THE MAGNETIC OBSERVATORY

An Exploration of Scientific and Poetic Measure in Antarctic Poetry

PhD Thesis

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Thesis submitted in fulfilment of the requirements for the degree of
Doctor of Philosophy in Creative and Critical Writing
School of Literature, Drama, and Creative Writing
University of East Anglia

October 2019

Abstract

Imaginative engagement with Antarctica long preceded actual encounter, and the entanglement of imagined and material realities has been a consistent feature of Antarctic writing. The critical thesis takes an interdisciplinary approach, necessitated in part by its Antarctic subject matter. Broadly speaking, this has led to an overlap of literary, cultural geographic, historical and philosophical studies, with a literary focus on 'The Ancient Mariner' by Samuel Taylor Coleridge, 'Thulia' by James Croxall Palmer and the contemporary Antarctic poetry of Jean McNeil, Bill Manhire and Elizabeth Bradfield. The first chapter examines the ways in which people have attempted to take the measure of the continent, showing that, as the largest repository of ice in the world, Antarctica as a real and imagined location embodies the paradoxical, transformational qualities of ice and operates not only as a place in its own right, but as a locus for poetic meditation on the nature of writing, and of the imagination itself. The second chapter develops this folding together of substance and symbol through a study of the language and representation of Antarctic birds. In the space opened up by this writing, we see a bringing together of fact and fiction, scientific and poetic measure, to illustrate not a hierarchical relationship of observer and observed, but rather a living, breathing system in which we are all interconnected. The third chapter takes as its focus the measure of time, setting contemporary poetic treatments of the continent in the context of the sublime. The critical thesis concludes by bringing together the material and the imagined, the temporal and the spatial, in an extended study of base diaries dating from the establishment of Halley research station in 1957. These provide a direct record of building and sustaining a place (in an environment which resists it) which highlights the parallel between the physical and social environment in which language is written, and the linguistic environment of a page. 'The Magnetic Observatory' is a creative exploration (in two parts) of these themes, as well as of different kinds of measure. The quality of sound is important in the work for its capacity to evoke an ambient soundscape, and the poems employ the flexibility of the lyric voice, and the possibilities offered by the space of the page, to destabilise linear time and positionality. Written by someone who has not been to Antarctica, they draw on historical base journals and reports from the field, as well as scientific documents, to help evoke an Antarctic world inhabiting historical, geographical and mythic space.

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Acknowledgements

I would like to thank both my supervisors, Denise Riley and Jean McNeil, for their support, encouragement and inspiration. It has been a privilege to work with them. I am very grateful to Jos Smith for his suggested reading, and for his insight and advice, to Joanna Price who shared her work on the sublime, and to Elizabeth Leane who recommended Elizabeth Bradfield's poetry, and generously made her own work available to me from the other side of the world. Much of this research has been facilitated by the enthusiasm and expert knowledge of Ieuan Hopkins and his team at the British Antarctic Survey who opened the Archive for me, and gave me space and time to work. I remain profoundly grateful to CHASE whose financial support has made it possible for me to undertake this PhD.

Introduction: The Magnetic Observatory

The magnetic observatory of this thesis collapses the scientific and the personal in the idea of the observatory as a hypothetical place for seeing from, combining ideas of place as a geographic location, and as something constructed in the mind; a place to gather data, and a space for the imagination. It draws together aspects of two very different observatories, one on board the *RRS Discovery*, captained by Robert Falcon Scott during the British National Antarctic Expedition of 1901-4, and the other just outside Lerwick, in Shetland, during the 1970s. The 'magnetic' observatory is a place from which to observe the working of the earth's magnetic field, and also a metaphor for the 'attractiveness' of Antarctica, a continent of central importance to the science through which an understanding of the earth, and people's relationship with it, can be developed.

The observatory on board the *RRS Discovery* was a 30 yard ferrous-free area under the decks of the ship. Incomplete understanding of the working of the earth's magnetic fields led to difficulties for sailors who were navigating the higher latitudes, and one of the aims of the *Discovery* exploration was to investigate the causes of terrestrial magnetism, and to examine the relationship between magnetic disturbances, storms at sea and auroral activity. It has been suggested that "science became subordinate to adventure"[1] on this expedition, and that some of the readings taken as part of the experiments were compromised. Inevitably, in the close quarters of a ship, the proximity of domestic, scientific and naval life could lead to unfortunate intrusions: there were fears, for example, that the metal parrot cage in the mess deck above would have impacted on the accuracy of the readings in the observatory below. In another hemisphere and time, the magnetic observatory of personal experience was where my father

[1] Atkin, A. (2012). Failures of the magnetic research on the *Discovery* Antarctic expedition 1901–1904. *Polar Journal.* 2(2). 200-218. https://doi.org/10.1080/2154896X.2012.735036. p.214

worked not long after his return from Antarctica. Here, too, the domestic and the scientific were located in one area: the meteorological instruments gathered in a field next to the research station and the houses of those who worked there. The physical location of the observatory was transformed, in my imagination at least, in the course of childhood games, and my memory of it as a place to work is overlaid by its imagined construction as a place of escape or adventure. The collection of poems in 'The Magnetic Observatory' engages with Antarctica as an icy laboratory, a touchstone of the earth's response to human-induced climate change, and what follows is the record of a wayfarer's journey through text, an exploration through both creative and critical writing of the inhabited Antarctic icescape.

Antarctica has remained for me a place of the imagination - I have never been there. This has posed a particular challenge: how could I, without my own perceptual evidence, create on the page a convincing evocation of a place I have never visited? My research for both the creative and the critical parts of this thesis has explored three broadly different kinds of text: personal records, including my father's book (*Years on Ice: Life in Antarctica 1958-1965*) and letters; published memoirs and travel writing, such as accounts by Shackleton and Cherry-Garrard of their expeditions, and more recent works by Jean McNeil and Sarah Wheeler; factual material, such as the base and field reports in the British Antarctic Survey archives; and imaginative responses in poetry and prose to the idea (or actuality) of the continent. An early observation about my father's writing alerted me to the way in which practical explanation, figures, lists, data could stand in for more descriptive attempts to evoke the qualities of the Antarctic landscape. *Years on Ice* expresses an intense passion for the earth and how it works. In the Preface, my father asks his readers to imagine they were "actually taking part in this book, actually living the events, seeing the sights, hearing the sounds"[2] - a plea for an active

[2] Lewis, A.G. (2019) *Years on Ice: Life in Antarctica 1958-1965* (Ed. Lewis, M.I.)
ISBN: 9781704809571 p.xi

sensory, as well as intellectual, engagement in the text, arising from his belief that wisdom comes from an embodied understanding of the world. However, description of the environment is often replaced by explanation, measurement and numbers. For example, a passage which begins by talking about the strange feeling of walking on sea ice, knowing that "a few feet underneath you is just over 6,000ft of water," quickly modulates into explanation:

> You know exactly how much water because every such ship has an echo sounder or depth gauge…sound travels at a constant speed some 1100 ft. per second at sea level …If you shout at a mountain and it takes 4 seconds before you hear the echo then the echo must have travelled 4,400 ft., that is 2,200 ft. to the mountain and 2,200 ft. back again.[3]

Clearly, the mechanics of how an embodied understanding of the Antarctic environment was reached – the instrumentation, and the laws of physics – was as important as emotional and sensory perception to my father. As Jean McNeil wrote, quoting a scientist friend in *Night Orders,* "Maths are not as abstract as people think…They're about how one thing/relates to another."[4] I began my research with a critical enquiry into the nature of observation and perception, and a creative investigation into the extent to which code and number (using meteorological reports and data) could form part of a poetic representation of Antarctic place. The critical and creative projects have been in dialogue from the outset. The collection, 'The Magnetic Observatory', is in two parts. 'Met Obs' looks at meteorology, and the experience of a group of scientists living and working in Port Lockroy in the early 1950s.[5] The prose poems feature different named individuals, in a deliberate de-centring of the narrative 'voice,' and though the sequence moves chronologically through a single year in terms of the movement into darkness and back to light, the episodes are drawn from different years, suggesting a more

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[3] Lewis, A.G. (2019) *Years on Ice: Life in Antarctica 1958-1965* (Ed. Lewis, M.I.) ISBN: 9781704809571 p.8

[4] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.13

[5] The two parts of the collection follow from an MA project, 'Erebus', which was a poetic retelling of some of my father's experiences during his time in Antarctica. Knowledge of these poems is not essential to an appreciation of 'The Magnetic Observatory', but I have included some poems, which are relevant to the critical thesis, in the Appendix.

disrupted temporality. The sequence explores the peculiar intimacies of a (male) homosocial group living and working in cramped conditions in an otherwise sublime vastness; it considers what might be meant by Antarctic 'values' - political, scientific, aesthetic and "wilderness"[6] - and suggests that scientific and poetic exploration are not mutually exclusive ways of engaging with the environment. 'The Iceberg Project' presents different ways of seeing – remote imaging, microscopic examination, poetic interpretation - which extend the meteorological observations of the first sequence into an investigation of the relationship between Antarctica and climate science. In the age of the Anthropocene,[7] Antarctic ice not only acts as a living archive of earth's climate history, it also provides a measure of the effects of human-induced climate change. The peculiar temporality experienced from holding (or reading about) an ice core with trapped air over 800,000 years' old perfectly embodies a notion of deep time which the critic David Farrier has described in *Anthropocene Poetics* as something which "conjures the peculiarly fraught intimacies of the Anthropocene."[8] 'The Iceberg Project' collapses both temporal and spatial scales, and brings together the human and the mythic, the organic and the man-made, the scientific and the artistic, in a poetic observatory located in an imagined Antarctica.

Where 'The Magnetic Observatory' explores aspects of measure in poetic practice, the critical thesis examines the way in which different aspects of measure, instrumental and aesthetic, often operate together in Antarctic poetry, such as that by S.T.Coleridge, James Croxall Palmer, Jean McNeil, Elizabeth Bradfield and Bill Manhire. The OED has four strands of definition under the noun 'measure': relating to size or quantity; to that which is

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[6] Article 3: *Protocol on Environmental Protection to the Antarctic Treaty* (1991) Retrieved from https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/environmental-protocol/protocol-on-environmental-protection-to-the-antarctic-treaty-1991/

[7] Lewis, S. & Maslin, M. (2018) *The Human Planet: How We Created the Anthropocene.* UK: Penguin Random House.

[8] Farrier, D (2019) *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction.* Minneapolis: University of Minnesota Press. p.8

"commensurate or adequate;"[9] to aspects of poetry and music; and to a plan or course of action "intended to achieve some object." Its relational (and sometimes bodily) nature becomes quickly apparent in these definitions. In fencing, for example, measure is determined by the distance ("the length of his or her reach") of one fencer from another. Distance travelled is measured between particular points, either in actuality, or in the mind when looking at a map. Antarctic literature – documentary, fiction, poetry – is full of this kind of measure: miles covered, lines of latitude and longitude, distance between mountains; birds are counted, wind speed recorded. As methods of scientific research became more established, and opportunities and instruments became available to measure an ever wider range of natural phenomena, these measurements reach from the depths of the ocean to the upper atmosphere, from microscopic diatoms to massive state-sized glaciers calving from the ice-shelves of the continent, to the depleted hole in the ozone layer in the troposphere and stratosphere. The accurate recording of such data is part of a process of categorisation and investigation; over time, it allows for the measurement of change. Antarctica is particularly significant in this respect: its ice holds records of climatic conditions for hundreds of thousands of years; it is the best place to gather fragments of meteorites which have the potential to reveal information about planetary evolution; it is a continent which supports developing understanding of earth systems and the impact human beings have had on the climate. The instrumental nature of this process is part of what has given scientific discourse its reputation for operating outside emotional engagement, and the definitions of measure which pertain to the "commensurate or adequate," or to a planned course of action, are likewise bound up with ideas of qualification, objective judgement, and end-driven activity.

Scientific 'measure' in these terms is an activity (the gathering of data) and an outlook; whether as a means to knowledge or as knowledge itself, it is relational. The engagement of

[9] Brown, L. (Ed.). (1993) *The New Shorter Oxford English Dictionary* Oxford: Clarenden Press. p.1726

both mind and body in the physical world whilst collecting data can be evidenced in the experience of the Antarctic meteorologists recorded in the 1952 report from Port Lockroy.[10] There were difficulties setting up and calibrating the instruments. Because of the accumulation of snow during blizzards, the accuracy of the thermograph (in its position on a shelf within the Stevenson Screen) was compromised; it was therefore suspended from the ceiling of the screen with two cup-hooks. The readings of the different instruments in the Stevenson screen were cross-referenced and compared with the men's own understanding of how the conditions impacted on the results, demonstrating how readings of that environment come from an embodied perspective.

When the scientist (or observer) is placed at the threshold - between instrument and environment, between emotional and objective, between representation and place - there is evidence of a more reciprocal relationship between the human and their environing world reflected in their use of language. The poetry in 'The Magnetic Observatory' explores the breakdown of the "separate bounded self"[11] in this environment; in 'Met Obs,' the names of the scientists are effectively interchangeable, and the poet-narrator's voice in the bottom right corner demonstrates a similar lack of boundedness in the poetic texts. The record of optical phenomena observed by historical figures impacts on the language and perception of the present narrator in a different hemisphere (but on the same page). In 'The Iceberg Project,' citations have been included, along with quotations, to recognise that the poems exist within a community of different kinds of texts. Throughout the sequence, there is a constant swerve[12] between contexts: between the instrumental measurement of the satellite's eye, and the

[10] Falkland Islands Dependency Survey. Base A Port Lockroy. Meteorological Report June – November 1952. BAS Archive Ref AD6/2A/1952/X

[11] Farrier, D (2019) *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction.* Minneapolis: University of Minnesota Press. p.90.

