

# An Avian-Aquapelagic Heritage at “the Edge of the World” Reflections on Humans and Seabirds on St Kilda and the Arrival of HPAIV

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**Abstract** The concept of the *aquapelago* was introduced into Island Studies in 2012 to identify the close integration of aquatic and terrestrial realms that can arise from human livelihood activities conducted within them. While many aspects of aquapelagos have subsequently been described and analysed, little attention has been extended to their interface with aerial and, particularly, avian domains. This article attempts to redress this through a consideration of human livelihood activities involving seabirds in St Kilda, an isolated group of islands to the west of Scotland’s Outer Hebrides. Using the concept of the aquapelago as a starting point, the article considers various aspects of human-avian relations occurring on St Kilda, and UNESCO’s subsequent designation of the islands as a World Heritage site and intersperses this with the author’s personal experiences of and affective engagements with the islands. In particular, the latter part of the article develops the author’s field notes from a visit in Summer 2022 into a consideration of the limits of isolation occasioned by the presence of the H5N1 strain of HPAIV (Highly Pathogenic Avian Influenza Virus) on St Kilda at that time. The viral colonisation of the bird colonies undermined any sense of St Kilda and similar remote locations being safely isolated refugia and, indeed, signalled a particularly precarious moment of Anthropocene connectivity between mainlands and islands.

**Keywords** Human-seabird relations. St Kilda. Avian aspects of aquapelagos. Interspecies relations. HPAIV.

**Summary** 1 Introduction. – 2 St Kilda. – 3 Envisaging St Kilda. – 4 Reaching St Kilda – July 2022. – 5 Reflection.



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## 1 Introduction

The concept of the aquapelago was introduced into Island Studies discourse in 2012 to refer to terrestrial and marine territories integrated by human livelihood activities (Hayward 2012a; 2012b; Suwa 2012). The concept gained traction and has been applied to a variety of socio-economic, cultural, legal and political aspects of island, coastal and maritime topics (*Shima* 2024). Echoing Epeli Hau’ofa’s concept of the Pacific as a “sea of islands” (1994), much research has concerned the manner in which aquatic depths and surfaces have become implicated into the core livelihood activities of shore-based human societies. Two key aspects of aquapelagos identified by the aforementioned 2012 papers were: a) their nature as assemblages of human and non-human elements within terrestrial and aquatic interzones, and b), their temporal dimension as performed entities that

wax and wane as climate patterns alter and as human socio-economic organisations, technologies, and/or the resources and trade systems they rely on, change and develop. (Hayward 2012a, 7)

Jane Bennett’s pioneering volume *Vibrant Matter* (2010) was a key influence on development of the concept of aquapelagos in that they were conceived as what she terms environmental “fields” composed of both living and inanimate entities that can be activated in various ways. As she emphasises, these entities are complex in that their

differentiations are too protean and diverse to coincide exclusively with the philosophical categories of life, matter, mental, environmental. The consistency of the field is more uneven than that: portions congeal into bodies, but not in a way that makes any one type the privileged site of agency. The source of effects is, rather, always an ontologically diverse assemblage of energies and bodies, of simple and complex bodies, of the physical and the physiological. (117)

Fishing, fisheries and related delineations and administrations of marine regions and resources have provided obvious and fruitful topics for aquapelagic analysis and discussion (Fleury 2013; Evans, Harris 2018) but conceptual explorations of aquapelagos have largely bypassed their intersection with the aerial, only exploring this with regard to issues such as the obscured visibility of islands caused by humidity, haze, mists and clouds (Vale 2017) or the mythologisation of marine mirages (Hodges 2022). One topic overdue for scrutiny is the nature of aquapelagos in which seabirds are key nutritional and/or economic resources for human societies. The aerial domain, in such contexts, can also be considered as an avian one in that the skies

facilitate seabirds’ access to the seas and to the fish protein within them vital for their survival. This access also enables seabirds to roost and breed on islands and coastlines in manners that make them (and their eggs) vulnerable to human harvesting. The omission of this topic from Island Studies literature is, in large part, due to the limited (and highly localised) role that seabirds and their eggs play in contemporary human food gathering and cuisine. But, as this article illustrates, there are contexts in which seabirds have been a crucial resource and livelihood orientation for human societies and, in these, the aerial domain can be seen to have been an essential element in a triangular (land-sea-air) space that adds a third dimension to the aquapelagic. Given that humans have largely not taken to the air in pursuit of seabirds (or other fowl), the aerial domain remains the birds’ alone and the crucial inter-species interactions of dependent societies have occurred on the edges of terrestrial spaces, in St Kilda’s case, on cliffs.

The approach I pursue in this essay (and in its autoethnographic filaments, in particular) fundamentally derives from James Clifford’s “Fort Ross Reflection” (1997), an essay that reflects on human resource networking in northern California, and the Pacific North-West more generally. In an interview with Alex Coles about site specificity and research, Clifford emphasised that the materiality of locations such as Fort Ross is “unfinished”, in the same way that maps and histories of them are, and that their complexity results from the intersection of transnational flows and the resultant “making and remaking of cultures and places” (Coles 2000). I adhere to this approach and I have also taken inspiration from the “trans-species” turn in cultural anthropology best represented by the work of Donna Haraway and Anna Tsing. It is also notable that these theorists have recognised the significance of islands to the critical issues their work explores. Indeed, Pugh and Chandler have characterised Haraway’s and Tsing’s focus on “relational entanglements” and the “feedback effects” apparent on islands as highlighting the manner in which “co-shaping of species or sympoiesis” can be understood to be “key characteristics of island life” (81). This characterisation is equally applicable to my approach in the discussions that follow.

While Haraway provided the notable characterisation of inter-species’ interactions as a “contact zone” (2008, 244), many of the ideas I am concerned to explore were best articulated in Tsing’s justly acclaimed *The Mushroom at the End of the World* (2015). In her concise introduction to that volume (suitably entitled “Enabling Entanglements”), Tsing characterised that mainstream academic research has been deficient in that it has been left to “fabulists, including non-Western and non-civilizational storytellers, to remind us of the lively activities of all beings human and not human” (2015, VII). Expanding on this, she characterised that

interspecies entanglements that once seemed the stuff of fables are now materials for serious discussion amongst biologists and ecologists, who show how life requires the interplay of many kinds of beings. (VII)

Haraway took this one stage further in her 2016 volume *Staying with the trouble*, calling for a new era (which she terms the “Chthulucene”) in which humans are decentered from world visions and sensibilities in favour of a cross-species “kinship”. This can be understood in various ways, broadly (and mutually) as inter-species’ alliance and/or empathy and, more specifically, as a critical stance and moral imperative for researchers. One outcome of such reflections has been the development of what has been termed “multispecies ethnography”. While the term is problematic in that only one species produces formal ethnography,<sup>1</sup> it is a distinct and provocative development. Surveying its emergence, Kirksey and Helmreich have characterised it as a “new genre of writing and mode of research” and have contended that:

