3

Landscape and extinction

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Introduction

The term 'landscape' encapsulates a dialectic central to much spatial theory, rendered in the dyad of space and place. It aspires to general theorising of subject-environment relations, while simultaneously retaining the particular, grounded, and situated. Landscape thus freights *tension* (Rose & Wylie, 2006) and its value as a concept lies in a capacity to 'shuttle' between myriad concerns and scholarly approaches (Matless, 2003). Landscape invites many into academic curiosity (Friess & Jazeel, 2017); and to wander and explore differential expressions of worlding (Stilgoe, 2015).

Equally, as a conceptual focus, landscape has been decried as parochial, romantic, and narrow; prioritising vision, stasis, and fixity (Cresswell, 2003). Such critique sharpens amidst ecological crisis. The naming of our epoch as the 'Anthropocene' signals arrival into a period of geological time where the actions of (some) humans have wrought profound, multi-scalar, lasting changes upon the planet, for example via the unfolding of anthropogenically induced extinctions (Kolbert, 2014). The Anthropocene, then, has implications for how we plan for and intervene in shared environments (Houston et al., 2018). At the same time, the processes implicated in its designation, and their effects, test the limits of human representation, imagination, and awareness (Farrier, 2019). Thus, Timothy Morton, for instance, rejects a 'landscape perspective' in the face of a proliferation of 'hyperobjects': massive, distributed, complex entities – 'climate change', 'nuclear waste', 'micro-plastics', and more – which we inhabit, and can neither stand outside of, nor apart from, as surveys of 'landscape' imply (Morton, 2013). What value has attention to specified scenes or areas, the ways in which they are seen or encountered, within recognition of such entanglement and upheaval?

And yet, as cultural geographers and others argue, it is through specific encounters with landscapes – whether of deforestation, sea level rise, or melting permafrost – that planetary ecological crisis is made tangible (see Tsing, 2005; Matless, 2017; Wrigley, 2023). Landscapes, manifesting the ordinary materialisations and effects of the Anthropocene, provide entryways into epochal change in its mundane, everyday

expressions (Fredriksen, 2021) such that we might plan or respond to this change. Indeed, concepts like 'the Anthropocene' – furthermore, hyperobjects like 'climate change', and phenomena like 'extinction' – themselves emerge through specific geographies (and landscapes). David Chandler and Jonathan Pugh's (2021) examination of the relationship between the imagining, theorising, and researching of islands and articulations of the Anthropocene elaborates this contention. Likewise, our very concept of extinction cannot be separated from encounters with the ecologies and geographies of species historically such as the dodo (Quammen, 1996), or presently such as the Mariana crow (van Dooren, 2019). Thus, whilst we may abide amongst hyperobjects, they are apprehended and responded to (partially, in their multiplicity, and in connections elsewhere) through our lived environments (Knox, 2020). Such 'anthroposcenic' landscapes, their stories, and their inhabitants' efforts to represent them, help us comprehend epochal change (Matless, 2017).

This chapter identifies three areas in which landscape and planning scholars might explore the relationship between landscape (both concept and/or empirical object) and extinction (both idea and/or ecological process). I articulate landscape as, variously, the 'scene' of extinction's envisioning; a phenomenological experience mediated by ecological absence; and the materialising of Anthropocene temporality. Throughout, I draw from past research examining Scottish osprey (*Pandion haliaetus*) conservation to provide empirical examples. Consequently, the chapter hopes to advocate landscape studies' relevance for extinction scholarship and planning more livable futures.

Conceptualising extinction

As presented by Elizabeth Kolbert (2014), significant evidence suggests the earth system is currently undergoing a sixth mass extinction event akin to those others marked within the geological record. Whilst extinction – the cessation of a form of life, often understood in terms of biological species – is viewed as intrinsic to the process of natural selection, the 'sixth extinction' event is differentiated on the basis of its accelerated rate (far exceeding 'normal' or background levels) and the implication of capitalist anthropogenic environmental change as its driving cause (Ceballos & Ehrlich, 2018). Swathes of lifeforms approach extinction without our ever having been aware of their existence, reflecting the ways in which our capacities to know and respond to extinction are hampered by the biased and limited nature of extant ecological data and speed of disappearance (Bastian, 2020; Cowie et al., 2022).