[12] Chapter 3 of *Anthropocene Poetics* is entitled 'Swerve'. In it Farrier argues that the conditions of the Anthropocene, its peculiar intimacies and entanglements, are manifested in the swerve, "the necessary turn or deviation that tangles life into knots of kin-making." ibid. p.90

emotional observations of the lyric 'I.' The time frame of the collection acknowledges the Anthropocene, where "distant pasts and futures flow through the present in all manner of sometimes surprising ways."[13] The early poems in 'Met Obs' relate to the era of systematic data collection which, after thirty years, allowed the discovery of the Ozone layer. The men collecting that data were surrounded by the deep time of Antarctic ice, responsive to the present moment, but also generating figures which would not cohere into a pattern until the future. 'The Iceberg Project' is set in that future. Data collection is ongoing but there is the capacity, because of the development of technology, to model the speed of change, to "show tongues of fire are lapping at the sea."[14] Poetry offers a different model in which to interrogate that data, through which different perspectives and responses can co-exist and communicate.

Much as it is part of scientific observation, measure inheres in music and poetry. The length of a note, and between notes, determines rhythm, the wavelength determines pitch. The number of stressed and unstressed syllables and their relation to one another quantifies poetic rhythm as measured in poetic feet. The word rhythm derives from the Greek ῥῠθμός (ruthmos) meaning "measured flow or movement."[15] A measure is also a dance. Northrop Frye writes about the sound structures of poetry, "the hypnotic incantation that, through its pulsing dance rhythm, appeals to involuntary physical response"[16] and the poet Michael Donaghy describes an epiphany concerning the relationship between poet and reader which occurred after he had been playing at a ceilidh, watching the dancers. After the dancers had

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[13] Bristow, T. (2015) *The Anthropocene Lyric: An Affective Geography of Poetry, Person, Place.* Basingstoke: Palgrave Macmillan doi: 10.1057/9781137364753.0004. p.2

[14] Lewis Williams, E.M. (2019) Time Not Our Time. *The Magnetic Observatory.* p.181

[15] Rhythm. (n.) *Online Etymology Dictionary*. Retrieved from https://www.etymonline.com/word/rhythm

[16] Culler, J. D. (2015). *Theory of the Lyric*. Cambridge, Massachusetts: Harvard University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1006650&authtype=sso&custid=s8993828&site=eds-live&scope=site p.139

left the floor, he noticed the patterns their moving feet had made in scuffs on the wooden floor.

> This pattern, I realised, was an enormous encoded page of poetry, a kind of manuscript, or, more properly, a *pediscript*…Just as a manuscript is a set of rules for summoning the speaker (from beyond the grave if necessary), the pediscript is a set of rules for executing the dance.[17]

He, as observer, makes the connection between the pediscript and the dance. Donaghy's words connect the abstract (the rules, the shapes) and the sensory (the dance). The poetic 'feet' of poetry provide another kind of pediscript. The rhythms and sounds of poetry, contained in, and by, the words on the page, involve measure and movement: the quality and length of syllables, the vibration of the vocal cords, the sound of the voice between speaker and listener, the movement of eyes across a page. The reader or listener is moved by what they read or hear; the qualities of sounds or silence have an emotional affect.

Poetic measure in its broadest sense brings together the numerical, the relational, and the physical in the sound world of the poem, on and off the page. Writing about the performative aspect of lyric, critic Jonathan Culler describes Sappho's 'Ode to Aphrodite' as "a public act of what I call "triangulated address" – speaking to listeners through an apostrophic address to absent power."[18] Donaghy writes of employing a manuscript as a means of "summoning" the speaker of the poem; in the same way, the shaman in 'The Iceberg Project,' whose parts are scattered through different poems, is strung together by reading and given voice (and wings) in a re-membering reminiscent of, but radically different from, the restoration of the body of Osiris by Isis. 'The Iceberg Project' is a response to

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[17] Donaghy, M. (1999) *Wallflowers: A Lecture on Poetry With Misplaced Notes and Additional Heckling.* Milton Keynes: The Poetry Society. pp.5-6

[18] Culler, J. D. (2015). *Theory of the Lyric.* Cambridge, Massachusetts: Harvard University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1006650&authtype=sso&custid=s8993828&site=eds-live&scope=site. p.15

Timothy Morton's calling of the shaman to inhabit the charnel ground, his figure for ecological co-existence. Given that Morton's view involves the collapse of certain binary oppositions – here and there, inside and outside – the shaman is created by the poet, assembled and given voice through the sequence by the reader. The animation of waste products, discarded plastic and creatures destroyed by a warming climate, the shaman inhabits the text through sound, is never fully embodied, and in the final poem, the various absent speakers come together: the writer, the shaman, the scientist, the quotations, the voice (internalised or vocalised) of the reader of the poem. Both David Farrier and Tom Bristow detail the ways in which the complex positionality of the lyric voice enables "the conquering gaze"[19] to be set aside, making the lyric an ideal form to develop the kind of critical thinking which allows for a renewed understanding of the human position within the Anthropocene.

The methodology behind the combined thesis is that of a creative-critical wayfarer. The finished text is the result of a mesh of inter-connected journeys through and between other texts, testing conclusions (which became starting points) through different kinds of writing. The reading has been inter-disciplinary. The anthropology of Tim Ingold; the phenomenology and philosophy of Maurice Merleau-Ponty, Martin Heidegger and Emily Brady; the cultural histories of Francis Spufford and Elizabeth Leane; the geographical writing of Yi-Fu Tuan, Tim Cresswell, John Wiley and Mariano Siskind; the criticism of Timothy Morton, Tom Bristow, David Farrier and Jonathan Culler have all been significant in shaping the final critical work. Each chapter defines a field of study, begins with a critical survey, and ends with an analysis of poems which demonstrate the ways in which different kinds of measure operate in Antarctic poetry. My own poetry, a direct response to a wide variety of

[19] Bristow, T. (2015) *The Anthropocene Lyric: An Affective Geography of Poetry, Person, Place*. Basingstoke: Palgrave Macmillan doi: 10.1057/9781137364753.0004. p.6

different kinds of text, has been an attempt to chart my developing understanding of the continent, and its significance, both on and off the page.

The following chapters begin with an examination of the ways in which people have attempted to take the measure of Antarctica, showing that, as the largest repository of ice in the world, Antarctica as a real and imagined location embodies the paradoxical, transformational qualities of ice and operates not only as a place in its own right, but as a locus for poetic meditation on the nature of writing, and of the imagination. The second chapter develops this folding together of substance and symbol through a study of the language and representation of Antarctic birds; here the measure has been of distance and number. The third chapter takes as its focus the measure of time, setting contemporary poetic treatments of the continent in the context of the sublime, and of global warming. The final chapter brings together the material and the imagined, the temporal and the spatial, in an extended study of base diaries dating from the establishment of Halley research station in 1957. The mesh of ideas, the interconnections between discrete chapters and sequences of poems, have been constructed in such a way that the inhabited line of movement preserves the way in which the creative and the critical process have entailed one another, and are ongoing.

Chapter 1: Taking the Measure of a Continent

How do you write Antarctica? How do you take the measure of a continent in which the swirling whiteness of a blizzard eliminates all sense of difference, the mirror sheen of ice only reflects what is brought to its surface, and the white page of a shifting snowscape resists inscription? The South Pole, one of the two opposed points on the earth around which the planet rotates ("the still point of the turning world"[20]), has no geographical feature to locate it – and the marker in the ice which identifies its position moves approximately 2.5cm a day. Katha Politt describes Antarctica as a "country of Refusal"[21], and Jean McNeil calls it a "Poor place/with no name of its own/only somewhere it's not."[22] However, inherent in these descriptions is their opposite: there must be a place to be considered null, or a country from which refusals come. Whilst understanding why Antarctica might be seen as an icescape resistant to artistic or literary representation, Elizabeth Leane believes instead that this view is only one of its many fictions and, going one step further, Francis Spufford suggests that far from being unwritable, Antarctica "has constantly vanished into writing, into the act of representation itself, as if being there and describing being there had collapsed into each other…"[23] He cites the following lines from W.S. Graham's 'Malcolm Mooney's Land' to illustrate his point:

> Outside the tent endless
> Drifting hummock crests.
> Words drifting on words.
> The real unabstract snow. [24]

[20] Eliot, T.S. (1963). *Collected Poems 1909-1962* London: Faber and Faber (first published 1936). p.191

[21] Pollitt, K. (1994). 'To an Antarctic Traveller,' *Antarctic Traveller.* (5th ed.) New York: Alfred A. Knopf. p.58

[22] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic.* Sheffield: Smith/Doorstep. p.43

[23] Spufford, F. (2011) 'The Uses of Antarctica' in Crane, R. & Leane, E. & Williams, M (Eds.). *Imagining Antarctica.* Hobart: Quintus Publishing. p.24

[24] Graham, W.S. (2005) 'Malcolm Mooney's Land,' *New Collected Poems.* M. Francis (Ed.). London: Faber and Faber. p.157

Snow is equated with words in a subtle instance of the "wide, white page,"[25] but as Graham's full stops, dividing snowdrifts from word-drifts, suggest, and Spufford writes:

> Metaphor is not identity; only borrowed semblance. And however anthropocentric our metaphorical uses of the continent may be, there remains the still-unassimilated thing itself, the millions of square kilometres of Antarctica existing, but not for us; the real unabstract snow.[26]

The material reality of the continent, and what we know of it temporally and in substance, is always in excess of metaphor. The following study will explore some of the oppositions, mirrorings and reversals in representations of the continent, where the material and the abstract collide, and demonstrate that in the Antarctic landscape, facts assert themselves through the literary constructions which attempt to contain them. However, taking a lead from Stephen Pyne who suggests that icescape "transfigures" earthscape in such a way that ice is "*both* landscape *and* allegory"[27] [emphasis mine], I will also show that this ice paradox can work to eliminate the distinction between the figurative and the real. Antarctica thus functions like the figure zero, the double aspect of which "as a sign inside the number system and as a meta-sign, a sign-about-signs outside it … has allowed zero to serve as the site of an ambiguity between an empty character…and a character for emptiness."[28] Antarctica is not blank, or empty, or un-writeable. Its polar location, its particular specificity, its doubleness, can be traced through the shift from the metaphorical into the language of empirical science, and subtle prosodic shifts in the measure of poetry and prose.

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[25] Manhire, B. (ed.). (2004) From the title of *The Wide White Page.* Wellington: Victoria University Press.

[26] Spufford, F. (2011) 'The Uses of Antarctica' in Crane, R. & Leane, E. & Williams, M (Eds.). *Imagining Antarctica.* Hobart: Quintus Publishing. p.24

[27] Pyne, S.J. (2004) *The Ice.* London: Phoenix. p.2

[28] Rotman, B. (1993) *Signifying Nothing: The Semiotics of Zero.* Stanford: Stanford University Press. p.13

(i) "From measuring geography to mapping our minds"[29]

Imaginative engagement with Antarctica long preceded actual encounter, and the entanglement of imagined and material realities has been a consistent feature of Antarctic writing. In his study of how humans turn land into maps and landscapes, William I. Fox took his personal experience of the Antarctic, and set it against the ways in which it has been visually represented as a test case to examine key issues of how the human mind deals with space and transforms it into place. The movement "…from measuring geography to mapping our minds" situates the observer at the point where what is observed is turned into its reflection.

> …first we are exterior to the land, but then, upon entering it, we begin to scale it to ourselves, and ourselves to it. We measure it, and sometimes it takes measure of us. We seek to represent what we see, and reshape what we see into what we need and want. At first this is a purely utilitarian project, but quickly it becomes an aesthetic one.[30]

What Fox describes is a process which combines mathematical measurement with subjective judgement, where the empirical becomes enmeshed with the aesthetic, the actual with the desired; where what is observed is not always the object being measured; in this instance, the land itself places the human in its own frame of reference.

Antarctic exploration has always required careful navigation of the territory between speculation and empirical proof. The continent was conceived of by the Greeks as a necessary counterbalance to the landmasses in the Northern hemisphere. Its very name embodies its contradictions, holding together in construction and connotation the earthly, the celestial, the metaphorical and the real. The Greek prefix 'ant' means opposite and 'arktos' bear, referring

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[29] Fox, W.J. (2005). *Terra Antarctica: Looking into the Emptiest Continent.* San Antonio, Texas: Trinity University Press. p.275

[30] ibid. p.275.

to the constellation (itself an imagined shape linking material stars) of Ursa Major, after which the Arctic is named. The evolution of maps of Antarctica, beginning with the Greeks, illustrates the way in which imagined and material realities coexist in the cartographical representation of the continent. Before it was discovered, Antarctica was considered "a remote blank space onto which the concerns of other regions [were] displaced."[31] On maps it was depicted like other continents, a single landmass, unlike its Arctic opposite. The "blank space" described by Elizabeth Leane does not refer to the Antarctic icescape but to its existence as a supposition; it was an unknown world and the truth about it could be invented. It was both the site of temperate utopian societies[32] and the hellish gothic underbelly of the world.[33] Stephen Pyne has demonstrated the way in which as more became known about the southern continent, the carefully charted fantasy of Terra Australis Incognita was replaced by a white space waiting to be filled: "Cook's greatest discoveries did not reveal new lands so much as they defined the dimensions of the known coastlines and erased whole continents of a hypothetical geography."[34] With Cook, measurements and mapping appear to "put an end to the mythic narratives of Antarctic cornucopias,"[35] at least on the charts, but they do not put an end to imaginative engagement. The white space, like the figure zero, is not empty.