Creatures previously appearing on the margins of anthropology - as part of the landscape, as food for humans, as symbols - have been pressed into the foreground in recent ethnographies. Animals, plants, fungi, and microbes once confined in anthropological accounts to the realm of zoe or “bare life” - that which is killable - have started to appear alongside humans in the realm of bios, with legibly biographical and political lives. (2010, 545)

As the authors note, microbes are a legitimate subject for multispecies ethnography. One significant approach to this - sociovirology - has been outlined by Díaz-Muñoz et al. (2017). Their concept describes and conceptualises patterns of conflict, cooperation and communication among viruses. In something of a parallel to Tsing’s rejection of views of the natural world and its elements as being “passive and mechanical” (2015, VII), and of viruses being conceived as comprising undifferentiated, monolithic masses, the authors identify that viruses can have their own social crises in a manner that is “analogous to the tragedy of the commons in humans, where cooperation breaks down due to selfish interests, even though everyone could do better in the long run by cooperating” (Díaz-Muñoz et al. 2017, 428). Such weaknesses in the collective fabric of microbial life are precisely the points where human ethnography might gain maximum purchase on

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**1** While Paxson (2010) may be correct in identifying that animals may have anthropologic sensibilities with regard to observing the behaviour of humans who impinge on their existence, the extent of their ethnography has yet to be assessed.

the viral other, recognising a likeness in an unexpected place.

Similarly, the study of viruses can be insightful in other ways. Meyer (2020) reflected on the significance of COVID-19 to ways of comprehending the world and borrowed a trope from Haraway to characterise that:

the virus is also “good to think with” as it alerts us to the so far widely neglected fact that infection is part and parcel of global entanglements, implying the precariousness of corporeal boundaries and the permeability of the self. Far from being secluded, buffered monads that stand above and are able to master the world, as the ideology of the modern self suggests, we are relational, permeable beings. As such, as the spread of the virus painfully reminds us, we are affected by forces we cannot see with our naked eyes nor fully control... (Meyer 2020)

We might also add that microbes, more generally, are “good to think with” regard to an overarching factor, namely the anthropology of *the* (i.e., *the global*) crisis and all manner of fractal crises that are manifest at local levels. COVID-19 caused a crisis for humans and HPAIV caused a crisis for birds, but it should be remembered that crisis is, increasingly, the defining aspect of the Anthropocene.

In what follows I try to “think with” both seabirds and viruses in addressing the integrated aerial and aquapelagic system of St Kilda during both its inhabited and minimally inhabited phases. The perspectives I have sketched above are expansive and they implicitly challenge researchers to contemplate, identify and articulate their position within them. One response is to acknowledge simple factors that facilitate interest, engagement and inquiry into phenomena. Shifting from high-stakes theory into elements of autoethnography, I’ll start by declaring an “entanglement” with my topic in that I have had a long-term interest in seabirds, their colonies, the dependence of these on fish stocks and human engagements with them. While I am neither an ornithologist nor an obsessive birdwatcher, I have been lucky enough to pursue my interest when my professional and personal travels have brought me close to suitable coastal locations. Indeed, the discussion advanced in this article was catalysed by two such visits, the most recent, to St Kilda, that I reflect upon below, and an earlier one, to Bay Bulls and Witless Bay, on the south-east coast of Newfoundland, in 2003.<sup>2</sup> Newfoundland (and the aforementioned

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<sup>2</sup> It is becoming an increasing expectation that researchers should identify the circumstances and/or enabling agencies that deliver them to the field. In the interests of full disclosure, I travelled from Sydney (Australia) to St John’s (Newfoundland) for a job interview at Memorial University and my excursion to the Avalon was a welcome addition to the travel they arranged for me (especially since I didn’t get offered the position).

areas in particular) are a mecca for seabird watchers, with nutrient rich waters supporting fish stocks capable of sustaining millions of seabirds. Pre-HPAIV figures identified 24,000 breeding pairs of Northern Gannets (*Morus bassanus*), 260,000 pairs of Atlantic Puffins (*Fratercula arctica*) and 620,000 pairs of Leach’s petrels (*Hydrobates leucorhous*) as present in the area (Newfoundland & Labrador n.d.)

In my diary entry concerning Bay Bulls I wrote the word “plenty” and underlined it several times. I recall various sensory impressions from my visit: the stench of guano as our boat came close to crowded cliffs, the whiteness of both guano and birds upon those cliffs, the fullness of the sky above us as birds wheeled and squawked, hats worn to protect visitors from guano splashes and the wet, smelly, whiteness of my shoulder after I sustained a direct hit. There was a real sense of the locale being outside of the human realm, as being an arena for other species in a place where human intervention had not depleted biomass. The latter sense is particularly ironic since the waters of the area were once teeming with cod (*Gadus morhua*) which are now all but exhausted through over-fishing. I came to St Kilda familiar with descriptions of the similar density of its bird life and expecting equally striking natural grandeur. In the event, these expectations proved problematic.

## 2 St Kilda

St Kilda [fig. 1] comprises four main islands – Hirta, Dun, Soay and Borerary – together with a number of sea stacks and small rocky islets [fig. 2]. Hirta is the largest of the group, covering 670 hectares, and comprises approximately 78% of the archipelago’s total land area of 850 hectares [fig. 3]. The archipelago is located 65 kms to the west of the Outer Hebrides, 180 kms west of the nearest part of mainland Scotland and 290 kilometres north of Ireland. One of the most enduring characterisations of the archipelago is its remoteness, being the most westerly point of Scotland, separated from the Outer Hebrides by an often unpredictable and stormy section of the northwest Atlantic. The islands were gifted to the National Trust for Scotland in 1956 and became a UNESCO World Heritage (WH) site in 1986 on the strength of their natural and cultural aspects, with the WH status extended in 2004 to include St Kilda’s marine environment and again in 2005, to include its cultural landscape and material artefacts. One of its most prominent natural assets is its population of seabirds. Estimates of their number have varied (as, indeed, the population has) but a 2021 overview identified that there were over 100,000 breeding pairs of Atlantic Puffins (*Fratercula arctica*) nesting on Dun and 60,000 pairs of Northern Gannets (*Morus bassanus*) nesting on Borerary,



Figure 1 Map of St Kilda archipelago with inset map showing St Kilda (indicated by red square) in relation to the Outer Hebrides and mainland Scotland. Courtesy of Bernd Rhormann

Stac an Armin and Stac Lee. Other birds present in the islands include Northern Fulmars (*Fulmarus glacialis*), Shearwaters (*Puffinus puffinus*), European Shags (*Phalacrocorax aristotelis*) (Roels 2021) and Great Skuas (*Stercorarius skua*), an increasingly rare species whose global population is around 15,000, with an estimated 300 breeding pairs in the archipelago.