Under the ambit of the environmental humanities, scholars have sought to conceptualise extinction in terms of its ethics, politics, aesthetics, and implications for theorising more-than-human relations of life and death in the Anthropocene (Bastian & van Dooren, 2017). Extinction studies have deployed posthumanist approaches to articulate extinction, beyond the end of self-contained species, as a reverberating loss impacting virtual and actual ecological possibilities. Thus, extinction figures a 'double death', folding the end of numerous relationships and their capacity to endure into the

decline of a specific form of life (Rose, 2004; van Dooren, 2014). An often-slow process unfolding at the dull edge of capitalist exploitation and consumption, extinction concerns the "long-lasting heritages that are breaking down" in the Anthropocene (Bastian and van Dooren, 2017: 5–6) and the disentangling of the relational knots comprising the 'achievement' of species (van Dooren, 2014)

Writing within extinction studies emphasises that 'specificity matters' and promotes the telling of situated 'extinction stories': "a narrative-based engagement that explores what extinction means, why it matters, and to whom" (Rose et al., 2017: 3). Conservationists work hard to avert it and triage nonhuman life according to all manner of value considerations (Braverman, 2015). Losses slow or speed up, betraying extinction's stuttering, indeterminate temporality and the boom-bust, crisis-calm cycles of human activity, extraction, and consumption (Collard, 2018); and the sometimes slow, even unnoticed occurrence of apocalypse (Wrigley, 2023). A range of new subjects is produced (see Mitchell, 2016): ghost species (McCorristine & Adams, 2020); 'endlings' (Jørgensen, 2017); sacrificial populations (van Dooren, 2014) follow in extinction's wake. And, since species' absence is produced and experienced across multiple geographical registers and reflects the contingencies of spatio-temporal context (Garlick & Symons, 2020), it is prudent, as I now consider, to explore extinction in conversation with studies of landscape.

Ways of seeing extinction landscape

For many, the question of landscape concerns how environments are visualised and represented. John Berger's (1972) argument that art and visual culture (re-)produce 'ways of seeing' – socially constructed conventions affecting how, where, and when we direct our gaze in making aesthetic judgements about the world – has influenced such framings. 'Landscape', thus, is not a 'thing' but an ideological category, appraising environmental surroundings in relation to political, economic, or social interests (Cosgrove, 1998). Specific environments, as vistas laid out before an elevated, detached (European) observer, host this term because their features afford such appreciation in context, evoking aesthetic ideas circulated within art. The world becomes a "theatre of memory" (della Dora, 2018) within which different imagined geographies are performed; their political implications realised as such imaginaries license interventions such as the planning or preserving of a National Park landscape because of its outstanding beauty (Ellison, 2013).

Considering landscape in terms of representations is relevant here because the Anthropocene, as an environmental crisis, also signals "a crisis of meaning" (Farrier, 2019: 4). Indeed, for some the roots of this ecological crisis lie with the aesthetic failure to represent, recognise, and value 'Nature' (McKibben, 2003). Mass extinction, the worldwide loss of uncounted and uncountable species, elaborates such an aesthetic challenge and our efforts to respond. Numerous creative and scholarly actors attempt to craft "poignant and memorable narratives to remember those species we have lost, and encourage action" (Jørgensen, 2017: 134). Recent scholarship has also considered

the cultural representation of extinction via media and cultural institutions (Heise, 2016; Guasco, 2021). Here, then, I consider how landscapes – as aesthetic and representational engagements with the environment (Cosgrove, 2003) – are implicated in the making of extinction visible, and responses to it thinkable.