Interplay between direct observation and theoretical speculation is given authority in the production of maps. The white space at the South Pole was, in fact, depicted before Cook's "erasure of hypothetical geography."[36] Guillaume de L'Isle's map 'Les Terres

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[31] Leane, E. (2012). *Antarctica in Fiction : Imaginative Narratives of the Far South*. New York: Cambridge. University Press. p.29

[32] ibid p.28-35

[33] ibid p.59-64

[34] Pyne, S.J. (2004) *The Ice*. London: Phoenix. p.74

[35] Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1) p.13

[36] Pyne, S.J. (2004) *The Ice*. London: Phoenix. p.74

Australes' shows some incomplete coastlines of Australia and New Zealand but no land at all in the south polar region.

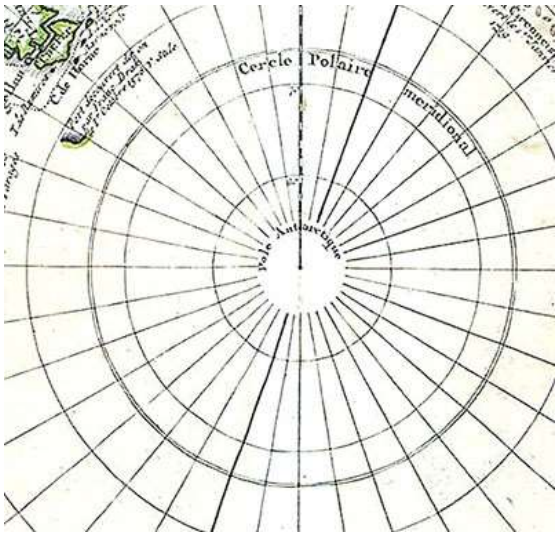

Figure 1: Guillaume De L'Isle's Map of the South Pole[37]

De L'Isle's map [Fig. 1] was based on an original produced from direct observation during Bouvet's expedition south of the Cape of Good Hope in 1738. The successor to his publishing business, Philippe Buache, had no scruples about only charting that which had been observed. He was an exponent of theoretical geography, and was prepared to draw land according to speculation. He produced a map, based on materials from the same expedition which had supplied the evidence for De L'Isle's map, showing Antarctica in two parts, attached to New Zealand and separated by a 'Mer Glaciale'. [Fig.2]. At first glance, this representation of Antarctica seems to place the Buache map with whimsical hypothetical representations of the Arctic which showed the Arctic as four islands surrounded by a polar sea, with a magnetic mountain in the centre, as in the Oronce Finé map of 1531.[38]

[37] St. John's College, University of Cambridge, Website. *Antarctica.* Retrieved from http://www.joh.cam.ac.uk/library/library_exhibitions/schoolresources/exploration/antarctica/

[38] Baynton-Williams, A.& M. (2006) *New Worlds: Maps from the Age of Discovery.* London: Quercus p.18-19

Figure 2: Philippe Buache 'Carte des Terres Australes[39]

However, one of the most recent depictions of Antarctica compiled from data produced by remote sensing surveys [Fig.3], reveals several separate landmasses under the ice which from the surface appear to make up a single landmass.[40]

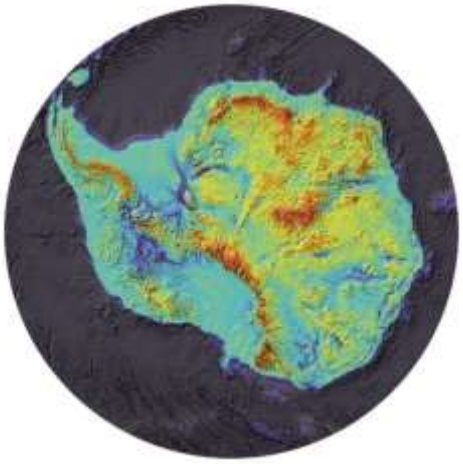

Figure 3 Bedmap2 - Ice thickness and subglacial topographic model of Antarctica[41]

[39] Tooley, R.V. (1963) Maps of Antarctica. In *The Map Collector's Circle.* Retrieved from http://www.antarctic-circle.org/tooley.htm

[40] Jamieson, S.S.R & Sugden, D.E. (2008). 'Landscape Evolution of Antarctica.' In Cooper, A.K. & Barratt, P.J., Stagg, H. & Storey, B. & Stumo, E. & Will, W. (eds.).Antarctica: A Keystone in a Changing World. Proceedings of the 10th International Symposium on Antarctic Earth Sciences. Washington, D.C.: The National Academies Press. https://www.nap.edu/read/12168/chapter/6#43 Accessed 12:07, 23/01/19

[41] British Antarctic Survey website. Bedmap 2. Retrieved from https://www.bas.ac.uk/project/bedmap-2/

In this context, Buache's map appears well-reasoned. His depiction was based on a hypothesis arising from the size of icebergs observed by Bouget during his southernmost voyage: such icebergs, Buache thought, must have been created from great rivers flowing into a frozen sea.[42] Buache combined empirical observation with imaginative speculation to reach what was a reasonable hypothesis. In these different maps, we see a continent which is conjectured but not proved by footfall, sensed by remote imaging technology, but not seen by the naked eye. Antarctica rises through the imagery which depicts it as both imagined and materially true.

A map showing national claims [Fig.4], a kind of measuring out of Antarctic territory,

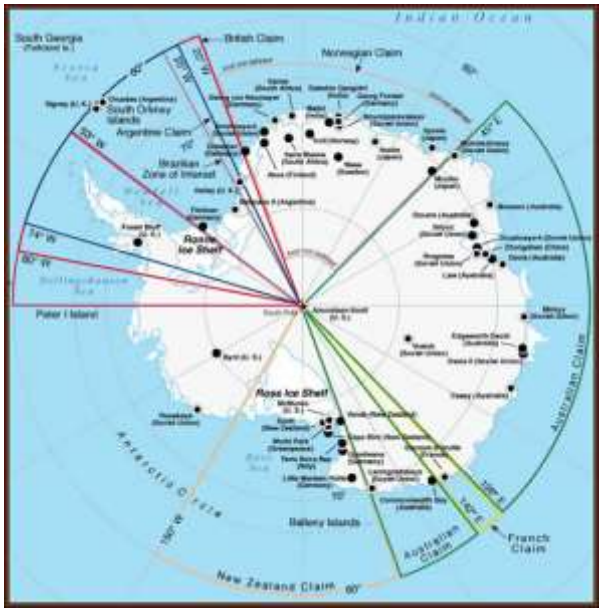

Figure 4: Map of Antarctica showing territorial claims[43]

[42] Djwty. (2016) 'The Buache Map: A Controversial Map that Shows Antarctica Without Ice.' Retrieved from https://www.ancient-origins.net/artifacts-other-artifacts/buache-map-controversial-map-shows-antarctica-without-ice-005647

There are pseudo-historical speculations about the exploration and mapping of the Antarctic coast by an advanced civilisation before the continent became icebound, based on a map created by Ottoman admiral and cartographer, Piri Reis. He claimed to have based his map on older Arab and Indian maps. However, this map, too, is probably the result of speculation based on known coastlines. See also

Hare, J.B. (2001) The Piri Reis Map. *Internet Sacred Text Archive.* Retrieved from http://www.sacred-texts.com/piri/index.htm

[43] Manaaki Whenua Landcare Research. The Antarctic Treaty. Retrieved from https://www.landcareresearch.co.nz/science/plants-animals-fungi/animals/birds/penguins/antarctica-facts/the-antarctic-treaty

illustrates another of the ways in which geographical representations of the continent layer the conceptual with physical experience. Wedge-shaped areas narrowing towards the pole show where nations have staked their claims through early exploration or the establishment of scientific bases. The territories of Chile, Argentina and the United Kingdom overlap, as a result of continuing disputes over territory, including the Falkland Islands. Drawing straight lines is possible on the stable surface of a blank page; the attempt to fix them on the shifting surface of the great ice continent emphasises the absurdity of what is essentially an imperialist project. Scientific bases were established or reopened during WW2[44] because German submarines were active in the area, and maintained initially in part to protect the British claim, particularly against the Argentinians. Even in these areas of interest, however, the particular, paradoxical nature of the continent makes itself felt. Whatever spats may have occurred during which flags were raised and words exchanged, international dispute did not withstand the pressures of climate and isolation on the ground. The issue of sovereignty in Deception Island was settled for a number of years by a series of football matches between rival bases[45] and there was positive social exchange, either physically or across the radio waves, as much as environmental conditions allowed.[46] Shared hospitality in this hostile environment was, and is, extremely important, as are shared resources in times of need. In August 2012, a US researcher was airlifted to New Zealand for urgent surgery in the middle of winter. The Reuters report quotes Tony Fleming, director of the Australian Antarctic Division, as saying, "One of the things about Antarctica is that it's a unique continent where many nations come together."[47] The terms of the Antarctic Treaty, drawn up by the twelve nations which

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[44] Pyne, S.J. (2004) *The Ice.* London: Phoenix. p.340-1
Mickleburgh, E. (1987) *Beyond the Frozen Sea: Visions of Antarctica.* London: The Bodley Head. p.146-8;
[45] ibid. p.148
[46] As illustrated by this excerpt from a letter home: "At Hope Bay I took a day off and skied off to an Argentine base where I met "the lads" and was invited in for a first class meal and wine."[46]
[Unpublished papers A G Lewis]
[47] Askin, P. (2012). Antarctic cooperation, luck come to rescue of U.S. researcher.
Retrieved from

contributed to the International Geophysical Year (IGY), seek to preserve the continent as *"*… a natural reserve, devoted to peace and science*"*[48]. In geopolitical terms, therefore, Antarctica is an international zone within which different scientific bases operate according to their own national and cultural laws; in this instance of the ice paradox working through language, competing claims are literally and metaphorically "frozen." The negative space of *terra nullius*[49] is transformed into a utopian negotiated settlement which is both inhabited and conceptual.

A different kind of negotiation took place in the small homosocial societies of Antarctic bases, where tensions arose because of the disruptive effect of prolonged winter darkness, and because of the cramped, isolated conditions. The base doctor who wrote the psychological report from Halley in 1959 observed that as

> we spent more and more time locked up in our underground warren, the little habits and eccentricities of others became more and more irritating, until one had difficulty in restraining the pent up emotion. This is the proving time. This is the time for the individual to muster his self-discipline and his self-control, and it is the time for the leader to do his utmost to keep his family peaceful and contented.[50]

Lush and Norman's view is that over winter the individual is tested by circumstances, and learns a lesson in how to adapt to them, and to other people, as a result of which a "new sense of values is born."[51] These are the values and aspirations ratified by the Antarctic Treaty which enables, in an international, political context, the simultaneity of discord and harmony

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https://www.reuters.com/article/uk-australia-evacuation/antarctic-cooperation-luck-come-to-rescue-of-u-s-researcher-idUKBRE87908I20120810

48 *The Antarctic Treaty*. British Antarctic Survey website. https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-antarctic-treaty-explained/

49 The term in international law which gave territorial rights to the first claimant of unoccupied land. Pyne, S.J. (2004) *The Ice*. London: Phoenix.p.327

50 Lush, Lieutenant G.R. (M.B.E., R.N. Base Leader, Halley Bay 1959) & Norman, J.R. (M.B., Ch.B. Medical Officer, Halley Bay 1959) 'The Psychology and Administration of an Antarctic Base.' British Antarctic Survey Archives. Ref. AD6/2Z/1959/M3. p.4

51 ibid p.5

in negotiated settlement which echoes the negotiation required within the "family" on the Antarctic bases, and recalled with such affection: "these were the happiest days of my life…If only the world could live in peace as we did, what a wonderful world it would be."[52] These recollections present an idealized version of their society resulting from the unique conditions of life as it is lived on the continent.

Sara Wheeler meditates on another version of a utopian[53] Antarctic world in the account of her travels, *Terra Incognita*. Despite the permanent battle with cold, and complete absence of any of the features of landscape (or its inhabitants) normally associated with Eden, the more she thought about, or discussed, the idea, the more she felt

> I was right. Everything was symbol, in the context of Eden, and it made no difference whether the setting consisted of rolling green fields or thousands of miles of ice. The discomfort inevitably caused by a hostile environment like Antarctica was irrelevant. I did see it as paradise.[54]

Folded together in the sight of the observer are the sensory, the emotional, the actual and the symbolic. To return to the quotation from Fox, what we can appreciate is the zero point of the observer, the importance of their perspective, the shaping powers of desire or hope, in describing that which has been measured or experienced. Such longing is threaded through Elizabeth Bradfield's collection *Approaching Ice:* "If only the unsullied could be discovered…"[55] "What has exploration ever yearned for/ but settlement in a new and untried place,//the chance to again make human an eden."[56] Snow and ice (when free of penguin guano) in its whiteness represents one kind of purity; utopian idealism (free from the mention of human inadequacies) another. The movement "…from measuring geography to mapping our

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[52] Blyth, J. *3Years in Antarctica: My Story.* British Antarctic Survey Archives. Ref. AD6/15/32A.
[53] The etymology of the word utopia, derived from the Greek 'no place', is itself appropriate.
[54] Wheeler, S. (1997). *Terra Incognita.* London: Vintage. p.71
[55] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.149
[56] ibid. p.54

minds"[57] which Fox sees as the move from a "utilitarian project" to an aesthetic one is not, in fact, a linear progression from one thing to another; the different kinds of measurement have been mixed from the start. Early cartographers took what was seen (for example, a continent extrapolated from the part of the South American coast which we now know to be Tierra del Fuego) and interpreted it for their maps; the heroic age explorers found a landscape in which they could prove themselves ("…it is a sledging life which is the hardest test."[58]) and charted it, on maps and in memoirs; later writers about the continent such as Sara Wheeler and Jean McNeil detail journeys of self-discovery as well as recording their Antarctic experiences.