Hirta appears to have been populated for over 2000 years, with its primary settlement at Village Bay [fig. 3]. Boreray also supported a small village at one time and there is evidence of Dùn and Soay having been regularly visited and/or stayed on for short periods (Ballin Smith 2021). The archipelago’s population appears to have peaked at around 200 in the seventeenth century and declined to 36 inhabitants in 1930, immediately prior to its abandonment. The earliest account of the islanders, their habits and diet was provided by Martin Martin (1999). Visiting the islands in the





**Figure 2** September 2022. (Left to right) The north-western edge of Boreray, An t-Sail, Stac Lee and Stac An Armin (with Hirta in the distance). Author's photo

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mid-1690s, he identified the islanders' reliance on gannets<sup>3</sup> which he described as visiting the archipelago in a “prodigious number” between March and September each year. He detailed that the islanders killed over twenty thousand “young and old” gannets annually and kept these in small, stone buildings (known as *cleitean*) using peat ash as a preservative and eating their flesh and eggs as the staple element of their diet (1999, 171). One important point about the Hirta islanders' exploitation of gannet produce is that the gannets did not nest on Hirta itself but, rather, aggregated on the steep sided Boreray [fig. 4] and the two rugged stacks, An Armin and Lee [fig. 2]. The capture and killing of gannets and the collection of their eggs thereby required precarious marine transit between Hirta and

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**3** Which he referred to as “solan geese”.





**Figure 3** September 2022. Hirta's historic Village Bay site (centre left of image) and Oiseval headland (top right of image). Author's photo

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gathering sites and – given the lack of any convenient landing spots anywhere aside from Hirta – men had to scramble from boats onto steep, wet slopes and climb up to nest areas, often in inhospitable conditions. Once on the slopes they minimised vertical movements and threw bird carcasses down to waiting boats and lowered eggs down more carefully.

Details of local diet suggest the sheer volume of gannets in the area, an aspect vividly described by Martin on his return to the islands in 1698. Approaching a stack in a boat, he observed that it was covered with a “prodigious number... hatching in their nests; the heavens darkened by those flying above our heads” and he noted that “their excrements were in such quantity, that they gave a tincture to the sea, and at the same time sullied our boat” (1999, 239). Martin also identified that fulmar and puffin were also standard food items and that fulmar were additionally useful on account of the stomach oil

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Figure 4 September 2022. Boreray. Author's photo

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that spouted from their bills when disturbed,<sup>4</sup> which the islanders used for medicinal purposes and as lamp oil (1999, 172-3).

Martin also detailed aspects of local seabirds' interactions with humans. In one passage, for instance, he describes how the gannets:

have always some of their number that keep sentinel in the night-time, and if they are surprised, (as it often happens) all that flock are taken one after another; but if the sentinel be awake at the approach of the creeping fowlers, and hear a noise, it cries softly, 'grog, grog', at which the flock move not; but if this sentinel see or hear the fowler approaching, it cries quickly, 'bir, bir', which would seem to import danger, since immediately after, all the tribe take wing, leaving the fowler empty on the rock, to return home re infecto, all its labour for that night having been spent in vain. (1999, 254-5)

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<sup>4</sup> See Imber 1976 for discussion.

Along with white tailed sea eagles (*Haliaeetus albicilla* – the fourth largest eagle species in the world),<sup>5</sup> Eurasian sparrowhawks (*Accipiter nisus*) and Great Skuas (*Stercorarius skua*) that might prey on eggs or fledglings, the sentinels were principally concerned to guard against human raiders and, in all likelihood, developed some sensitivity to their patterns of approach and behaviour. One of most vivid passages in Martin’s account describes the nature and precarity of the fowlers’ activities and the manner in which fowling was inculcated to boys from an early age:

The inhabitants, I must tell you, run no small danger in the quest of the fowl and eggs, insomuch that I fear it would be thought an hyperbole to relate the inaccessibleness, steepness, and height, of those formidable rocks which they venture to climb. I myself have seen some of them climb up the corner of a rock with their backs to it, making only use of their heels and elbows, without any other assistance; and they have this way acquired a dexterity in climbing beyond any I ever saw; necessity has made them apply themselves to this, and custom has perfected them in it; so that it is become familiar to them almost from their cradles; the young boys of three years old being to climb the walls of their houses; their frequent discourses of climbing, together with the fatal end of several in the exercise of it, is the same to them as fighting and killing is with soldiers, and so is become as familiar and less formidable to them, than otherwise it certainly it would be. (1999, 272)

Other descriptions were even more vivid, with Seton noting how fowling on the tiny, steep Stac Briorach was regarded as “the crucial test of a fowler’s pluck” and a crucial proof of a single male’s marital value, and describing how when the fowlers ascended to the summit, “they committed great havoc amongst the unsuspecting fulmars, tying them in large bundles, and flinging them into the sea, which was crimsoned with blood” (1878, 200). In the early 1800s, at least, women also went fowling on occasion, with a Mr Sands recording details of women travelling to gather puffins on Boreray and staying for three-week durations (201).

I discuss these aspects at length because the interaction between humans and seabirds, and the marine and terrestrial features the fowlers had to negotiate to reach them, was a defining element of St Kildans’ livelihoods (and, indeed, survival). Their relationship with seabirds was both profound and predatory. Some sense of the centrality of seabirds to the everyday experience and culture of the islanders can be gleaned from the account of a visitor to the archipelago in 1824:

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<sup>5</sup> Which has been extinct in Scotland since the 1920s.

The air is full of feathered animals, the sea is covered with them, the houses are ornamented by them, the ground is speckled with them like a flowery meadow in May. The town is paved with feathers, the very dunghills are made of feathers, the ploughed land seems as if it had been sown with feathers, and the inhabitants look as if they had been all tarred and feathered, for their hair is full of feathers, and their clothes are covered with feathers. The women look like feathered Mercuries, for their shoes are made of a gannet’s skin; everything smells of feathers... (Macculloch 1824, 195-6)

If we take this description at face value, it suggests an unusually close and intense human reliance on the nutritional and material aspects of seabirds, one that required humans to be steeped in avian culture and finely tuned to avian behaviours. Indeed, in a colourful line of speculation, Macculloch fantasised an organic academy taking root on Hirta within which locals might draw on their detailed knowledge to produce “learned papers on the winds, and on the laws of the Gannets, and on the gravity of feathers” (1824, 187).

Several visitors sought to characterise the highly distinct soundscape provided by seabirds around the islands. Seton (1878, 160-1) quotes a lengthy passage in which John Macculloch (1824), visiting the islands around 1815, characterised the aggregation of everyday seabird song as an “orchestra”, and noted that:

the variety of tones was far beyond my power of analysis... yet it is a combination of sounds to which a musician will listen with interest and delight... Few of the notes in this concert could perhaps have been referred to the scale, if separately examined; yet the harmony was often as full and perfect as if it had been the produce of well-tuned instruments, and the effect was infinitely superior to that which is often heard in a spring morning among the singing birds of the forest... however inferior in variety or sweetness the notes of the individuals may be, there is much more variety in the harmonious combinations, and in that which musicians would call the contrivance and design. Very often they remind me of some of the ancient religious compositions, which consist of a perpetual succession of fugue and imitation on a few simple notes; and sometimes it appeared as if different orchestras were taking up the same phrases.