Visualising species absence/presence

To do so, I draw on the first of several brief examples from the history of osprey conservation in Scotland. A conservation history of this species' absence and return exemplifies the widespread sense that Anthropocene ecologies are diminished, degraded, and haunted by a range of spectral lifeforms (McCorristine & Adams, 2020); behoving us – perhaps morally – to 'restore' them via experimental, speculative interventions (see Monbiot, 2013). Therefore, landscape and planning studies can consider the ways in which ideas of extinction and its reversal are enacted through representational encounters with landscape. Indeed, such 'anthroposcenes' (Matless, 2017) locate aesthetic engagements with ecological change.

For the Royal Society for the Protection of Birds, the event of ospreys returning to Scotland is a much-celebrated conservation success-story (Lambert, 1999). Rendered extinct as a breeding species in the UK by 1916, owing to a combination of persecution at nests and on migration, these charismatic, fish-eating raptors began to recolonise the pinewoods of Speyside from the mid-1950s. After a pair of ospreys nested to the northwest of Loch Garten, near Aviemore, in 1959, they successfully reared young under the guard of RSPB wardens. The nest was later made viewable for the public to help grow support for the Society's bird protection efforts. The RSPB's Scottish Representative, George Waterston, masterminded the scheme, known as 'Operation Osprey', which became an annual exercise securing the birds' return and enabling their observation by thousands of visitors (see Garlick, 2019a, 2019b; Garlick & Symons, 2020).

In 1961, following a third successful summer at Loch Garten, Waterston would holiday in Sutherland, north Scotland. His route was dictated by a regional natural history of the area, authored by Victorian naturalist John Harvie-Brown (Harvie-Brown & MacPherson, 1904). Writing in the waning years of Scotland's then-osprey population, Harvie-Brown had detailed the excursions of a notorious 'sportsman-naturalist', Charles St John, whose infamous 'tours' of the region in the 1840s took in lochs where ospreys had reportedly nested on rocky outcrops and castle ruins. Shooting adult birds and taking eggs as specimens and trophies, St John's exploits had essentially "done for" (ibid.: 186) the species in Sutherland. Harvie-Brown, regaling this sorry tale, had a sketch artist render several of the former nest sites for his account, with the illustrations later guiding Waterston's own desire, some six decades later, "to see the rocky islets on which the ospreys used to nest" (Waterston, 1962: 136).

This brief vignette illustrates the relationship between extinction and the visual landscape. Waterston's encounter with highland scenery in 1961 was framed by an aesthetics of loss (Yusoff, 2012). Actively seeking out landscapes of extinction for appreciation, his 'way of seeing', informed by Harvie-Brown's sketches and writing, foregrounded the absence of once-resident ospreys. A similar aesthetic is evident in

George Monbiot's popular treatise on rewilding, *Feral*, in which he surveys the hillside around Bryn Brith, Wales: a "dismal, dismaying […] flayed" landscape; "every contoured muscle and nub of bone" exposed, devoid of wonder or surprise in the absence of apex predators (2013: 63). In both examples, specific landscapes – osprey-haunted lochs; barren Welsh moorlands – become 'anthroposcenes' of disaster that visualise ecological losses. The representational imaginaries and environmental knowledges that each onlooker carries – concerning formerly present creatures or the diminished potential of habitat – afford them a visual encounter orientated to how species' absence haunts these spaces (see Pile, 2005).

Importantly, such ways of seeing the landscape open onto imagined *possibilities* for the future. For example, vital to the work of the charity Rewilding Europe is the use of artists' impressions to 'imagine' what the landscape *could* look like if their work succeeds. Such images present "an inspiring vision that shows our ambition for the next ten years", towards which efforts are directed in order that it becomes "a reality" (Rewilding Europe, n.d.). Thus, such conservation initiatives are accompanied by and directed towards a representational ideal of the landscape's ecological abundance (which may or may not feature humans).