The allegorical journey is nothing new, but in Antarctica the environmental conditions, such as the experience of a blizzard, blur the distinction between actual and imagined physical travel. Being within the landscape becomes a movement into the mind. Early explorers reported a particular kind of snowblindness in which all the normal markers for orientating the self in its physical environment are obliterated, and the brain starts to hallucinate.[59] Hauling their sledges, exhausted and disorientated, the men had to anchor themselves in their physical bodies by the discipline of thought, and replace images of the physical world with ones from memory:

> … when there is no collecting or other scientific work to occupy one's mind, and one is pulling hour after hour with nothing but glaring white ahead, darkened by snow goggles, it is simply a form of mental starvation. The only way to relieve this starvation is to let your mind run over scenes of your past life.[60]

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[57] Fox, W.J. (2005). *Terra Antarctica: Looking into the Emptiest Continent.* San Antonio, Texas: Trinity University Press.p.275

[58] Cherry-Garrard, A. (2010) *The Worst Journey in the World* . London: Vintage (First published 1922). p.597

[59] Jean McNeil refers to the commonness of "strange visions" in *Ice Diaries p.261*

[60] Levick, M. cited in Lambert, K. (2002) *Hell with a Capital 'H'.* London: Pimlico. P.105

These man-hauling expeditions were regarded as "the physical expression of the Intellectual passion," times of acute suffering looked back on as times of happiness,[61] and during their monotonous and exhausting journeys into whiteness (all colour and no colour) the men relived their memories, moving backwards through time as well as onwards through the snow, and their labour becomes synonymous with thought. Illustrating the connections between different kinds of measure and Antarctic travel, the speaking of poetry (aloud, or in the mind) was recommended by Cherry-Garrard as another way of keeping going, of filling the 'blank hours' of the daily march, or avoiding mulling over imaginary grievances.[62]

A more contemporary instance of an Antarctic journey both actual and psychological, which meditates on the difficulty of distinguishing between the real and the imagined, can be found at the end of Jenny Diski's *Skating to Antarctica*. Her journey was not about scientific discovery, or visiting the world's greatest wilderness; it was an openly stated reckoning with her own past. Before making footfall on the continent, Diski imagined herself into the future:

> Did I or didn't I get to Antarctica? At that delicious moment I really didn't know what the answer would be. It wouldn't make an iota of difference to the world, or in reality to me, if I didn't actually stand on the Antarctic landmass…Antarctica slipped into Schrodinger's box and closed the lid quietly on itself. I had no idea whether I would get up and land the next day or not.[63]

As readers we never find out – and it is true, it does not seem to matter: Her description of the icebergs seen from her cabin window gives us a clue as to why:

> The cold radiated off the wall of the berg, and I peered into secret crevices that went to the deepest blue heart of the ice…Everything about this seascape would change, but it would also remain essentially the same, its elements merely rejigged … this was truly a dream place where melting and movement seemed only to increase immutability. Nothing there stays the same, but nothing changes.[64]

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[61] Cherry-Garrard, A. (2010) *The Worst Journey in the World*. London: Vintage (First published 1922). p.302, 304, 597.
[62] ibid. p.203
[63] Diski, J. (2014). *Skating to Antarctica*. London: Virago. p.219-20
[64] ibid. p.222-3

Diski is staring straight into the ice paradox; here is a landscape of melt and freeze which is apparently immutable, even immortal. This immortality is in one sense a linguistic construct, but it is also, as Jean McNeil points out, in another sense true: ice "never quite dies but is reincarnated, through melt, into water, into vapour."[65] It is not so much that "Antarctica slipped into Schrodinger's box", but, through the agency of ice, it becomes the box, containing two versions of itself, that which is experienced and that which is imagined. It is a "dream place." It could be argued that, since the physical reality of the continent had already been proved through exploration and science, and Diski could see the vast ice masses from the ship, she did not need to go any further to prove it to herself, or to anyone else. The last part of *Skating to Antarctica*, recounts Diski's response to the evidence her daughter had gathered about the end of her parents' lives, and describes a kind of accommodation with her past. Her destination was as much an emotional state as it was a physical place.

(ii) The Human Instrument: Recording Evidence and "Exciting Sympathy"[66]

Part of the scientific exploration of Antarctica has always involved recording proof, first by charts and drawings, readings and observations, of the continent itself, and then of the various aspects of earth sciences under investigation. This is part of the reason why visual record, either by expedition artists or later photographers, is so important. One observation was not enough to be considered proof of newly discovered land: there are several instances of "ephemeral islands"[67] such as the Auroras, recorded and given precise co-ordinates in 1790 by Captain Manuel de Oyarvido, charted by Spanish explorer Jose Bustamente Guerra but never seen again, despite searching. (They were removed from cartographic record by 1856.[68]) Even

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[65] McNeil, J. (2016) *Ice Diaries: An Antarctic Memoir*. Toronto: ECW Press. p. xii

[66] Coleridge, S.T. (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.314

[67] Bradfield, E. (2010) *Approaching Ice*. New York, NY: Persea Books. p.13

[68] Brooke-Hitching, E. (2016) *The Phantom Atlas: The Greatest Myths, Lies and Blunders on Maps*. London: Simon & Schuster. pp.30-31

now few people can go to Antarctica, and therefore much of the writing which emerges from Antarctic travels is about aiding the reader's understanding and ability to visualise. A photograph provides evidence for others, as well as oneself, "that you'd been there. The only proof that anything had once happened beyond an attack of imagination and fallible memory."[69] The poet and naturalist Elizabeth Bradfield contemplates the effectiveness of the photographic record in work written both before travelling to Antarctica, and after. In *Approaching Ice,* she considers photography in terms of bringing back "something polar,"[70] suggesting that the evidence of what is seen and felt in the body cannot be fully conveyed by the materiality of film. "Of course no film can translate the cold, light,/or bone-deep sense of supervised terror."[71] Despite that, she reflects that on Shackleton's 'Endurance Expedition' photographs were "what mattered most: silver nitrate / lyrics, spoken light."[72] 120 negatives on glass plates were carried across the ice and preserved, to provide testimony (should the men survive) that they had been there, to help an audience see the experience through their eyes.[73] In both of these quotations, light is expressed as a kind of language; in the second, a specifically poetic language. The language of light and of poetry has an affective quality signalled by the sound patterning of the line: the modulations of the 'i' and 'l' sounds, the half rhyme, its balance suggest the close relationship of nitrite (chemistry), lyric and light; empirical evidence and poetic feeling are bound together.

Whilst Bradfield is not referencing Coleridge, his discussion in *Biographia Literaria* about the power of poetry and imagination to transform the natural world share a connection

[69] Diski, J. (2014) *Skating to Antarctica.* London: Virago. p.223
[70] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.11
[71] ibid. p.11
[72] ibid. p65
[73] Mediated by the camera. There was also an important financial consideration. Fundraising for expeditions relied heavily on the production of films and narratives of the expeditions.

between poetry and light arising from the need in the writer (or photographer) to generate an embodied understanding in the reader of a particular experience.

> …the two cardinal points of poetry, the power of exciting the sympathy of the reader by a faithful adherence to the truth of nature, and the power of giving the interest of novelty by the modifying colours of the imagination. The sudden charm, which accidents of light and shade, which moonlight and sunset diffused over a known and familiar landscape, appeared to represent the practicability of combining both.[74]

It is interesting to note that in this explanation, Coleridge employs observed effects of light on landscape, as well as the technical term "diffused," to represent the possibility of a writer being simultaneously true to nature, and employing "the modifying colours of the imagination." He calls it "the poetry of nature." In this section, I will explore the relationship between real and imagined journeys to Antarctica in *The Ancient Mariner* by Samuel Taylor Coleridge and 'Thulia' by James Croxall Palmer to demonstrate that actual experience of the continent impacts on formal representation, in some ways prioritising the human instrument as a being which records, but playing with its capacity for music, for responding to the measure of poetry. In the poetry of Antarctic nature, the modifying colours of the imagination demonstrated by the effect of the light of the moon on familiar landscape is replaced by the affective qualities of poetic sound.

The Ancient Mariner is the first great literary work to come out of an imagined encounter with the Antarctic, though only the first and some of the second parts are set in the southern ocean. A land of snow and ice, of material paradox, provided Coleridge with the environment he needed for the start of a narrative of transformation. The significance of the Mariner's transformation will be studied further in the following chapter. The descriptions in the poem were based on publications which followed Arctic and Antarctic exploration - the

[74] Coleridge, S.T. (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p. 314

sounds and colours of the ice, the supernatural appearance of the aurora, the confusion of the elements, the omnipresent fog, but *The Ancient Mariner* is not the report of an actual journey but a spiritual one.[75] We as readers, along with the wedding guest, are transported by the Mariner on a narrative voyage where the end is not a physical destination, nor even a spiritual response to a particular place, but a new becoming, the transformation into "a wiser man."[76] Writing of the genesis of *Lyrical Ballads,* in which 'The Ancient Mariner' was first published, Coleridge demonstrated that, though he was interested in the effect of employing the supernatural, he was also concerned to be true to nature. As can be seen from the quotation above, this ability to achieve two apparently different things simultaneously is bound up with the qualities of light. Coleridge refers to effects of Antarctic light in the poem: the "dismal sheen,"[77] the "mist or cloud,"[78] the "fog-smoke white"[79] and the glimmering "white moon-shine" all convey the eerie world of the pack ice, and the obscured boundaries between the world of the mortal sailors and the polar spirits. Being true to nature is not just about holding up a mirror but also about conveying to the reader the effect of the landscape on the person experiencing it. Coleridge orchestrates the sounds of words to evoke an environing atmosphere, and to create a sense for the reader not just of the power of the imagined Antarctic landscape (based on fact), but of the Mariner's experience, replicated in the effect of the narrative on the wedding guest "who cannot choose but hear."[80]

> The ice was here, the ice was there,
> The ice was all around:
> It cracked and growled, and roared and howled,
> Like noises in a swound.[81]

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[75] Writing about Antarctica in fact or in fiction reverberates with Coleridge's poem; he may never have been to the continent, but his poem has had a powerful impact on shaping the way people think about it.

[76] Coleridge, S.T. (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.65

[77] ibid. p.48

[78] ibid. p.49

[79] ibid. p.49

[80] Coleridge, S.T. (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.47

[81] ibid. p.48

Here the repetitions, and the reported sounds of ice under pressure, which echo and rhyme and repeat as the Mariner relives the increasing horror of the experience, provide a soundscape which mirrors the apparent limitlessness of the ice both for the character in the poem and the listener. In the same Antarctic section of the poem, the real power of the storm is not expressed so much by the image of it as something "tyrannous and strong", with "o'ertaking wings"[82] but by what happens to the verse form and sound patterns. The driving pressure of the storm is conveyed in the additional two lines to the ballad quatrain; and by the four line wait for the subject of the sentence, the ship.

> With sloping masts and dipping prow,
> As who pursued with yell and blow
> Still treads the shadow of his foe,
> And forward bends his head,
> The ship drove fast, loud roared the blast,
> And southward aye we fled.[83]

The rise and fall of the iambic tetrameter suggests waves; the tension of the ship is felt in the way the voice stalls (as a ship on a wave before it drops) and stresses the word "Still," making an extra beat at the start of the line. The interjection of the wedding guest at the end of this first part reminds us of the power of poetic sound-making to break down boundaries between the teller/poet/Mariner (who is speaking) and the listener/reader/speaker (who is affected by the Mariner's story). The Mariner and his journey may not be 'true' but it is an imaginative transformation of material based on empirical evidence; its potential to bring about the transformation of its listener - through sound - is another kind of truth.

James Croxall Palmer, assistant surgeon on the schooner 'Flying Fish', commanded by Lieutenant William Walker (to whom the poem is dedicated) has a different relationship with

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[82] ibid. p.48

[83] Coleridge, S.T. (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.48

the evidence on which his poem is based. Whilst Coleridge's measure is one of poetic sound and rhythm, Palmer's approach to poetry looks to the 'visual' component for its affective power, and is dissatisfied. Palmer's poem 'Thulia' is not a narrative of personal transformation like 'The Ancient Mariner'; the eponymous hero(ine) is the ship. The sailors do, however, discover a renewed appreciation of the values of home,[84] and there is some qualification of the thirst for exploration in the description of the departure of the explorers as going to "seek new space for human graves"[85] for the sake "of glory or of gold"[86] – a motivation compared to the thirst for knowledge which led to mankind's expulsion from Eden.[87] In the Preface to the poem, Palmer emphasises that what follows is a "true story."[88] The impersonal "eager rovers" who set out from the Cape for Antarctic waters are soon replaced by personal pronouns such as "we" and "our", and Palmer's use of his own journals to provide narrative detail makes it clear that 'Thulia' is his own story. As a result of the sinking of the USS Peacock on board which all the journals had been stored, his poem, having been written before the sinking, became "the sole remaining history of a highly interesting adventure."[89] It was clearly important for Palmer to bear witness to the voyage, as the ship reached the highest southern latitude of any ship on the Wilkes Expedition, and this meant trying to evoke in the readers not just a sensory, but also an emotional and conceptual

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[84] William Lenz found in 'Thulia' a celebration of a particularly American world view: "… as Palmer's individual testimony in Thulia documents for the nation, no icy tablets, no shrouded figures, no damning albatrosses darkened the way to a bright American future."

Lenz, W. E. (1990). The Poetics of the Antarctic: James Croxall Palmer's Thulia: A Tale of the Antarctic (1843). American Transcendental Quarterly, 4(4), 327–342. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=mzh&AN=1990021478&authtype=sso&custid=s8993828&site=eds-live&scope=site. p.10

[85] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic*. New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog. p.18

[86] ibid. p.19

[87] The final line of the poem, "Repose is sweet when toil is done" (p.38), accords with a conventional religious framework in which "an eye divine/Watches the exile from on high."