The comparison of aspects of human melody, music composition and performance to a combination of natural elements in a local soundscape may be an example of external observers reading-in similarities but is also an aspect detailed by anthropologists and ethnomusicologists in other isolated locales, most notably by Steven Feld in

his research on the soundscapes experienced and articulated by the Kaluli people of the Papua New Guinean Highlands (1990; 1991). In the latter locale, birdsong provided key sonic markers of space and of experience of space that profoundly affected human sonic communication, sensibility, senses of belonging and musical performance styles. While the Kaluli’s strong cosmological identification with birds is unusual, Feld has identified two aspects key to avian-reliant societies: a) the sound-based knowledge of space and time that derives from observation of seasonal activities, calls, nesting, and migrations; and b) the capacity of humans and their sound-making to recall, reflect, imitate, or, in some way evoke the world as observed and lived in as participant (personal communication, January 2024). External accounts, such as those quoted above, suggest that these two aspects were present in St Kilda.

While public musical performances were suppressed following the adoption of an austere form of Christianity on the islands in 1865, when the Reverend John Mackay arrived, songs and singing were prominent on Hirta prior to then (Seton 1878, 279-80), albeit being described by visitors as “weird” and “eerie” (280). While no notation of sung melodies or field recordings of islanders singing were made before the evacuation of the islands, there are indications that bird song affected singing style. One visitor, for instance, contended that the refrain to a song mourning the loss of a son during fowling (known under the English language title of *The Mother’s Lament*) was “manifestly an imitation, consciously or unconsciously, of the loud discordant clamour of a flock of sea-fowl over a shoal of fish” (280). Translations of the song’s lyrics also suggest such close associations, verse 2 proclaiming the virtues of “well feathered pillows” and “sweet” cooked fulmars’ eggs as examples of the islands’ “bounteous... store from the rock and the billow”, before asking the listener to “Hark to the fulmar and the guillemot screaming/Hark to the kittiwake, puffin and gull, O!”.

The Tobar an Dualchais online archive (based in Skye) includes two recordings of what it identifies as unaccompanied St Kildan songs by performers recorded in the 1950s and 1960s whose lyrics refer to hunting seabirds,<sup>6</sup> the second of which is sung from the perspective of a woman who complaining about a young man who pays her attention but does not bring her eggs. The song is referred to by the vocable phrase of its chorus, “Hion dail-a horo hì hò hion dail-a là”, which opens the track and is subsequently repeated.<sup>7</sup> Its ornate melodic

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<sup>6</sup> Online holdings SA1958.055.B1 and SA1961.72.A7.

<sup>7</sup> Gaelic music scholar Heather Sparling identifies that “vocables in a chorus (and as song title) are quite common in Gaelic song, particularly of women’s songs” (personal communication 07-01-2024).

structure and the rising 4<sup>th</sup> interval early in the song are highly evocative of birdsong but not of the seabirds staple to St Kildans’ livelihoods but rather of the variety of songbirds that also frequent Hirta (such as types of bunting [*Emberiza*], warblers [*Sylvoide*] and the endemic island wren (*Troglodytes troglodytes hirtensis*).<sup>8</sup> If the song’s attribution is correct,<sup>9</sup> the melody might be interpreted as reflecting elements of an acoustic world more familiar to St Kilda’s women, who were more Hirta-bound than the men involved in fowling on off-shore islands.

One bird with a more problematic relationship to island culture was that of the Great Auk (*Pinguinus impennis*). The large, flightless, penguin-like seabird lived in various North Atlantic locations before coming extinct in the mid-1800s after its numbers had been severely depleted as a result of it being killed to gather its feathers, which were used as down in pillows and bedding, leading the British Government to ban hunting for this purpose in 1794. There is no evidence that the bird was ever present in significant numbers in St Kilda and by the 1840s it seems to have been perceived as an alien species. In this context, the islanders’ awareness of and interaction with a specimen illustrates an alternative aspect of islanders’ imagination of birds within a distinctly pre-Modern sensibility. Various accounts discussed in detail by Fleming (2024) describe the ritual killing of a Great Auk on Stac An Armin by islanders around 1840 on the grounds that it was a malevolent entity and, possibly, a witch transfigured into avian form. Being constrained before its execution, it was reported to have emitted what were variously described as “hideous noises” and “wild, hoarse, despairing cries” (Fleming 2024, 30-1). This is the last recorded sighting of a Great Auk in St Kilda and, indeed, one of the last globally. Another bird with supernatural associations on Hirta was the cuckoo (*Cuculus canorus*),<sup>10</sup> a highly infrequent visitor perceived as the harbinger of tragedy. Swire (1952, 106) details that a ship despatched to St Kilda from Skye to announce the death of the islanders’ laird found that the islanders had already apprehended this due to the previous arrival of a cuckoo.

As the above passages suggest, St Kilda was perceived by a series of visitors as a place distinctly apart from the British mainland, one in which self-reliance, fortitude and efficient use of natural (and

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**8** For information on the variety of songbirds recently observed on St Kilda, see: <https://www.outerhebridesbirds.org.uk/index.php?tags/st-kilda/>.

**9** A version on the Altandubh YouTube channel (which is accompanied by the English language translation I refer to) has a note that is much less certain about the song’s source, stating that it “may have some connection with the depopulated island of St Kilda”. It nevertheless uses the word *cleite* in a bracketed subtitle, the St Kildan Gaelic dialect term for stone huts used to store gannet eggs and meat.

**10** Thanks to Jeremy Harte for alerting me to this.



especially avian) resources were key to the social fabric and character of the community, at least until its population began dwindling in the mid-1800s. At this juncture, increasing contact with off-islanders and awareness of the lifestyle and opportunities available on the mainland, and in more remote territories (such as Australia)<sup>11</sup>, led to increasing numbers of young people migrating in search of more comfortable ways of living. By 1930, the 36 residents who remained decided to depart *en masse* to the Scottish mainland following a series of disease outbreaks and food shortages, breaking centuries old traditions, acoustemologies and experiences of place.