In the context of osprey conservation, habitat-rich landscapes devoid of birds are viewed in terms of their potential recolonisation opportunities (see Garlick, 2021). In 1904, Harvie-Brown proposed that the American practice of erecting cartwheels to serve as nest platforms for the species might be deployed to arrest its terminal decline in Scotland. Decades later, in the 1970s, RSPB wardens began a proactive strategy of repairing and (re)constructing osprey nests, encouraging nest-less adults returning on maturity to their natal haunts to settle and extend the species' range. Such a practice deployed a way of seeing the landscape in terms of osprey affordances, proximity to food, and potential sources of human disturbance, triangulated with both tacit and codified knowledge of species ecology and nesting preferences (which are varied, cross-generational, and relationally emergent). Thus, experience working with birds in the field, protecting and monitoring nests, formed the basis for a "becoming landscape" (Bonta, 2010), whereby conservationists learned to appraise the environment in terms of its suitability for constructing nests and attracting ospreys (see Dennis, 2008: 131–141). In this way, the practice of nest-building in Scotland illustrates how learning to see 'like an osprey', cognisant of birds' ecological and geographically contingent preferences, visualises landscape in terms of potential future inhabitancy. I now consider extinction and landscape in more-than-visual terms.

Encountering landscapes of extinction

Phenomenology emphasises the significance of lived experience as "ongoing immersion in the world", directly confronting "questions of landscape" (Wylie, 2018: 128). John Wylie proposes landscape as "the materialities and sensibilities with which we see" (2006: 531); the specifics of subjects' embodied relationship with, or 'enfolding' into, physical surroundings, producing perception and environmental knowledge.

Importantly, work within geography and elsewhere has attempted to expand the anthropocentric focus of phenomenological inquiry to emphasise environments shaped via more-than-human "acts of place making and negotiation" (Lorimer, 2006: 503). In other words, 'landscape' is an *event* of entanglement with and orientation towards certain environmental features and not others, on the part of a subject that could be other-than-human (Garlick, 2019b).

Central to (contemporary) phenomenological approaches in landscape studies are co-constitutive, processual understandings of bodies and environments. Beings and entities are made capable by virtue of their involvement in a material world (Anderson & Wylie, 2009). This material world, "the configuration of humans and nonhumans across a terrain" (Tsing, 2005: 173), is profoundly changed in its phenomenology by the presence or absence of lifeforms, since perceivers of landscape are also always implicated in its manifestations for others (see Wylie, 2006; Garlick, 2019b). Thus, extinction raises the question of "the various affects […] associated with life in a collapsing biosphere" (Reinert, 2018: 501) as the subtraction of life(forms) "ruptures" (Reinert, 2015) encounters with landscape. As Mick Smith (2013) proposes, species loss is experienced *communally*, reverberating through the relations of multispecies collectives. Landscape studies can aid consideration of how such loss is felt phenomenally.

Listening to absence

As described above, Waterston's visit to Sutherland saw him seek out former osprey nests, now empty, as the species began to recolonise elsewhere. We might infer that part of the poignancy of these scenes came with the absence of the *sounds* of ospreys, calling from or circling above the waters. Geographers have long appreciated that "sound is inseparable from social landscape" (Smith, 1994: 238). Increasingly, there is also attention to the significance of sound as indicating ecosystem health or quality, and a mediator of ecological connections (see Farina, 2014). Whilst studies of 'soundscape' encompass numerous aspects of sound – such as propagation via different sources, or distribution regarding sonic receptors – a central question of such work concerns how sounds are subjectively interpreted as part of a "perceptual soundscape" (Grinfeder et al., 2022: 10). Appreciating how listeners and sounds are entwined in environmental perception enables appreciation of landscape's phenomenological actualisation.

A mere 10 km flight from the famous Loch Garten nest sits the ruins of Loch an Eilein castle on Rothiemurchus estate (Figure 3.1). Abandoned since the early eighteenth century, the presence of an osprey nest atop the ruin during the nineteenth century is well documented. Elizabeth Grant, of the Grant family that have owned Rothiemurchus since the late sixteenth century, wrote in her published diaries of an "eagle's nest" here, and how, as a girl bathing in the loch's waters, its avian inhabitants "'rose […] and wheeled, skimming over the loch" (Grant, 1972: 60). As ospreys were persecuted and disappeared from other parts of Scotland (as described above) during the 1800s, the Grants attempted to safeguard these birds, tasking gamekeepers to keep watch against egg-collectors and banning boats from the water, earning a medal and special recognition from the Zoological Society of London for laird John Peter Grant

Source: Image by the author.