[88] ibid. p.16

[89] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic*. New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog. Preface.

understanding of the experience. His description of Antarctica begins with nullity (here is the "country of refusal"[90]): "No sparrow greets the clear cold morn -/ No swain comes forth with carol gay,"[91] a verbal note of absence which summons presence. This is a characteristic movement of Antarctic travellers: the men without food who invented menus and shared them, or the men on the march who could see nothing but tramped on, remembering home.

V

dim through the gloom, pale masses loom,
Like tombs in some vast burial ground:
Here stalking slow, in shroud of snow,
Ghost-like the night-watch tramps his round.

Gray twilight glimmers forth at last –
The drapery of snow is furled;
And isles of ice slow-filing past,
Reveal the confines of the world.

Day marches up yon wide expanse,
Like herald of eternal dawn;
But shifting icebergs now advance,
And shut him out with shadows wan.[92]

The portal to "the realm of Frost"[93] is signalled by the appearance of two icebergs like "giant sentinels" and Palmer evokes the tropes of a gothic landscape in an attempt to convey intensity of feeling through description. The effect is both to familiarise this alien landscape by referencing popular contemporary literature and also to distance it from actual experience: snow becomes the "drapery" of a stage, Day and the icebergs take their place with the night-watch as characters on that stage. The regularity of the rhythm lends the extreme

[90] Pollitt, K. (1994) *Antarctic Traveller.* (5th ed.) New York: Alfred A. Knopf. p.58
[91] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic.* New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog p.28
[92] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic.* New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog p.34
[93] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic.* New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog. p.29

environment an air of the commonplace, the safe arrival on each expected beat is reassuring. It is as though in this re-creation of memory in conventional poetic form, there are competing desires at work. The desire to evoke this landscape for the reader so that they can experience something of its power for themselves (which can be seen in the direct address in "Hist! Heard ye not that cracking sound?"[94]) is at odds with the need to make a landscape with the power to transform safe for the reader to encounter. Palmer's understanding that this is a place which can kill a man exists in tension with his suggestion elsewhere that by dint of will, the terror of the Antarctic environment can be overcome.[95]

Palmer is not content with his poetic representation of Antarctica; he appends notes which are referenced in the body of the poem; he also includes the music which accompanies the 'Antarctic Mariner's Song' and a new poem, 'The Bridal Rose', expressing a traveller's return to safety in terms of a safe return of husband to wife. The rose, which made up part of the woman's bridal crown and which the man takes with him when he leaves, withers on the journey and embodies the husband's experience of Antarctica, a withering in the encounter with storms and ice of hopes of glory. Palmer remains discontented with this version of his story and he finishes his narrative with an Appendix based on journals written aboard the Flying Fish. William Lenz in 'The Poetics of Antarctica' suggested that Palmer's decision illustrates the fact that "the Antarctic can only temporarily be figured in conventional images; ultimately the reality of the Antarctic asserts itself."[96] An examination of the following passage

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[94] ibid. p.35

[95] ibid p.36

"The ice, the piles of ice, arrayed
In forms of awful grandeur still;
But all their terrors how they fade,
Before proud man's sublimer will."

[96] Lenz, W. E. (1990). The Poetics of the Antarctic: James Croxall Palmer's Thulia: A Tale of the Antarctic (1843). *American Transcendental Quarterly*, *4*(4), 327–342. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=mzh&AN=1990021478&authtype=sso&custid=s8993828&site=eds-live&scope=site p.10

in the Appendix on which Palmer based his gothic description reveals how this assertion is figured in language:

> Soon after, the fog suddenly lifted; and in the brief interval before it shut down again, a faint glimmer gave them a startling view. The vessel was beset with ice, whose pale masses came in sight through the dim haze, like tombs in some vast cemetery; and, as the hoar-frost covered the men with its sheet, they looked like spectres fit for such a haunt. Morning found them in an amphitheatre of sublime architecture. As the icebergs changed their places like a shifting scene, the prospect beyond them seemed to reach the Pole. Day came up this boundless plain. The eye ached for some limit to a space, which the mind could hardly grasp. Mountain against mountain blended with a sky whose very whiteness was horrible. All things wore the same chilling hue. The vessel looked like a mere snow-bank: every rope was a long icicle: the masts hung down like stalactites from a dome of mist; and the sails flapped as white a wing as the spotless pigeon above them. The stillness was oppressive; but, when they spoke, their voices had a hollow sound, more painful even than silence.[97]

The "vast cemetery" of the poem is there, and the theatre. There is more, however; an attempt to record the experience as felt on the body: "the eye ached", voices are "hollow," "painful" and "oppressive", the whiteness is "chilling." Sensory perception is destabilised by a space which appears to have no limits. In this environment, things are changed, quite literally, by ice and snow – everything is covered in white, and the gap between metaphor and material reality is reduced or even eliminated: "every rope was a long icicle", "the vessel looked like a mere snow-bank" and the men who look like ghosts are not so far from death. There is an intensity in the varied rhythms of the prose which was flattened by the regularity of the poetic lines. That rope covered in ice, both rope and icicle, is a reminder of the way in which ice functions; it can present us with a physical demonstration of the possibility of the simultaneous coexistence of two things, whilst at the same time preserving their distinction. As Timothy Morton explains in *Ecology Without Nature*, ambient poetics hopes to achieve for the reader the breaking down of boundaries between the reader and the writer, between here

[97] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic*. New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog p.70

and there, the world and the page – but it is an illusion; "there is *nothing underneath* the wave/particle distinction."[98] He draws a parallel with Derrida's description of the re-mark, something which alerts us to the fact we are in the presence of significant marks.

> The re-mark is a quantal event. What happens at the level of the re-mark resembles what happens in quantum physics, at the level of the very small…In quantum mechanics, a *choice* presents itself between waves and particles. We could measure things one way or another; never as an amalgam of the two simultaneously. Until the measurement takes place, both possibilities are superposed, one on the other.[99]

Antarctica is not unwritable, but the language used to describe it reminds us of the most basic function of language: to hold in its binding shape some trace of the thing itself. As Pyne wrote of the berg, it is "both substance and symbol."[100] The largest repository of ice in the world, Antarctica as a real and an imagined location embodies the paradoxical, transformational qualities of ice and operates not only as a place in its own right but as a locus for poetic meditation on the nature of writing, and of the imagination itself.

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[98] Morton, T. (2009) *Ecology Without Nature: Rethinking Environmental Aesthetics.* Cambridge, Massachusetts, and London, England: Harvard University Press. p.50

[99] ibid. pp.48-9

[100] Pyne, S.J. (2004) *The Ice.* London: Phoenix. p.2

Chapter 2: Flights of Fact and Fancy

Birds as Messengers in Antarctic writing

This chapter develops the folding together of substance and symbol through a study of the language and representation of Antarctic birds. Birds are a consistent presence in writing about Antarctica: trapped, shot, admired, preserved, dissected, eaten and represented in a variety of media, they are embodiments of a particular quality of the continent as somewhere in which the actual collides with the metaphorical, the scientific with high art, and the material with the spiritual. I have taken a varied sample of writing for different purposes – scientific documents, non-fiction, fiction and poetry - to explore the relationship between materially real and imagined birds in Antarctica, and to examine how that relationship is figured in writing. From birds as a measure of distance away from land, to birds as literary messengers, from dissected birds to augurors, what becomes evident is the close relationship between literary and scientific measure.

(i) Birds, expeditions and science

Captain James Cook's expeditions between October 1772 and March 1775 to discover the possible reality of the conjectured southern continent marks the start of the connection between Antarctica and empirical science. Mariano Siskind's analysis of this journey as "the discovery of Antarctica's modern specificity"[101] contains an illuminating assessment of the way in which Cook's rejection of the material particularity of Antarctica provides a critique of the belief in the expansion of universal reason and globalisation.[102] A study of references to birds

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[101] Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1). 1. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40247458&authtype=sso&custid=s8993828&site=eds-live&scope=site p.2

[102] "Cook cannot discover Antarctica, it remains *incognita.* He cannot *express* the name "Antarctica or create a neologism, and refers to it with a pre-modern denomination ("Southern Continent") or with vague generalisations ("tract of land") that are far from presupposing the action of naming." (ibid p.17) This reaction stems from what Siskind defines as the Antarctic sublime which he reads as "the very specific location of the White Continent to globalisation." (ibid p.19)

in Cook's journals shows a variety of responses. The birds are sighted, and their numbers counted. As objects of scientific interest, unfamiliar birds are described and named, demonstrating, according to Siskind, the "imposition of the discoverer's will and determination over nature."[103] The empirical method on which the men's conclusions are based relies on sensible experience, but there is evidence of a much more subjective, less reasoned approach to the birds, as well as of a pragmatic assessment of their utility. Birds become the ship's companions, and their absence is noted; they are also shot for food. Sightings were not recorded every day. During the 1st and 3rd journeys, approximately one quarter of the days travelled contained references to birds, increasing to nearly half for the second journey. Sightings or references to birds, as with recording the presence of "rock weed," tended to cluster around hopes of land. The entry for Wednesday 20th January 1773 reads:

> …this afternoon saw a Port Egmont (or Cape) Hen, which is a strong argument for supposing some land near us; in any of our former Voyages I never saw, nor did I ever meet with any Voyager that asserted he ever did see this bird above 40 or at most 50 Leagues from Land.[104]

Here, birds are a taken as a measure of distance. On 1st February there is the note, "We passed two or three pieces of Weed but saw no other sign of land."[105] Such reading of birds and environmental features as signs for the desired land was tested and modified. By 16th February 1773, Cook felt it was reasonable to draw a conclusion: "it is now impossible for us to look upon Penguins to be certain signs of the vicinity of land or in short any other Aquatic birds which frequent high latitudes."[106] Seen in the context of recording the ship's progress

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[103] Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1). 1. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40247458&authtype=sso&custid=s8993828&site=eds-live&scope=site p.17

[104] Cook, J. (1969) *The Journals of Captain Cook II: The Voyage of the Resolution and Adventure 1772-1775*. Cambridge: The Hakluyt Society. p.81-2

[105] ibid P.87

[106] ibid P.95

and discoveries for future record, birds were noted, like weather and readings of latitude and longitude, as part of the process of mapping new territory.

Key birds continued to mark the entrance into Antarctic waters for future travellers, whatever their motivation, as can be seen in Siple and Lindsey's much more recent 1937 article *Ornithology in the Antarctic*: "When an experienced ice-pilot in Antarctic waters sights the first Snow Petrel he concludes that ice is not far away."[107] The proximity of the geographical region represented by the ice is determined by the appearance of the Snow Petrel, a 'conclusion' apparently based on a process of logical deduction. The association of particular birds with the emergence of the Antarctic continent from mists and myth develops the transformation of sighted birds into symbols not just for navigators but for readers. The birds in the text become literary spirits of the place itself, a mark that the characters have arrived in an alien polar landscape. In a clear echo of factual expeditionary narratives, when the Ancient Mariner reaches "the land of ice and snow," the albatross appears through the fog and is welcomed and fed by the sailors who see it as a bird of good omen, and, in *Thulia*, an albatross and a sheathbill lead the way from the storm into the Antarctic pack ice. Poe's *Narrative of Arthur Gordon Pym* is structured as a journal, with the entry for January 14th recording depth, water temperature, latitude and longitude and "Innumerable flights of pelican" which flew over from the south, and were shot. Bird references, having been set up as 'factual', can also mark the departure point into fantasy: "gigantic and pallidly white birds"[108] precede the appearance of the white figure which looms as the snowy embodiment of Antarctica at the abrupt end of Poe's narrative. Birds cannot transform, as ice does, a person or a material

[107] Siple, P.A. & Lindsey, A.A. (1937) Ornithology of the Second Byrd Antarctic Exhibition. *Ornithology in the Antarctic 54*. Retrieved from https://sora.unm.edu/sites/default/files/journals/auk/v054n02/p0147-p0159.pdf p.149

[108] Poe, E.A. (2012). *The Narrative of Arthur Gordon Pym of Nantucket.* New York: Atria Unbound ebook. [Kindle edition]. (First published 1838). p.416

object, but their material reality in this environment is such that, both in the actual landscape and in writing, the statement of 'fact' also functions as symbol.

Birds provided companionship in a harsh environment, where there were few other living beings apart from the men on board ship. There are frequent references to birds accompanying the ship in Cook's journals, their departure being emotionally as well as objectively recorded, as can be seen in the following note where the word "forsaken" suggests emotional connection and subsequent abandonment:

> …our constant companions the Blue Petrels have not forsaken us but the Common Pintadoes have quite disappeared as well as many other sorts which are common in Lower Latitudes.[109]

The relief that the appearance of living creatures offered can be heard in *The Ancient Mariner,* when, after stanzas which evoke the cold and the noise of the ice, the albatross appears and the men "[hail] it in God's name" as if "it had been a Christian soul."[110] A*bsence* itself becomes a kind of presence: nearly one third of references during Cook's second voyage were to the fact that *no* birds were seen and in the Port Lockroy diary entry for August 1954 there is reference to a seagull with a large lump of ice on an apparently broken leg. The five men who had lived together without seeing the sun through the months of polar night had fed this bird on scraps and noted its behaviour. They observed that despite some difficulty taking off and landing, its flight was unimpaired. There is no emotion expressed in the entry for the day that the "seagull with broken leg failed to appear for scraps"[111] but the fact its absence was mentioned tells us its presence was looked for and missed. No explicit comparisons are made, but the absence of the birds comes to stand, in the reader's mind, for all the other absences in

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[109] Cook, J. (1969) *The Journals of Captain Cook II: The Voyage of the Resolution and Adventure 1772-1775* Cambridge: The Hakluyt Society. p.80

[110] Coleridge, S.T. (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.48

[111] Base Diary Port Lockroy 1954; British Antarctic Survey reference AD6/2A/1954/B

the men's lives, and, like the word "forsaken" mentioned previously, is expressive of an emotional state.