### 3 Envisaging St Kilda

Even before I became embroiled in Island Studies some twenty years ago, I regarded St Kilda as an iconic location on account of its isolated position and the tale of its inhabitants’ voluntary exodus. Indeed, the ‘lost world’ of St Kilda’s human occupancy continues to haunt perceptions of its present. The depopulation is implicitly regarded as having created a lack, in the sense of the ‘present absence’ of the prior population lingering over Hirta. The population has not simply gone – leaving the island to nature (imagined as sphere without humans) – but, rather, its traces in remnant buildings and field boundaries are spectral in that they flag human absence and make this one of the key characteristics of the locale. The last island-born inhabitants are now deceased. Their offspring have largely integrated into Scottish and other societies and do not constitute an expatriate culture that dwells on and seeks consultation and/or decision-making input on the fate of the islands in the same manner as those indigenes elsewhere who have sought to represent or repossess ancestral lands. It has largely been left to its birds, who have been able to rest and nest somewhat easier since Hirta’s humans departed. The latter aspect is salient. In his rich and evocative reflections on the decline of arctic tern numbers on Papa Westray island in Orkney and human perceptions and senses of loss around these, Newman (2024) identifies Papa Westray as a site of “more-than-human memory that emerges from the myriad sentient geographies that intertwine in the relational complexity of its ecology” creating a “manifold... sense of absence”. He characterises this as a *spectral more-than*, a term that he uses to capture “something of the entangled complexity of ecology, and the emphasis it gives to relations as central to worldly becoming”. While his focus is on the diminution

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**11** Thirty-six St Kildans were transported to Australia in 1872, aided by the Highland and Island Emigration Society. Nineteen died in transit, due to exposure to diseases such as measles, which they had no immunity to (Richards 1992).



and/or absence of bird species on his subject island, we can expand it, in the context of St Kilda, to also express the poignant *spectral more-than* of its departed humans and their entanglement with the complex environment of their aquapelago.

The islanders’ decision to abandon their island home brought national attention to a hitherto obscure locale. Media coverage of the event piqued the interest of English filmmaker Michael Powell, who went on to write a scenario representing the final phase of inhabitation and of evacuation under the title *The Edge of the World*. Keen to shoot his film in situ, Powell approached St Kilda’s new owner, John Crichton-Stuart, in 1937, promising that the film project would bring human presence and employment opportunities back to the island. This proposal was, however, at odds with Crichton-Stuart’s vision for St Kilda. A keen amateur ornithologist, Crichton-Stuart purchased the islands in 1931 to preserve them as a seabird sanctuary. In this, he was following a Victorian tradition of British landowners establishing private bird sanctuaries.<sup>12</sup> Seabirds became a particular focus for conservationists in the 1860s when seabird feathers became a prized component of women’s hats, resulting in a rapid increase in seabird capture. Following lobbying by conservationists, the British government passed the *Sea Birds Protection Act* in 1869, which was ambitious in scope but almost impossible to implement,<sup>13</sup> and demand for seabird feathers continued to rise in the late nineteenth century. By the early twentieth century, campaigns began to diminish the trade, with legislation such as the 1896 *Wild Bird Protection Act* giving county councils the right to apply for protection orders over particular species and/or areas. The Royal Society for the Protection of Birds (RSPB), formed in 1889,<sup>14</sup> played a leading role in this campaign and also established its first reserve on Romney Marsh, in southeastern England, in 1928.<sup>15</sup> Crichton-Stuart’s entry into this arena completely reversed the approach to avian resources that had operated on St Kilda during its inhabited period and, instead, allowed its avian population to rebuild with only occasional summer visits from him and invited guests.

Rebuffed by its owner, Powell eventually had to find an alternative, with Foula, in the Shetland Islands, being chosen on account of its similarly soaring high cliffs and colonies of seabirds. In one sense

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**12** The first case of which occurred in 1813 when landowner Charles Waterton turned his Yorkshire estate into a wild bird haven.

**13** An amendment to the Bill passed in the House of Lords before the Act was passed specifically exempted St Kilda from the Act (Hansard 1869).

**14** Initially the Society for the Protection of Birds, it gained its royal charter in 1904.

**15** See Bassett 1980 for further reading about early British bird conservation initiatives.

the substitution was of limited importance, as Powell was attempting to relate the *story* of the circumstances that led St Kildans to choose to evacuate, rather than produce an audio-visual representation of the actual islands. In these regards, the film’s representation of intrepid islanders scaling imposing cliffs in search of seabird eggs gave some insight into the similar enterprise of St Kildans prior to their evacuation. Crichton-Stuart retained ownership of the islands until 1956, when he bequeathed them to the Scottish National Trust, who maintained them as a National Scenic Area, National Nature Reserve and site of Special Scientific Interest under the relevant national legislations. In 1985 The UK Government successfully sought recognition of St Kilda as a WH site on account of both its natural and cultural assets. The natural assets were identified as germane to the planet’s “evolutionary history”, providing an example of “remote island ecological colonization and development in isolation”, “superlative natural features”, and “habitats of rare and endangered species” (such as the island’s “impressive sea-bird colonies”) (UNESCO 1985, 74-5). The island’s cultural assets were identified as significant under criterion 5, as

an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change.<sup>16</sup>

Accounts of St Kilda during its populated era stressed the terrestrial aspect of the islands and the birds that congregated on them, largely overlooking the surrounding ocean that nurtured the fish stocks that fed the seabirds and, hence, the humans. The birds were undoubtedly aware of the oceanic domain as they plunged into it for fish protein and the human population would also have been cognisant of this, but it was not until the UNESCO WH status was extended to the seas around St Kilda in 2004 that this aquapelagic aspect was formally acknowledged through UNESCO’s *Criterion (ix)* designation:

St Kilda is unique in the very high bird densities that occur in a relatively small area, which is conditioned by the complex and different ecological niches existing in the site. There is also a complex ecological dynamic in the three marine zones present in the site that is essential to the maintenance of both marine and terrestrial biodiversity. (UNESCO World Heritage Convention 1986, 2004, 2005)

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<sup>16</sup> See UNESCO WH criteria as itemised at: <https://whc.unesco.org/en/criteria/>.

More poetically, the preamble to St Kilda’s 2004 UNESCO listing introduced an aesthetic dimension and rhapsodised over the locale’s scenic beauty and ecological complexity:

The combination of oceanic influences (proximity of deep ocean currents along the continental slope, extreme exposure to waves and oceanic swell, high water clarity) and local geology around the archipelago has created a marine environment of unparalleled richness and colour. The seabed communities are outstanding in terms of biodiversity and composition, including ‘northern’ and ‘southern’ species at the extremes of their range. The plunging underwater rock faces are festooned with sea life – a kaleidoscope of colour and form kept in constant motion by the Atlantic swell, creating an underwater landscape of breathtaking beauty. The complex ecological dynamic in the marine environment is essential to maintenance of both the terrestrial and marine biodiversity. (UNESCO World Heritage Convention 1986, 2004, 2005)

#### 4 Reaching St Kilda – July 2022

Powell’s opening prologue to *The Edge of the World*, set on the prow of a boat approaching (what its narrative introduced as) ‘Hirta’, made quite an impression on me when I first saw the film in 1983, and I aspired to a similar experience of the (actual) island. Indeed, I looked into options of visiting St Kilda several times in the mid-1980s, but these were highly limited, with no regular boat services travelling there at the time. Eventually, decades later, opportunity presented itself via a reactive response to the global impost of COVID-19 that has been termed “revenge tourism”.