Figure 3.1 View of Loch an Eilein and the island on which the ruins of its castle sit (October 2015)

III in 1898. Moreover, after their presence was publicised by one visitor in 1879, the birds became something of a proto eco-tourist attraction given the ease with which they could be observed from the shoreline (see Lambert, 1999).

Ultimately, the ospreys of Loch an Eilein went the way of their kin across Scotland; the last sighting of an osprey here was in 1902. Today, though they breed nearby at Loch Garten, the ruin sits empty and silent without the calls of ospreys. As Hugo Reinert describes, with reference to fieldwork exploring seabird conservation in the Norwegian Arctic, silence, manifesting with the decline and absence of species, remains a palpable trace of loss. Recalling a visit to the island of Vaerøy, its cliffs silent and empty of nesting seabirds, "listening for the sound of nothing" affects "a sort of background unease: a nagging and unclear affect […] a sense of something missing" (Reinert, 2018: 503). Thus, the potential extinction facing many seabird species, owing to pressures such as pollution and sea-warming impacting food supplies, affects a phenomenology of landscape as uneasy, troubling silences imbue such scenes with "strangeness […] grief, guilt, anger and nostalgia" (507).

It is equally valuable to acknowledge how such silences are filled in or overlain. In the wake of the species' return, the region of Speyside in the 1960s and 1970s echoed with the sounds of tourism and development (see Garlick, 2019b). As Andrew Whitehouse

observes, Anthropocene landscapes are marked by pervasive "anthrophony" (human-generated noise), displacing or "drowning out" (2015: 57) non-human sounds. Moreover, the empty castle at Loch an Eilein today hosts flocks of jackdaws, whose own distinctive vocalisations animate the scene. Thus, phenomenological framings of landscape also enable attention to the ways in which species absence might affect or change a soundscape by virtue of creating space for other creatures to dwell. In sum, in *emplacing* the effects of extinction we become cognisant of loss and attentive to its implications for the ongoing becoming of subjects and knowledge in dialogue with material context – as well as the contingency of extinction's *expression* (Garlick & Symons, 2020). We are attuned to the foreclosure of certain 'versions' of landscape as extinction is manifest through environmental perception. I now consider, before concluding, how such foreclosures speak to the temporality of extinction's landscapes.

The temporality of extinction landscapes

For Barbara Bender (2002: S103), landscape labels "time materialised". Indeed, many conceptualisations of landscape centre time: Tim Ingold (2000) influentially elaborates the "temporality of the landscape" as a meshwork of interwoven lines of activity and experience, whilst Doreen Massey (2006) characterises landscape as a temporal event unfolding at the nexus of overlapping rhythms and forces of human/nonhuman activity, producing 'places'. In a different conceptual vein, Marxist scholars emphasise understanding the (violent) power struggles of past and present as they create landscapes worked on, lived in, materialised and naturalised (see Mitchell, 2007). Thus, "[o]ne could argue that all studies of landscape entail historical geography" (Matless, 2003: 230) in that appreciating environments' historicity remains fundamental to such endeavours.

The Anthropocene extinction and ecological collapse are likewise framed as matters of time. Michelle Bastian locates a "fatal confusion" about temporality at the root of the contemporary environmental crisis. There persist fundamental discordances between human perceptions and representations of time, and the lively, life-sustaining rhythms of nonhuman life and environmental processes (Bastian, 2012). This asynchronicity is encountered within landscapes: the too-early or too-late arrivals or departures of migratory species (see Reinert, 2015); or climatic conditions disturbing conventional seasonality, for example. With regard to extinction, our cultural imaginary cleaves to locatable temporal instances of species-death: the death of the last (Jørgensen, 2017) or identified cataclysms, like the meteorite that killed the dinosaurs (Heise, 2016). As outlined above, this fails to grasp the distributed, slow, gradual unravelling of ecological relationships and cross-generational inheritances that *are* a 'species' (van Dooren, 2014); or the stochastic temporality of species decline, reflecting the vagaries of political economies or contingent eruptions of resistance (Collard, 2018).