In addition to companionship, birds offered entertainment. A note to the entry for 30th December 1772 in Cook's *Journals* [112] describes the men "happily" imitating the sound of penguins and drawing them to the side of the ship, an activity echoed in Garrard's description of the men from the 1910 Terra Nova expedition singing to the penguins.

Figure 5: George Marston's cartoon from 'The Antarctic Petrel' [113]

George Marston's cartoon created during the 1907 Nimrod expedition shows a more nuanced relationship with the penguins than an initial judgement might suggest, based on the anthropomorphism in the cartoon. It could be argued that this representation of the penguins in tail coats is another demonstration of "the discoverer's will and determination over

[112] Cook, J. (1969) *The Journals of Captain Cook II: The Voyage of the Resolution and Adventure 1772-1775* Cambridge: The Hakluyt Society p.69

[113] Murray, J. & Marston, G. (2012) *Antarctic Days*. Norwich: Erskine Press. (First Published 1913). pp.108-9

nature."[114] However, the penguin (the tallest variety of which does not reach much more than 4ft high) is shown as taller than the explorers who are leaning forward as though to ask questions; there is much authority implied in the penguin's stance and height (and socially elite dress) which suggests a respect for the native inhabitants of Antarctica on the part of the cartoonist which might not necessarily be assumed from other men's comments and behaviours.

The bird becomes nexus of sometimes contradictory attitudes: it is both material proof and symbol, a friendly companion and also a source of food. The link between collecting data and providing food was explicitly made in the entry for the Blue-Eyed Shag in *Birds: A Preliminary Report* (1945). Its author, J.G.Lockley, wrote:

> This shag is a frequent and numerous visitor to open water in the harbour and the necessity to kill many birds for fresh meat for four men has enabled a certain amount of data to be accumulated.[115]

A very small percentage (none at all in the second voyage) of Cook's references are to shooting birds without providing some kind of reason, and the cooked birds made a welcome change from the salted meat of the men's regular diet. As part of a range of observations, a long entry for 3rd January 1775 compares the merits of various birds as food:

> The Penguin is an amphibious bird so well known to most people that I shall only observe that they are here in prodigious numbers and we could knock down as many as we pleased with a stick. I cannot say they are good eating, I have indeed made several good meals of them but it was for want of better victuals.[116]

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[114] Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1). 1. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40247458&authtype=sso&custid=s8993828&site=eds-live&scope=site p.17

[115] Lockley, J. G. (1945) *Birds: A Preliminary Report.* British Antarctic Survey reference AD6/1A/1945/Q p.9

[116] Cook, J. (1969) *The Journals of Captain Cook II: The Voyage of the Resolution and Adventure 1772-1775* Cambridge: The Hakluyt Society p.613

The albatross, by contrast, was considered delicious. John Hawkeswell's report on the first of Cook's voyages describes how to prepare an albatross; it was skinned, soaked overnight in saltwater, then parboiled. After the cooking juices were discarded, the bird was stewed in freshwater and served with a savoury sauce. Thus prepared, it was considered a choice food, even when there was another fresh meat such as pork available.[117] Over a century and a half later, the *Preliminary Report* includes a similar method of preparing shags for eating.

> Utilisation by Man
>
> Matthews (1929) records that this bird is considered a table delicacy by the whalers in S. Georgia and the author has been informed by Dr. J.E. Hamilton that the shag has occasionally been used for food in the Falkland Is. In view of the large number of birds frequenting the harbour in winter and the scarcity of seals, this shag has been the main source of fresh meat for the base during the past winter. One bird has been found to provide an ample meal for four. The slightly fishy taste is not noticeable if the bird is carefully cleaned and all fat is removed and the carcase soaked in salt water. They have been successfully roasted, stewed and pickled in brine. There is little advantage to be gained by using the eggs of this bird if penguin eggs are available as the shag egg has rather a strong flavour.[118]

The inclusion of such "utilisation by man" in a scientific document shows the way in which the observation and measurement of birds remained bound up in the men's wider experience of them. There is measurement of quantity, "one bird has been found to provide a meal for four," expressed in an ostensibly objective passive voice, but also of more subjective qualities, as can be seen in words such as "ample," "slightly fishy" and "rather...strong," where "slightly" and "rather" demonstrate degree. Such assessment of the birds by consuming them tends to support the view of discovery - following the Enlightenment model of Captain Cook - as a variety of capitalist appropriation.[119] However, the complex responses of scientists

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[117] Barwell, G. (2014). *Albatross*. London: Reaktion Books. pp.28-9

[118] Lockley, G.J., 'Birds – A Preliminary Report.' Archive Ref. AD6/1A/1945/Q p.13

[119] Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1). 1. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40247458&authtype=sso&custid=s8993828&site=eds-live&scope=site p.1

living and working in an environment where some of the creatures they studied were both companions and a source of food suggests again a more nuanced picture. In *Antarctic Days*, James Murray, himself a biologist, acknowledges the painful irony of a profession which begins its study "of any creature newly brought to his notice, by killing it":

> My ambition would be, were it not for this sordid necessity of maintaining myself alive at any cost to other creatures, to study any living creature that came within my ken, and never consciously to injure or destroy one.[120]

Murray's words also provide a reminder that in the extreme conditions of Antarctica, killing animals was not just a matter of science but survival.

There are descriptions in Cook's journals which show birds echoing the men's own business of observation, a recognition of a non-human consciousness in the wider environment. Clerke, in a note for 20th January 1773, describes:

> a brown Bird about the size of a Crow - [which] hovers round about and over the Ship, as if curious to make observation - hardly ever flies low - there's a little white in the shape of a Horse Shoe under each wing but a little distant from the outer extremity of it.[121]

A certain kind of observational method is apparent in this description: comparison with the familiar, noting physical appearance and behaviour. The shipboard naturalists and artists examined, described and painted these birds in more detail in other documents, but the empirical process is evidenced in the language of the more generalised ship's journals. For example, the received opinion that penguins seldom venture far from land (which was mentioned in the entry for 27th December 1772 in Cook's journals) was modified as the journey progressed, with speculation about the possible breeding habits of penguins on

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[120] Murray, J. & Marston, G. (2012) *Antarctic Days*. Norwich: Erskine Press (First Published 1913) p.46

[121] Cook, J. (1969) *The Journals of Captain Cook II: The Voyage of the Resolution and Adventure 1772-1775* Cambridge: The Hakluyt Society p.82

icebergs changing to a hypothesis that the penguins must breed on land as yet unidentified to the south.[122] This process is mirrored in the search for previously claimed sightings of land. On 3rd January 1773, Cook wrote: "what M Bouvet took for Land and named Cape Circumcision was nothing but mountains of Ice surrounded by field Ice,"[123] and the note for 6th February of that year records "rather a disagreeable discovery – which is – that our friends the French were only amusing the good folks at the Cape with a little of the marvellous.[124] Previous claims are tested by sensory perception and experience; the noting of birds expresses scientific method whilst functioning on a symbolic level.

As would be expected, the collection of data is recorded in apparently objective language. Lockley makes reference in *A Preliminary Report* to the 50 skins which have been "secured" for study.[125] This verb distances the shooting from the bird, turning it into a specimen which is later labelled, numbered and recorded, and the verb itself is in the passive voice. Studies of bird behaviour, however, employ more figurative language to describe movements or activities for which the purely objective falls short. Birds are "visitors" [p.3] (even "vagrant"s [p.2] or "marauder"s [p.13]); their behaviour termed "desultory," [p.14] and "haunting," [p.9] at times). Such anthropomorphism arises from a need to describe the effect of the birds and their behaviour on other creatures, both human and non-human, and has embedded within it the moral code of the observer. The word "witnessed," [p.8, p.14, p.15] for example, with its paired associations of judgement and faith, is most often employed to describe the observation of avian copulation - evidence, perhaps, of reticence or respect for the birds and their life apart from humans. Such affective language of appreciation and description is clearly different from the language of recording measurable fact, but both

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122 Cook, J. (1969) *The Journals of Captain Cook II: The Voyage of the Resolution and Adventure 1772-1775* Cambridge: The Hakluyt Society p.309

123 ibid. p.71

124 ibid p.89

125 Lockley, G.J., 'Birds – A Preliminary Report.' Archive Ref. AD6/1A/1945/Q p.1
Subsequent references are to different birds in this report. Page references given in brackets.

registers are part of the process of active observation rooted in the environment of the observer and the observed.

In Antarctic fiction, the language of scientific observation signposts the 'truthful' nature of the story, but can also underline discomfort about a profession which begins its study of newly discovered creatures by killing them. In H.P. Lovecraft's story *At the Mountains of Madness,* the objective language attempts to ground the fantasy ("the real facts"[126]) in data. There are transcripts of notes, and recordings of times and dates, and measurements. The specimens dissected and studied here are already apparently dead, but the "eight perfect specimens"[127] which were apparently blown away have returned to life, and mete out appropriate punishment on the scientists by treating their bodies as mathematical objects: "some were incised and subtracted from in the most curious, cold-blooded, and inhuman fashion. It was the same with dogs and men."[128] For all their precision and observational skills, the scientists would have done better if they had been able to interpret the instinctive understanding of the dogs who had understood from the start that the specimens were dangerous alien forms of life. However, this representation of objective science perhaps does not take account of the way in which some of the scientists clearly felt the cruelty of killing the birds, and were aware of the need to observe more than their physical characteristics.

Sketches and paintings of birds made by E.H Wilson, expedition doctor, naturalist and leader of the expedition to Cape Crozier for which *The Worst Journey* is named illustrate another aspect of the men's understanding of the birds. Feet and bills, wings and eggs, are meticulously copied from various angles, and Wilson is keen to illustrate the birds in flight as well as at rest. His representation of the Black-browed albatross not only illustrates its wingspan and characteristic flight pattern, his shadowy pencil sketches of birds wheeling

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[126] Lovecraft, H.P. (2014) *At the Mountains of Madness.* London: Flametree 451 (First published 1936) p.10
[127] ibid. p.37
[128] ibid. p.41

behind the larger coloured birds seem to represent the essential double nature of these creatures: beautiful, living objects of scientific curiosity, but also inhabitants of another element, birds as a spiritual or symbolic other.

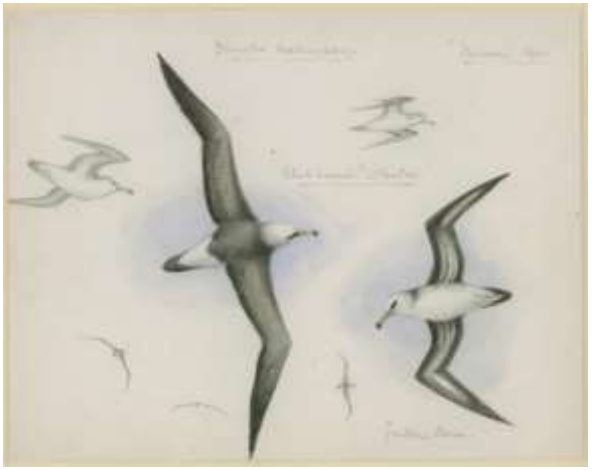

Figure 6: Wilson's sketches of the black-browed albatross[129]

Apsley Cherry-Garrard, too, conveys this sense of the birds as other-worldly, describing Snowy Petrels as "the familiar spirits of the pack"[130], "which approach nearer to fairies than anything else on earth", a quality caught in this photograph of a nesting albatross

Figure 7: Albatross. South Georgia[131]

[129] Wilson, E. Black-browed albatross. Retrieved from https://www.spri.cam.uk/museum/catalogue/article/n1639/

[130] Cherry-Garrard, A. (2010). *The Worst Journey in the World*. London: Vintage. (First published 1922) p.49

[131] Photograph from the estate of Duncan Carse. Reproduced courtesy of the British Antarctic Survey Archives Service. Archives reference G64/3/2/Q/99

held in the British Antarctic Survey archives in which the bird appears like a white magician summoning echoing white mountains into being with its outspread wings. The depiction of birds as spirits can be seen in sailor's stories. Georg Forster, in his account of Cook's voyages, reported the sailor's belief that albatrosses contained the departed souls of old ship's captains who were taught a lesson in their new form, and "forced to gather a precarious subsistence instead of enjoying their former affluence, and…made the sport of storms which they had never felt in their cabins."[132] Spiritual transformation as the result of a moral lesson is at the heart of *The Ancient Mariner*, though the mariner does not, like the captains of the sailors' stories, become the albatross. Instead he learns to appreciate the nature of his relationship with the living world around him. If we look at two of Dore's illustrations for the poem [Figures 8 and 9], the albatross is clearly depicted as an envoy, even priest, from the world of ice.

Figure 8 ***Figure 9***
Gustave Dore: Illustrations for 'The Ancient Mariner'[133]

[132] Barwell, G. (2014). *Albatross.* London: Reaktion Books. p.32
[133] Coleridge, S.T. (2008) *The Rime of the Ancient Mariner.* London: Arcturus. p.29 and p.31

In the first, the bird has a superior perspective, leading the ship into the ice. In the second, the superior position of the bird is maintained, with the albatross perched on some shipboard architecture that looks like a pulpit from which it is delivering a silent sermon whilst the men lean back, apparently amazed or fearful.