As is well-known, COVID-19 first emerged in late 2019, in Wuhan (China) and by March 2020 had spread globally. The proliferation of travel systems, such as rail, road, shipping and aviation, was quickly identified as the major factor in spreading the virus rapidly through densely populated urban centres. As such, the 2019 outbreak was a distinctly contemporary phenomenon, one that O’Callaghan-Gordo & Anto (2020) characterised it as “the disease of the anthropocene”. Reflecting this, most countries closed their borders and restricted internal movement. Travel restrictions only began to loosen in late 2021 (although countries such as China and Japan retained these well into 2022). The pandemic caused something of an existential crisis amongst humans and Susan Harris insightfully extended Heather Paxon’s (2008) concept of microbiopolitics to COVID-19

and pandemics more generally,<sup>17</sup> calling “attention to the fact that dissent over how to live with microorganisms reflects disagreement about how humans ought to live with one another” (Paxson 2008, 16). Recontextualising this approach to human relationality (and resulting entanglement) with COVID-19, she contends that:

Paxson’s formulation of microbiopolitics as the construction and evaluation of categories of microorganisms serves as a useful model to ask what kind of microbiopolitics the coronavirus pandemic makes possible and what these strategies imply for collaborative human-microbe relations or multispecies flourishing. The microbiopolitics that marks the pandemic as new mutations and strains of viruses are being identified and a future of zoonotic diseases is anticipated shows this microbial relationality as already present. However, to make sense of entanglement in the pandemic is to recognize microbiopolitics as socio-politically contingent and undercut by anthropocentric anxieties for our own well-being but also as a species precarity. This species precarity for humans shows that the pandemic is differentially experienced as a self while negotiating its relations with non-human others. (Harris 2022)

This is a striking characterisation, as it allows for COVID-19 to be envisaged as a meta-presence that proceeds on aggressive pursuit of human hosts and which we can engage with on such a level.

In most western countries, the aforementioned COVID travel ‘freeze’ lasted less than two years but was still profoundly disturbing for populations who had come to expect that domestic and international travel opportunities would be indefinitely available to them (finances permitting) (Feei Ma et al. 2020; McDermid et al. 2022). As numerous pundits and researchers identified, there were benefits for the planetary environment in what has been termed the “Anthropause” (Biswas Chowdhury et al. 2021). Another result of this hold on travel was a phenomenon that has come to be known as “revenge tourism”. The term appears to have originated on social media in 2021 and to have been taken up by the travel industry in their efforts to promote tourism options as the pandemic declined. The “revenge” in question was (figuratively) against COVID-19 but the phenomenon might be better referred to as “catch-up travel”. Vogler (2022) summarised the latter as originating “from the boredom and uniformity of activities undertaken during the pandemic” with people feeling “exhausted and tricked by fate which took their opportunities for relaxation, meeting other people and having experiences”.

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**17** Paxson introduced the concept with regard to relationalities between microorganisms in food and human manufacturers, consumers and regulators.

In June 2022, just as travel was re-opening between a number of countries, the Small Island Cultures Research Initiative (SICRI) re-started their annual island-based research conferences with one in the Shetland capital, Lerwick. Under normal circumstances I would have flown from Sydney (Australia) to Glasgow, transferred to Lerwick, briefly lingered after the event and then retraced my route home, but the sharp realisation brought by COVID-19 that future international travel (and the relative cheapness of pre-pandemic flights) could not be taken for granted motivated me to visit a few other Scottish locales that had long fascinated me. Flying back to Glasgow I hired a car and, joined by two companions, drove west through Oban and Fort William and over to Skye. I had two motives for visiting the latter, the first being the place itself, and the second, the boat service to St Kilda that operated from Stein, on its north-west coast.<sup>18</sup> As I was shortly to discover, I was moving from one viral realm to another.

Four decades after I first resolved to visit St Kilda, I finally set off by boat to visit the islands on June 30<sup>th</sup> 2022. Although I had familiarised myself with maps of the archipelago, the opening sequence of Powell’s *Edge of the world* film had lingered with me and I was expecting to arrive and see Hirta looming, grandly isolated, out of the sea. Instead, our boat’s route saw us approach from the north-east [fig. 1], through a scatter of rocky stacks beyond which lay Hirta [fig. 2]. The experience of the voyage over was far from the serene one represented in the prologue to Powell’s film. The trip was made in high-powered, Redbay 13m offshore RIB<sup>19</sup> vessel capable of reaching over 30 knots per hour and, even with the skipper pushing the speed, the journey took over three hours bumping across swells. Arrival at the archipelago was therefore welcome and the starkness and elevation of the stacks was breath-taking. I had a similar sense of arriving in a realm where humans were not the dominant species as I had experienced earlier in Newfoundland. But there was a difference. The number of birds seemed considerably less than had been described by Martin (1999) centuries before and was also markedly less than the density I had previously witnessed in Newfoundland. It was also eerily quiet. Bobbing off stacks in our boat we could hear individual birds calling – a puffin honking as it skimmed across the waves near us, faint fulmar squawks from a nearby rock but no cacophonous soundscape similar to that I had been immersed in off Newfoundland. Not having visited before, I couldn’t assess the extent to which avian presence on the stacks and above the waters around them may have declined from previous years, but something seemed amiss.

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<sup>18</sup> Operated by Go to St Kilda: <https://www.gotostkilda.co.uk>.

<sup>19</sup> RIBs are inflatable boats, with rigid hulls and inflated side panels. They are stable, light and fast and were pioneered by the Royal national Lifeboat Institution.



**Figure 5** Great Skua in defensive pose. Photo by Erik Christensen – with permission from Murray Nurse – Wikimedia Commons

Landing in Village Bay in the late morning, I sheltered in the warmth of a NTS hut with my young travelling companion, Teagan, until heavy rain stopped. We then headed off, following the coast to the south before splitting up as I walked up to Ruival, a peak that overlooks An Torc stack, to the west, and the narrow straight separating Hirta from to Dùn. Scenic vistas aside, I had another reason for trudging up the wet path, as there was a particular bird I wanted to see, albeit with some trepidation, the Great Skua [fig. 5].<sup>20</sup> My reservation reflects the bird’s aggressive nature and its well-documented predilection for swooping at humans approaching areas in which it is nesting.<sup>21</sup> Weighing up to 2 kilograms, with long beaks and sharp clawed feet, and able to reach air speeds of up to 50 kilometres per hour, the Great Skua has formidable deterrent capacities that are readily deployed against other species. Walking the hills above Hirta’s historic village I awaited such interaction, but none came. I was perversely disappointed and, returning to the shore prior to re-boarding our boat, I raised the absence with our guide, who filled me in about the drop of bird numbers in the islands since 2020 due to the

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**20** While skuas roost in various places on Hirta, I had read in sources such as Milliken 1997 that this was a good area to see skuas close to Village Bay.