Furthermore, in Anthropocene landscapes are embedded numerous "new immortals" – microplastics, toxins, contaminants – "interpellating us into unfathomably

vast futures and deep pasts" (Bastian & van Dooren, 2017: 1). The very provocation of the Anthropocene is its demand for thinking time beyond human ken or lifespans (Masco, 2017: 12). Nonhuman (or *inhuman* – see Clark, 2011) forces of landscape(-ing) challenge us, requiring a temporal imaginary that confronts the incommensurability of capitalist ways of organising social and economic life with the stochasticity, emergence, and exponential feedback loops of ecology (Bastian, 2012). Thus, encounters with landscapes marked by species absence invite a reckoning with the awkward, disjointed temporality of the Anthropocene.

Landscapes out of joint

Landscape studies concerning ecological crises have increasingly deployed attention to ghosts, haunting, and absence to articulate the effects of species loss on how environments are materialised and perceived. After Derrida, attention to the oft-unexpected or surprising ways in which pasts or absent others *return*, creating senses of the uncanny or weird, offers landscape scholars a means to grapple with how absence mediates our environmental experience (Searle, 2021). The figure of the 'ghost' encapsulates effects and atmospheres of time, or indeed geography, "out of joint" (Pile, 2005). Thus "extinctionscapes", populated with absent-presences, help foreground "particular modes of governing animal lives and afterlives" (Bersaglio & Margulies, 2022: 14) put to work via practices of memorialisation or in service to conservation discourses and the planning of landscape futures.

Implicit in the discussion of the Scottish osprey in this chapter are the ways in which contemporary conservation landscapes are *haunted* by an absent population of birds that dwelt here in the past. As noted, the species was subject to variegated forms of persecution, resulting in a population primarily concentrated in the remoter parts of the Scottish Highlands by the mid-nineteenth century. Here, contemporary accounts attest, birds nested atop rocky outcrops or ruined structures, often near water, in open, prominent settings; affording a vantage point to spot predators, an easy landing when laden with prey, and a stable base upon which to construct an eyrie. By the end of the nineteenth century, most of these nesting sites were abandoned. After 1916, ospreys only tended to appear in Scotland en route during migration between Scandinavia and Western Africa. Following recolonisation in the 1950s, and the efforts of the RSPB and its supporters, a 'return' of the osprey, beginning at Loch Garten, unfolded across the region and the UK. Today, over 300 osprey pairs nest annually across Britain, and overwhelmingly do so either atop trees or on human-constructed nests and platforms. Meanwhile, the rocky outcrops and ruins where conspecifics dwelt in the past (such as at Loch an Eilein) sit empty.

The enduring *emptiness* of rocks and ruins produces landscapes haunted by osprey inhabitancy and speaks to the losses that endure in the wake of their apparent undoing (Garlick, 2019a). Since this species 'imprints' to site, returning to its natal regions and seeking nesting conditions echoing those of fledging, specific nesting 'traditions' are liable to emerge over time, as ospreys favour certain structures as 'nestable', reflecting a situated history of dwelling and annual returns. The ospreys of Britain today, recolonised and descended from Scandinavian birds, carried and continue to

reproduce an intergenerational preference for tree sites. The end of Scottish ospreys in the nineteenth century was thus the end of an intergenerational nesting 'tradition' and such emptiness raises thorny questions about the existence of animal 'cultures', their definition, and significance for conservation biopolitics concerned with collective genetic survival (ibid.).