(ii) Birds in poetry

Coleridge's bird, in the poem and the illustrations, is a symbol, an imaginative transformation of the way birds appear to sailors in Antarctic waters; it is also an agent for change. Frequently sighted and noted in Antarctic fiction and non-fiction alike, the physical characteristics of the albatross make it an appropriate choice of bird to emerge from featureless mist and ice as something living and recognisable, and yet alien.[134] The albatross is loved by a "spirit who bideth by himself/In the land of mist and snow."[135] This spirit is identified in the marginal notes as "one of the invisible inhabitants of the planet, neither departed souls nor angels"[136] which represent the divine creative force at work in the natural world. As if underlining his poetic creation as fact, Coleridge continues to explain that they "are very numerous, and there is no climate or element without one or more."[137] The Mariner does not see the spiritual significance of the albatross: "As if it had been a Christian soul/We hailed it in God's name,"[138] the words "as if" indicating the Mariner's perception of the bird as different both from himself and from the divine power in Nature. He has failed in his imagination to participate in the unity of the world in which he lives. Nevertheless, when the Mariner shoots the albatross, it is a shock. Journals of exploration are full of dead birds, but

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[134] Jean McNeil, for example, compresses the various types of albatross which accompany her ship for periods of time as a single chaperone which keeps watch: "His gaze was steely, disapproving – an envoy sent to gather intelligence, not friends."
McNeil, J. (2016) *Ice Diaries: An Antarctic Memoir.* Toronto: ECW Press.p.54

[135] Coleridge, S.T. (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.59

[136] ibid p.51

[137] ibid p.51

[138] ibid p.48

they are generally killed for a purpose: for food, for science (Darwin's revolutionary theories about natural selection evolved from a study of varieties of finch) – even for sport. The Mariner's shooting is entirely without motive (perhaps a consequence of the "lethargy of custom"[139] experienced on board ship), and it represents his spiritual and emotional alienation from Nature for which he is punished by one of those "invisible inhabitants of this planet." Locked in his body, the mariner watches as his fellow sailors die, and is full of pity for his own miserable situation. His separation from his fellow creatures is evidenced grammatically and emotionally in the caesura which divides him from the "thousand thousand slimy things" which "Lived on; and so did I."[140] His isolation is threefold ("Alone, alone, all, all alone"[141]): he is alienated from himself and his fellow sailors, disgusted by the creatures around him, and, speaking to the Wedding Guest at the end of the poem, he describes his situation as so lonely "that God himself/Scarce seemed there to be." [142] That he had the potential within him to appreciate what he sees can be heard in the colour and incantatory rhythm with which he goes on to describe his horror:

> About, about, in reel and rout
> The death-fires danced at night;
> The water, like a witch's oils
> Burnt green, and blue and white.[143]

Its pace seems to record a fascination for beauty in the environing world, like a spell on him, which he is not yet consciously ready to admit. When at last (in an act of imagination) he can see the beauty of the water snakes, he is able to pray; he has established a connection with the

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[139] Coleridge, S.T. (1985) Biographia Literaria in *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p. 314

[140] ibid. p.54

[141] ibid. p.54

[142] ibid. p.65

[143] ibid. p.50

divine in nature; he can feel, like Coleridge, "that every Thing has a Life of its own, & that we are all *one Life*."[144]

The Mariner's continued penance is to be forced to relive his experience time and again through the retelling of his story, and by this means help others such as the wedding guest live through the experience with him and learn from it. The transformation of the Mariner can be seen in the similarities and differences in the way he describes his departure and return. When the ship is cheered out of the harbour at the beginning of the poem, he is a cheerful member of the crew. He measures his progress in prepositions and directions (himself as centre point); there is something of the objective scientist in the way he notes the position of the sun:

> Merrily did we drop
> Below the kirk, below the hill,
> Below the lighthouse top.
>
> The sun came up upon the left,
> Out of the sea came he!
> And he shone bright, and on the right
> Went down into the sea.[145]

When he describes his return home to the wedding guest, Coleridge has the Mariner echo this early description. Now, however, he no longer measures his position in relation to what he sees. He has come home, and the truth of it feels like a dream:

> Oh! Dream of joy! Is this indeed
> The lighthouse top I see?
> Is this the hill? Is this the kirk?
> Is this mine own countree?
>
> We drifted o'er the harbour-bar,
> And I with sobs did pray –

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144 Coleridge, S.T. (1802). Letter to William Sotheby in (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.513

145 ibid. p.47

> O, let me be awake, my God!
> Or let me sleep always.[146]

The flurry of rhetorical questions and exclamations reveal the intensity of his emotion, and the shift into the present tense indicates the fact that the Mariner is reliving the experience in the retelling, the landscape present within him as though he were there. The landscape is bathed in transforming moonlight and he can pray. The transformative power of the the Antarctic landscape, symbolised by the albatross, is evoked in part through prosodic measure. Coleridge's poem is not a direct criticism of the methods of empirical science; it is a call for engagement in the natural world, a recognition that

> Nature has her proper interest; & he will know what it is, who believes & feels, that every Thing has a Life of its own, & that we are all *one Life*. A poet's heart and Intellect should be combined, intimately combined and unified, with the great appearances in Nature - & not merely held in solution & loose mixture with them, in the shape of formal Similes.[147]

In these words, Coleridge is making a case for a much more reciprocal relationship with the natural world, involving emotional as well as intellectual engagement, one which, when depicted in poetry, should be expressed not just through the verbal and the visual, but through sound and rhythm, and elements of language that may not be encoded by grammar or choice of vocabulary. One of the masterful strokes of unification which Coleridge achieves is a combination of observed detail (albeit from the accounts of others) and symbolic potential to make of the albatross a bird which follows travellers of the future, and shapes their

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[146] *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.61

[147] Coleridge, S.T. (1802). Letter to William Sotheby in (1985) *The Oxford Authors: Samuel Taylor Coleridge* Jackson, H.J. (Ed.). Oxford: Oxford University Press. p.513

perception, in ways both symbolic and material.[148] Edwin Mickleburgh partners Cook and Coleridge in his study of Antarctica:

> Cook, the determined explorer of the physical, external world had pushed back its frontiers to the very edge of the impenetrable pack-ice. It was from here that Coleridge, the inspired explorer of the human inscape, went on, warning through the hypnotic figure of the Ancient Mariner…that man's ascendency over the natural world, unchecked by any sense of responsibility towards it, must end in disaster. In this he echoed Cook's fears and through the power of his imagination we continue to catch that echo.[149]

Mickleburgh's use of the word "echo" is perhaps unintentionally pertinent: the warnings, in poetry, are something *heard* as well as read. The evidence Mickleburgh goes on to quote to support his argument returns us to number. As Coleridge was writing 'The Ancient Mariner', the sealers were established in South Georgia. The personnel of 17 ships slaughtered 122,000 seals in less than 4 months. By the time the poem was published, Antarctic fur seals had been hunted to the point of extinction.

The birds convey a different message in *Thulia: A Tale of the Antarctic,* although the message is also learnt through an experience of the environment. In light of Coleridge's remark about "formal Similes," it is interesting that Palmer's ambivalent attitude towards the Antarctic experience, his renewed appreciation of the values of home (rather than a spiritual appreciation of the natural world) should be expressed through simile. The ship Thulia is

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[148] Four references amongst many: The Ancient Mariner and his crime haunt *Frankenstein;* Shackleton refers to the copy of the poem which they had with them [Shackleton, E. H. (2014) *South: The Last Antarctic Expedition of Shackleton and the Endurance.* London: Adlard Coles Nautical (first published 1919) p. 90]; Jean McNeil's "chaperone" [McNeil, J. (2016) *Ice Diaries: An Antarctic Memoir.* Toronto: ECW Press. p.54] and, in her latest collection of poetry, written after visiting Antarctica, Elizabeth Bradfield writes: "Albatross, albatross…No need to mention Coleridge, that bird." [Bradfield, E. (2019) *Toward Antarctica: An Exploration.* Pasadena, California: Boreal Books. p.105]

[149] Mickleburgh, E. (1987). *Beyond the Frozen Sea: Visions of Antarctica.* London: The Bodley Head. P.19

frequently compared to a bird; she is "like a land bird,"[150] "a gull with folded wings,"[151] and is as "fleet as the tern."[152] It is tempting to find in these similes (founded on apparent likeness) the suggestion of a harmonious relationship between the sailors who steer the ship and the environment through which they are travelling. When a storm arises, however, we see how different the ship and the birds to which she is compared really are: the storm "[a]sserts dominion o'er the main,"[153] and the gap between figure of speech and object is made evident. The real sea-bird "swoops to find a lee"[154] but the ship, stripped of figurative language, is a "puny bark"[155] unable to find any refuge "where the maddened waters rave."[156] The accompanying illustrations highlight this difference: in one, the broad-winged sea-bird seems to lead the energy of the breaking wave, but in another the tiny ship is tipped backwards from the brightness of foam into the darker water.

The differences between the prose account and the poetry express a similar ambivalence. In the prose, all the creatures share the apparent fury of the storm and mock the men. The albatross is described as "flapp[ing] his wings in their faces, and mock[ing] them with his bright black eye,"[157] part of the natural world which threatens them. In the stanza which follows the storm in the poem, the birds are described in positive terms: the albatross is a "stately bird"[158] who continues "in its tranquil, proud repose"[159] despite the churning ocean; "The sheath-bill flickers … And petrels hop,"[160] their delicacy again a contrast to the violence

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[150] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic*. New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog p.14
[151] ibid p.14
[152] ibid p.18
[153] ibid p.21
[154] ibid p.22
[155] ibid p.22
[156] ibid p.22
[157] ibid p.66
[158] ibid p.23
[159] ibid p.23
[160] ibid p.23

of the sea. This description precedes the entrance of the ship into "the last retreat on earth."[161] The birds are heralds of this other world, and the storm is not a punishment but a trial which the sailors endure and survive - their reward is that they are able, like the Mariner, to appreciate fully the beauty of the natural world, return home, and pass on their story.i.e. the birds are refigured in the narrative as part of Palmer's message.

A modern retelling of 'The Ancient Mariner' by Nick Hayes has a less positive outcome, however. The man to whom the Modern Mariner tells his story barely listens, despite the Mariner's graphic image of a rotting albatross around his neck, with fine nylon gauze "tangled in his chest."[162] Neither do the Japanese mariners, busy making a bit of money on the side, seem to notice when the albatross is shot and falls onto the deck. The nightmare vision of a ship stalled in a sea of plastic is a tale for our times, a warning to a world "detached of consequence."[163] When the businessman gets up and leaves (brushing his Styrofoam cup and plastic sandwich container onto the ground), the "seaman sat in silence…and listened to the breeze…that coldly played around his head…in bitter melodies. / In Gaia's graceful harmonies it sang of Adam's kin…who rose from mud to touch the sky and vanished… in the wind."[164] Mankind has failed to listen to the world spirit, has ignored the signs everywhere about them, and (surprisingly gracefully) vanishes in the latest of the planet's mass extinctions. It is here, at the most symbolic level that we encounter again the real. Nick Hayes' albatross has its analogue in photographs like those of Chris Jackson which show dead albatrosses decomposing around the durable, bright plastic they have consumed. Again we see the bird as messenger; its opened body holds in the present moment of the observer both its past and the intimation of a possible future, a representation of the peculiar disrupted temporality of the

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[161] Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic*. New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog p.29

[162] Hayes, N. (2011). *The Rime of the Modern Mariner*. London: Jonathan Cape. Part 3 [no page numbers]

[163] ibid; Part 8

[164] ibid; final lines.

Anthropocene. Those in the ancient world who were trained in the art of interpreting bird behaviour and the state of their entrails worked in both a religious and a practical context. They were practiced observers, and trained in particular techniques; science and theology (according to the cultural context) operated within a single system. For the Stoics, divination was based on a view that the universe was a single living organism, and that animals manifested otherwise unseen conditions of the environment in their bodies. The scientist as augurer is an idea explored in *Ice Diaries* by Jean McNeil. She describes Antarctica (The Ice) as

> an oracle… Through the chemical residues it traps, ice provides a precise record of the atmospheric past, and in particular how the planet has responded to past episodes of warming and cooling. Through analysing this data, scientists become augurers: they can offer a likely scenario of how climate cycles and gaseous emissions will affect the future temperature of the planet.[165]

A leitmotif in the work is an albatross "chaperone", a composite creation, made up of a sequence of albatrosses which appeared to accompany her on the trip, signaling as these birds have always done, the transition into "the alternate reality of the continent" also echoed in the empirical language of science " – *ablation, sublimation, drift, terrane* –"[166] which is essential in the account of her experience.

The poetic observation of science, and scientific observation, is almost inescapable in contemporary Antarctic poetry as a result of the dedication of the continent to "peace and science."[167] Bill Manhire's *Field Notes* acknowledges as much in the title, and the poems which are 'about' birds show the way in which these creatures observed are "both substance and symbol."[168] In 'Food Chain', there are a series of watchers, as well as of moments described: there is the writer who notes the actions of the birds, the person who shouts that "a leopard

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[165] McNeil, J. (2016) *Ice Diaries: An Antarctic Memoir.* Toronto: ECW Press. p.xii
[166] ibid p.54
[167] *The Antarctic Treaty* https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/
[168] Pyne, S.J. (2004) *The Ice.* London: Phoenix. p.2

seal has taken a penguin"[169] and Mike who takes film footage of the seal savaging the penguin. The title is a reminder of the brutal necessity of death; everything needs to eat – the penguin chick chasing adults for food, skuas circling, the leopard seal itself and, not mentioned, the people who are observing them. There is no human intervention, and both violence and the filming of it are short lived: they go on "for a bit,"[170] "for a while."[171] This depiction of life lived side-by-side with the world of creatures shows a much less exploitative relationship between science and nature than that implicated in Siskind's account of the discoverer's will over nature. In this poem the process of observation is referenced in the series of short moments, where the change of focus, like the movement of a camera, is signaled by an asterisk. The language is matter of fact, simple and often colloquial. However, the resonance of the moments recorded is signaled in the subtle sound patterning: the mirroring alliteration of "chicks chase"/ "crammed with krill"/ "tired after all that travel;"[172] the repetitions of "for a while"/ "to and fro"; the rhyme of "bit and it"[173]. In 'Scavenger' the factual is signposted in the regularity of the simple syntax: subject - verb - complement.