**21** Also see <https://www.flickr.com/photos/nevispix/4741995198>.

arrival of HPAIV. I learned that shortly before my arrival, National Trust Scotland had reported that birds had been observed behaving strangely and that bodies of deceased birds had been found washed up on shores around the Western Isles and urged people not to touch any dead or dying seabirds they might encounter (due to fears of potential cross-species viral transmission) (BBC 2022b). This provided some explanation for the low density of gannets, shearwaters and puffins seen on our approach to the islands. Our guide also informed me that HPAIV had one of its highest impacts (i.e. most fatalities) on the Great Skua, sparking fears of its possible extinction in the archipelago (Banyard et al. 2022; BBC 2022a). The comment I had made in my diary about Bay Bulls and Witless Bay, some 19 years before, came back to me. Instead of “plenitude”, I immediately thought of “precarity” - not a concept I had anticipated on these remote islands.

The situation on St Kilda reflected the extent to which HPAIV (Highly Pathogenic Avian Influenza Virus)<sup>22</sup> had a major impact on various species and colonies of domestic and wild birds. Colloquially known as ‘bird flu’, the virus has attracted concern since the 1960s when transitions from the less impactful Low PAIV to High PAIV began to be apparent, leading to periodic mass culls of domestic fowl, most notably chickens, in order to contain its spread. Avian Influenza Virus (AIV) is spread through birds’ respiratory secretions and faeces. Its high transmissibility derives from its protracted survival outside avian bodies, in faecal deposits or water, and through transmission from those sources to other contexts. Often emerging in domestic fowl, particularly in high density farming situations, it is readily transmitted to wild bird communities, with waterfowl and seabirds being particularly common transmitters that range over large areas (WOAH n.d.).

Walters (2008) has characterised the global outbreaks of highly contagious variants of previous diseases as *ecodemics*, caused by humans “radically changing the natural environment” through factors such as intensive agriculture and anthropogenic climate change and with increasing global trade and travel exacerbating the rapid spread of epidemics”. As accurate as this characterisation may be, despite being apparently “wild” - i.e. understood as being outside of human agricultural systems (and the close proximity to other species involved) - such birds are key HPAIV vectors. Alexander and Brown cite the commonly accepted start of avian influenza (AI) in the 1870s but note that outbreaks up until 1996 resulted in limited loss of avian life and that it was not until the late 1990s that highly pathogenic strains emerged (HPAI) that killed millions of birds in poultry farms, before the most intensely pathogenic strain to date, H5N1, emerged

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<sup>22</sup> Also referred to as High Pathogenicity Avian Influenza Virus.



and became dispersed by (wild) seabirds, decimating many seabird colonies in the process. The latter aspect was a somewhat surprising development. As recently as 2016, the scientific consensus around migratory aquatic birds was that while they were hosts of LPAIV, and that they dispersed this in their migrations, there was “evidence on both sides of the host-virus relationship that the two have evolved over time to establish an ‘equilibrium’ that results in mild disease in wild birds” (Hill, Hunstadler 2016, 304). But as the authors also stated:

This co-evolutionary relationship between bird host and IAV may appear stable at the organismal level, but is highly dynamic at the molecular level manifesting in a constant trade-off between transmissibility and virulence of the virus. Characterizing the exact nature of the host-virus equilibrium looms large as a challenge facing influenza researchers – ecologists and virologists alike. (304)

The sudden switch to highly pathogenic forms that were fatal to carrying species illustrates the difficult nature of the “challenge” the authors identified, but an aside within the article is also pertinent:

In many ways, addressing this challenge hinges on reconciling ecological (host-centric) and virological (virus-centric) approaches with the goal of integrating scales for measuring host-virus co-evolution. (304)

While there is no evidence that these two polarities *have* been successfully integrated in a manner that facilitates the production of “scales” that can measure host-virus co-evolution, the challenge is one that falls within the sphere of multi-species ethnography. The two principal players in the (co-evolving) epidemic are obviously the birds and the virus but enabling this interaction, albeit unwittingly, humans have caused and enabled all facets of the Anthropocene.

In 2022, a survey on breeding pairs of skuas on St Kilda observed that over two thirds of them had died due to HPAIV (Hall 2023). In 2023 a survey of cliff nesting birds on the main islands of the St Kilda group was compared to a similar survey conducted in 1999 with the results indicating a 61% decline across the four species of cliff nesting birds (fulmars, guillemots, razorbills and kittiwakes) (National Trust for Scotland 2023a). Precise figures on gannet mortalities are not available but indicate similar levels of impact, leading Susan McBain, Western isles Manager for the National Trust for Scotland to identify that a “decline in seabirds diminishes the World Heritage Site and is a clear signal that our marine ecosystem is under immense pressure” (National Trust for Scotland 2023b).

In the light of HPAIV’s impact on the islands in 2022, one of the most notable aspects of UNESCO’s WH listing documentation is its

identification of risks to St Kilda’s complex environment (under a section headed ‘Integrity’). The documentation listed “a range of remote and local environmental and anthropogenic factors”, including climate change, the development of disruptive tourism practices, the accidental introduction of invasive species, offshore oil spills, unsustainable fishing practices, (unspecified) “large-scale off-shore developments” and - identified as “probably the most severe potential threat” - “variations in the marine ecosystem, especially the plankton, caused by climate change”. While not specified, the impact of all these on particular species that support St Kilda’s seabird colonies are a major concern. Sand eels (small bottom dwelling fish of the genera *Hyperoplus*, *Gymnammodytes* or *Ammodytes*), for example, have long been a staple food source for St Kilda’s birds but their numbers have been substantially reduced around the Scottish coast by foreign commercial fishing operations harvesting them for animal feed and fertiliser, with the NTS (2023b) identifying pressure on them as a major concern.

As significant as the factors identified by UNESCO might be, it is notable that microbial risk is entirely ignored. In many ways, such a factor, particularly in the form of HPAIV, is one of the most “wicked” of the potential problems the WH site faces. The very migratory seabirds that are a prime ecological asset for St Kilda are also the vector for the dispersal of the virus that has recently afflicted them and may, if it mutates in even more highly pathogenic forms, so severely deplete bird populations that they become unviable. In terms of the sociovirological perspective advanced by Díaz-Muñoz et al. (2017), the twist here is that the massive depletion of hosts caused by a highly pathogenic mutation of the virus severely limits its own possibility for population increase. With human treatment and/or vaccination of wild bird species currently beyond the scope of human imagination, will and resources; the only available option for the humans who notionally steward St Kilda and the species that live on it, is to hope worst case scenarios do not eventuate as the planet slides further into human induced climate change and the suite of phenomena that accompany it.

