016; <http://www2.le.ac.uk/offices/press/press-releases/2016/august/media-note-anthropocene-working-group-awg>

⁴ See for example special issues of the *Journal of Historical Geography* on 'Narratives of Climate Change' (2008), *Osiris* on 'Revisiting *Klima*' (2011) and *Climatic Change* on 'Cultural Spaces of Climate' (2012); also Hulme 2009.

⁵ The film, from a 2005 project called 'If Ever You're In The Area', is at <http://www.ifever.org.uk/camera/>

⁶ 'Visit Norfolk' website: <http://www.visitnorfolk.co.uk/inspire/Norfolk-prehistoric-coast.aspx>

⁷ See www.explorenorfolkuk.co.uk/west-runton-elephant.html. The walk was repeated in late August 2015 on the bank holiday weekend.

⁸ Details of the day are given at <http://newcut.org/events/entry/3189>. See also extracts from the day at: <http://www.waveneyandblytharts.com/>

⁹ See log.doggerland.net, including sections on 'a hypothetical landscape', based around maps from Coles' 1998 paper.

¹⁰ Broadcast on BBC Radio 4, 27 January 2009, presented by archaeologist Francis Pryor.

¹¹ Calenture was a fever sometimes suffered by sailors in the tropics. Delirium could make the sea appear a grassy meadow in which to dive.

¹² Larkin commented in interview that: “‘They fuck you up’ is funny because it’s ambiguous. Parents bring about your conception and also bugger you up once you are born’ (Haffenden 1981, 128-129). The first poem in *High Windows*, ‘To the Sea’, its title a possible toast and signpost, conversely evokes the holiday beach as a space of affectionate intergenerational care.

¹³ The Eccles tower will be the subject of a further paper.