Consequently, the osprey example exemplifies attending to landscape's temporality – the ways in which multispecies lives, rhythms, and histories overlap in the event of place – as a fruitful avenue for extinction scholarship in two ways. Firstly, one might elaborate on the landscape temporalities that produce species absence: the unfortunate coincidence, or synchronicity, between migratory refrains and the shooting season; or the asynchronicity of early bird protection laws, enforced seasonally, sporadically, and unaligned with periods of key vulnerability. Secondly, we can appreciate the ways in which extinct ecologies continue to make themselves felt in the *ongoing* temporal event of the landscape. The enduring emptiness of Loch an Eilein castle (Figure 3.1), despite the return of ospreys to nest at Loch Garten, imbues these ruins (for those who understand their history) with a sense of mourning (Searle, 2021) and ghosts that refute any exorcism by virtue of conservation's present successes. Looking forward, landscape researchers might follow the ways in which the lived time of place is mediated by the inhuman temporality of extinction and the Anthropocene. What future ecological possibilities, or versions, of the landscape are delimited by the things we (or others) have lost?

Landscape and extinction: looking ahead

"Landscape mocks scholars" (Stilgoe, 2015: 17): their materialisation and conceptualisation confound us with specificity, inviting the experience of getting *lost* (Nancy, 2005). Whether wishing to understand or plan for them, landscapes "refuse to be disciplined", decrying "the oppositions that we create between time (history) and space (geography) or between nature (science) and culture (anthropology)" (Bender, 2002: S106). Such interdisciplinary sentiments of landscape studies are echoed within environmental humanities scholarship engaged in theorising and responding to the crisis of the Anthropocene. Phenomena such as mass extinction appear too multifaceted, complex, and distributed to be theorised from a single disciplinary vantage point. As Reinert asserts, meeting other disciplinary approaches "halfway" helps cultivate "joint modes of thought" and "points of contact" opening onto new insights (Reinert, 2018: 506).

This chapter has worked to outline three areas (there are doubtless others) where extinction studies might productively (and provocatively) engage with work on landscape. Such work would, I contend, open valuable avenues towards knowing, planning for, and living amidst the rapidly transforming environments of our multispecies world (see Houston et al., 2018). Firstly, attention to landscape as a representational category helps appreciate how extinction entwines ways of seeing environments. Secondly, engaging landscape phenomenology foregrounds the worldly experiences

that extinction denies or produces. Finally, the implications of extinction for landscape's temporality as an ongoing, unfolding event are rendered through attention to the role of absence in manifesting the formation of place. Such avenues of exploration, I contend, can help extinction studies specify, locate, and respond to the phenomena of mass extinction and ecological crisis in the Anthropocene. Importantly, these approaches are not necessarily commensurate, but abide in tension (see Rose & Wylie, 2006); emphasising that landscapes (and extinctions) might be represented as well as felt; scrutinised at a distance as well as directly experienced. To capture their conjoined complexity, and inform how we plan, live with, or otherwise respond, each perspective adds something worthwhile.

This chapter began by reflecting on the value of landscape as a way of grounding and locating our worldly experience amidst our entrainment within 'hyperobjects'. Ultimately, I argue, it is in this context that landscape studies can make a clear and important contribution. Certainly, hyperobjects (like 'mass extinction') challenge the objective, detached view of nature that certain notions of landscape have typically evoked. Yet, landscape and planning studies offer a diversity of conceptual framings, affording useful means of differentiating and responding to the challenges of the Anthropocene that merit more substantive consideration. As Elena Martinez notes, hyperobjects can appeal because they "[allow] us to stay zoomed out, to abstract through the sense of vastness that these objects produce, conveniently obscuring edges and frictions" (2021: 439). They prompt important existential questions like, "How does one respond to forces that are hard to make out or understand, and which might be initially imperceptible or obscure?" (Bastian and van Dooren, 2017: 2). One answer, I submit, is via attention to landscapes that make such forces, and our responses to them, perceptible. Abounding in diversity and contingency, any landscape confounds generalisation. In sum, landscapes "lead us away from hyperobjects, abstraction, and indifference" (Martinez, 2021: 441) towards specificity and lived environmental contingency: the very ambition of extinction studies' scholarship.

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