## 5 Reflection

Throughout this article I have been aware of Anna Tsing’s caution that much environmental humanism (and even the “best” of this) relates “the importance of other beings (the conceptual vitality of their materiality; their centrality in history) without allowing them to become protagonists in our stories” (2023, 1). As she goes on to emphasise, it is

easy to get analytically stuck in human worlds in which nonhumans are either tools or blocks for human projects, even while proclaiming the importance of nonhumans. (1)

In this regard, I am “guilty as charged” but deliberately so as I have been primarily concerned to examine human presence and, in particular, livelihood activities, in St Kilda that centred on avian resources and that created a distinct aquapelagic assemblage. Indeed, the remote locale offers a remarkable insight into the nature of a marginal human society that exploited seabirds as a primary resource and – more latterly – of a designated world heritage location in which the seabirds manifest and exemplify the complex marine and terrestrial space in which multiple species constitute a distinct eco-system. The seasonal HPAIV outbreaks that afflicted seabirds on St Kilda in 2021-23 were a novel element in the eco-system but were ones that combined with other elements (such as global warming and fishery pressures) to diminish the islands’ ecological resilience. These elements pressure the environmental refuge that its various Scottish, British and UNESCO statuses have attempted to create, recalling Tsing’s concern over the Anthropocene’s impact on such refugia, which has depleted (if not obliterated) the eco-resources necessary for populations to regenerate after short-term crises. In her response to this concern, Haraway (2016) called for “intense commitment and collaborative work and play with other terrans, flourishing for rich multispecies assemblages that include people” (101). Viewed in this manner, St Kilda presents as something of a test-case. The island’s avian-aquapelagic orientation during around 2000 years of habitation undoubtedly modified the nature and variety of seabird species previously inhabiting the area but also found a new equilibrium in which the harvesting and consumption patterns of a small human population did not send (most) local avian populations into terminal decline.<sup>23</sup> The recent switch to the island as bio reserve with highly controlled human inhabitation of and visitation to the islands, initiated in 1930 and solidified by UNESCO WH status, may be seen to represent a first glimmer of the new Chthulucene order she envisages, but equally may be “too little, too late” in a planetary context. The Utopian concept of meta-species kinship is striking in that it “entangles myriad temporalities and spatialities and myriad intra-active entities-in-assemblages – including the more-than-human, other-than-human, inhuman, and human-as- humus” (101) but HPAIV, along with COVID, Ebola and a range of other microbial phenomena fit somewhat awkwardly into a concept of mega-species kinship.

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**23** With the exception of the previously discussed Great Auk.

Reflecting on a range of concepts, including those previously discussed in terms of sociovirology (Díaz-Muñoz et al. 2017) and the value of “thinking with viruses” (Berrigan 2022) has characterised that:

viruses do not figure easily into mental models of representation. They inhabit the micro- and nanospheres, yet their reach is planetary. The material worlds of viruses must instead be conjured through a secondary semiotic of affects, indices, and symptoms... They require the development of an entirely different set of attentions to places of touch and encounter, where human sociality is in symbiosis with more-than-humans, and where contagion and communication are inseparable.

Berrigan’s discussion reflects her own deep and traumatic relationship with the Hepatitis C virus but her articulacy can also serve as the touchstone for an unanswerable question of whether/how sea-birds engage with the agency of viruses, their presence in their bodies and their impacts. Are these effectively deadly shadows that fall across them? Or are there inbuilt and/or learned mechanisms for coping, resignation or endurance that recognise what processes are in place? And even if we humans can glean insights into this, what do such “kinly” insights offer in terms of resisting viral assaults on refugia and the populations within them?

Approaching St Kilda from the northwest in June 2022, one of my co-passengers remarked, awe-struck, that the place was like “Jurassic Park”. This was a problematic allusion. I knew what he meant but I also suppressed an impulse to dispute the characterisation and offer an alternative one. The island eco-park central to Crichton’s eponymous novel (1990) and the subsequent series of films inspired by it was one imposed upon a tropical environment to sustain a population of dinosaurs brought back for extinction by DNA engineering as an attraction for human tourists. By contrast, St Kilda’s sense of primevality (such as it is) results from its outer islets (in particular) betraying minimal traces of human impact. The impression that I think my fellow traveller was trying to articulate was of the islands being both “at the edge of the world” (as per the title of Powell’s 1937 film) and somehow “out of time” and/or external to modernity. It is fitting, in this regard, that the trope of islands at edge of the world being as impacted by Anthropocene factors as metropolises has been central to detailed and inventive discussions of environmental change in locales such as the Fuegian archipelago at the tip of South America (Ogden 2021) and – geographically closer to St Kilda – in Laura Watts’ (2019) discussion of explorations of tidal power in the Orkney Islands.

Like me, my fellow, film-alluding passenger had boarded the boat after traversing the mainland virus-scape and, presumably, had come

to some type of accommodation of the virus and/or vaccines and/or the hand sterilisation and mask protocols required at the time. In all likelihood, some, if not all, of those onboard, either carried the virus, had acquired immunity to it or had received the vaccines designed to combat it. Unlike us, the seabirds that visited the islands that summer confronted “their” virus in a less managed manner - it moved through them without resistance from mechanical or medical protections and was brought to their roosts as they flew in from wherever they had wintered. Indicating the highly implicated nature of species, the seabirds were vectors of the disease that assailed them as much as victims of it. In this interaction, the humans visiting St Kilda were the audience to a drama that their species had initiated through intensive poultry farming and the cross-species contamination that had resulted. The radiating ripples of human disruption of a multi-species systems were, thereby, just as manifest on St Kilda as they were in epicentres of early COVID dispersal such as Wuhan. This underlines how concepts of isolation and of isolated refugia are increasingly untenable in an era in which viruses are mutating and spreading in rapid and virulent manners and in which global sea temperatures and changes in the behaviour and sustainability of everything from plankton to coral to apex predators is apparent. In this manner “the edge of the world” is not so much a geographical concept as a precipice into profound turbulence with an unfathomable conclusion and point of re-equilibrium in which we humans, seabirds and a range of other actors may play very different roles within or else be absent from. In this context, distinctions between nature and (human) culture no longer hold in the gyres that envelop both scattered isolates and global populations.

Within the parameters of aquapelagic studies, the St Kildan society documented between the 1690s and 1930 is distinct in terms of its heavy reliance on harvesting seabirds (rather than fish, shellfish and/or aquatic plants). In this manner, its assemblage was markedly more triangular than what might be termed ‘classic’ marine-terrestrial aquapelagos (such as the Maldives or Indonesia’s Spermonde islands)<sup>24</sup> in which the aerial/avian dimension is a more minor element. But, in the manner of ‘classic’ aquapelagos, it also demonstrably waxed and waned over the period in question, eventually disassembling as human livelihood activities ceased. The islanders’ particularly intense relationship with and exploitation of seabirds has now receded into history. With the dispersal of its indigenous population, it has been succeeded by a different kind of activity involving the formulation and articulation of an environmental sanctuary (in

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**24** See Bremner 2017; Vandenberg 2020, respectively, for discussion.

a similar manner to that enacted on Haida Gwaii in recent years<sup>25</sup>. In this, human livelihood activity is replaced by human stewardship, with the latter primarily focussed on preserving bio-resources from the predation of its own species and powerless to prevent viral intrusion or the broad scope of Anthropocene environmental change. While prediction is always speculative, it is highly likely that the management practices that created this triangular sanctuary will also wane and may, indeed, be shorter lived than the islands’ previous 2000 year occupation, further emphasising the temporary nature of aquapelagic assemblages and the necessity of their consideration and study within temporal contexts.

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