> The skua alights among the penguins
> and settles comfortably, preening.
> It has just eaten a chick.
> The adult birds do not seem to notice it.
> Death, and they seem not to notice.
> It has happened now, and they do not mind.[174]

The note of (human) uncertainty is sounded, however, in the repetition of "seem." The first line of the last stanza, "All night, which is all day, they do this,"[175] heightens the sense that

[169] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.271
[170] ibid. p.272
[171] ibid p.272
[172] ibid p.271
[173] ibid p.272
[174] ibid p.275
[175] ibid p.275

something essential about being alive is happening here in paradoxical Antarctic time; Manhire lets us watch through our reading, and judge for ourselves what it might be.

Elizabeth Bradfield also reveals an understanding of the relationship between different kinds of measure as illustrated by the relationship between explorers and Antarctic birds. In the poem 'Wilson's Specimens', she describes how Wilson "learned/a rhythm of slice and pause timed/to the ship's lurch."[176] Scientific investigation is presented even in its brutality as "the art of flensing,"[177] an activity carried out in communication with the environment: "bright flash/of metal in his chill hand/conducted/by wave and ice against hull."[178] Here the movement is "conducted", like a movement of music modulating into a numerical count, "And so the skins piled up."[179] Another poem in the collection *Approaching Ice*, Polar Explorer Jules Sebastién César Dumont d'Urville (1840)', shows the kind of augury associated with the dissection of birds in relation to the discovery of the continent. Bradfield describes the way stones from the bellies of slit-open penguins lie on the deck, "a granite morse/that said rock grounded what they passed."[180] D'Urville named the land and the penguin after his wife Adélie, an act of double possession signaled by comparison with his removal from Greece twenty years earlier of a statue of Venus. This possession is associated with loss – of Venus' hands whilst (ironically) "chased/by bandits,"[181] and by D'Urville's loss of men and time, signaled by his absence during "The boyhood/of his own boy."[182] The poem is not an outright rejection of human activity, however; the Adélie's theft of stones for their nest acts as a reminder that theft and forceful possession is not solely part of the human world.

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[176] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.7

[177] This word immediately evokes the practices of whaling, and the horror of images of men standing on the backs of mountainous whales with their flensing tools.

[178] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.7

[179] ibid. p.7

[180] ibid. p.19

[181] ibid p.19

[182] ibid p.19

The word symbol comes from the Greek *sumballein* – a bringing together – and this is what we see in the space opened up by the writing about birds: a bringing together, in different kinds of measure, of fact and fiction, art and science, to represent not a hierarchical relationship of observer and observed, but rather a living, breathing system in which we are all interconnected. For the Stoics, the Platonic idea "that the cosmos is a single creature takes on an entirely new pertinence ... For them it is not a metaphor, but a statement of fact."[183] In the vocabulary and syntax of writing about Antarctic birds, the mirrorings and reversals explored in Chapter 1 operate in the descriptions of birds to make statements of fact resonate with the complex frequencies of symbol.

[183] Struck, P.T. *(2014)* Animals and Divination. In Campbell, G.I. (Ed.), *The Oxford Handbook of Animals in Classical Thought and Life*. Oxford University Press. DOI:10.1093/oxfordhb/9780199589425.013.019 p.13

Chapter 3: Antarctic Ice and the Empirical Sublime

The sublime has a long history of association with writing about Antarctica, from the time when James Cook reached for the language associated with it to describe the qualities of the environment he was travelling through,[184] to more recent writing about the continent which acknowledges its importance as an aesthetic category with evolving cultural, literary and environmental significance. By 1843 when Palmer wrote *Thulia,* the language of *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful* had become a shorthand for evoking the sublime in literature - the "tremendous crags"[185] and precipices of the Alps, the glaciers of *Frankenstein,* are all different aspects of the "sublime architecture"[186] Palmer wrote about, the power of which had been described in *A Philosophical Enquiry.* The wilderness tour was well established, and whether in mountainous parts of Europe, or in Northern Britain, monumental nature had replaced classical ruins as an inspiration to travel.[187] Francis Spufford's study *I May Be Some Time: Ice and the English Imagination* shows how encounters with the polar regions fed literature which, as a "powerful mobiliser of emotion,"[188] helped shape interior (emotional or imagined) as well as exterior (material) domains. How this relationship between the physical and the imagined continent was expressed through early 20th century expeditions and their narratives has been variously interpreted as an expression of heroic masculinity which ended with the death of Scott[189] or with the "historical exhaustion of the

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184 For example: Cook, J. (1969) *The Journals of Captain Cook II: The Voyage of the Resolution and Adventure 1772-1775*. Cambridge: The Hakluyt Society
"the very curious and romantic Views many of these Islands exhibit and which are greatly heightened by the foaming and dashing of the waves against them…at once fills the mind with admiration and horror" (p.98); "the enexpressable horrid aspect of the Country" (p.638)

185 Radcliffe, A. (1988) *The Mysteries of Udolpho.* Oxford: Oxford University Press. (First published 1794). p.225.

186 Palmer, J.C. (1843). *Thulia: A Tale of the Antarctic.* New York: Samuel Colman. Digital copy retrieved from http://archive.org/details/thuliaataleanta00palmgoog. p.70

187 MacFarlane, R. (2003) *Mountains of the Mind.* London: Granta. p.77

188 Spufford, F. (2003) *I May Be Some Time: Ice and the English Imagination.* London: Faber and Faber. p.46

189 Francis Spufford's study ends with a creative-critical retelling of Scott's death.

sublime in the Great War."[190] Lisa Bloom comments on the contemporary shift from a gendered imaginary to a "sublime that visualises Antarctica as a place of fascinating terror and beauty…as a result of man-made climate change."[191]

In this chapter, I would like to suggest that the nature of the Antarctic experience – transformative, paradoxical, increasingly bound up with empirical observations of the material world – requires an expansion of ideas about what kind of language is suitable to evoke the sublime, especially in the age of the Anthropocene. Emily Brady (in *The Sublime in Modern Philosophy)* argues for the continued importance of the sublime as an aesthetic category, though it has also been dismissed as defunct,[192] challenged as an appropriate aesthetic because of its anthropocentric perspective, and questioned because it gives rise to human helplessness in the face of a need for widespread action on climate change.[193] Antarctic ice is a materialisation of the movement of time on a sublime scale; as substance and symbol, it functions as a paradigm study for the impacts of climate change on the environment. Antarctic ice binds time past, present and future. Whilst it is a measure of change, historically and in the present, it can also (paradoxically) embody stasis. Nineteenth century cultural associations of ice with scrying have been overlaid with its importance in the construction of computer models of future change based on historic scientific data. Pursuing these ideas of ice, the sublime and time, the following study of representations of ice in the poetry of Jean McNeil and Elizabeth Bradfield will demonstrate that the concept of Antarctic ice brings together earlier traditions

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[190] Rawlinson, M. (2013) 'Waste Dominion', 'White Warfare', and Antarctic Modernism', in Nigel Llewellyn and Christine Riding (Eds.). *The Art of the Sublime*. Retrieved from https://www.tate.org.uk/art/research-publications/the-sublime/mark-rawlinson-waste-dominion-white-warfare-and-antarctic-modernism-r1136827. p.1.

[191] Bloom, L.E. (2011) *The Aesthetics of Disappearance: Climate Change, Antarctica and the Contemporary Sublime in the Work of Anne Noble, Connie Samaras and Judit Herskо.* Retrieved from https://www.conniesamaras.com/DOCs_current/Web_Biblio_pdfs.5.11/2012/03_Bibl_TheAestheticsOfDisappearance_ISEA2011_Istanbul.pdf p.1

[192] Weiskel, T. (1976). *The Romantic Sublime: Studies in the Structure and Psychology of Transcendence.* Baltimore and London: The John Hopkins University Press. p.5.

[193] In 'The Sublimity of Subliming Ice', a paper delivered by Mia M. Bennett (University of Hong Kong) at the Scott Polar Research Institute 20/06/19.

of the sublime in literature and landscape, with ideas about the sublime as it is implicated in climate change. Features of the sublime as an effect of language are incorporated into what Tom Bristow terms the "perilinguistic wavelengths"[194] of poetry. What we see in this contemporary Antarctic poetry is the expression of an empirical sublime, full of measure and number, rooted in a sensory and intellectual interrogation of the material world, which provides a linguistic embodiment of Antarctic place.

(i) The sublime experience as "quantal event"[195]

The idea of a "quantal event," described by Timothy Morton in *Ecology Without Nature,* could prove helpful in thinking about the sublime, particularly in the context of Antarctica. Writing about what helps distinguish foreground from background, meaningless squiggles from letters on a page, Morton refers to Derrida's definition of the "re-mark" as something which makes us aware that "we are in the presence of significant marks."[196] It is the "flicker"[197] which turns an object into what T.S. Eliot calls "an objective correlative."[198] Arguing that the close proximity of subjective and objective makes the ground between them effectively undifferentiated, Morton suggests the re-mark also separates objective *space* from subjective *place.*

> Gestalt psychology establishes a rigid distinction between figure and ground such that figure and ground entail each other (the faces and candlestick illusion is the classic example), while it remains strictly impossible to see both as figure, or both as ground, at the same time. The re-mark is a quantal event. What happens at the level of the re-mark resembles what happens in quantum physics, at the level of the very small…In quantum mechanics, a *choice* presents itself between waves and particles. We could measure things one way or another; never as an amalgam of the two simultaneously. Until the measurement takes place, both possibilities are superposed, one on the other.[199]

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[194] Bristow, T. (2015) *The Anthropocene Lyric: An Affective Geography of Poetry, Person, Place*. Basingstoke: Palgrave Macmillan doi: 10.1057/9781137364753.0004. p.3

[195] Morton, T. (2009) *Ecology Without Nature: Rethinking Environmental Aesthetics.* Cambridge, Massachusetts, and London, England: Harvard University Press. p.49

[196] ibid. p.48

[197] ibid. p.48

[198] ibid. p.49

[199] ibid. p.50

The problematical nature of the sublime, and of defining it, derives from the slippage which occurs between subjective and objective understanding. A recognition of the "quantal moment," before measurement has taken place, allows for both kinds of understanding to co-exist, a possibility suggested, as noted at the end of Chapter 1, by the rope-icicle in Palmer's description of his ship beset in Antarctic ice.

The sublime is an unstable, contested term, expounded first as a series of thoughts on rhetoric by Longinus in the first century AD and revived as a source of philosophical and literary debate after the translation of Περὶ Ὕψους by William Smith in 1739, and the later publication of Edmund Burke's *Philosophical Enquiry into the Origins of our Ideas of the Sublime and Beautiful* in 1757. Debates attempt to resolve the questions of whether the sublime is a quality of matter or of mind, an object in nature or the property of language, something real (the experience of terror at the edge of a precipice) or something read (the re-membered experience, imagined or described). It has been variously re-figured as an environmental (Emily Brady), a radical (M. McGuire), a Romantic (Thomas Weiskel), a psychiatric (Nicholas Tromans), a technological sublime (David E. Nye) - to name a few. In what way is this concept, described by Thomas Weiskel as "a moribund aesthetic,"[200] relevant to the study of contemporary Antarctic poetry? The answer lies partly in the Antarctic icescape, the enormity of which meets most criteria of the sublime, and partly in the nexus of meanings combining ideas about divinity, transcendence, language, transition and transformative power which can be found in an examination of the definition of the word ὕψος and the etymology of its English translation 'sublime.'[201] The Antarctic continent, and the science which takes place there, are intimately bound up with the consideration of human impact on the planet, a

[200] Weiskel, T. (1976). *The Romantic Sublime: Studies in the Structure and Psychology of Transcendence.* Baltimore and London: The John Hopkins University Press. p.6

[201] D.A. Russell's translation of *On Sublimity* records the difficulty of translating the word ὕψος which is not consistently distinguished from its cognate 'μέγεθος' (size) xvi

collapse of scale in which the intensely local (the individual experience of working on a scientific base) and the planetary can be folded into one another. The association of the sublime with the divine, often as manifested in nature, as well as with aesthetic appreciation of the natural world, feeds into a consideration of Antarctic values[202] and our moral responsibility for the earth on which we live. Writing about the continent has to engage not only with its particular materiality, but also the transformational nature of Antarctic experience, and the relevance and implications of scientific research carried out there. The apparent collapse of the distinction between substance and symbol, which has been noted in aspects of Antarctic writing, as we can see from the following example of the use of the noun ὕψος, also inheres in the sublime.

> And behold, I am sending the promise of my Father upon you, but stay in the city until you have been clothed with power from on high.
> Luke 24:49 (*hypsous* | ὕψους | gen sg neut)[203]

The literal (height) and the metaphorical (heaven) merge in the phrase "on high." Christ here is in the intermediary position: both flesh and spirit, he moves between the Father ("on high") and the disciples (in the city below), carrying a "promise." Language is the medium by which Christ facilitates the communication of this heavenly power between the Father and those in the city. In *The Spiritual History of Ice*, which includes an extended discussion of the relationship between ice and the Romantic sublime, Eric G. Wilson describes the Peratae, a 2nd century Gnostic sect whose name means approximately "those who pass through."[204] They believed in a unified cosmos, comprising a holy trinity of the Father, an ineffable, unbegotten source of

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[202] The Antarctic Treaty System dedicates the continent to international co-operation in science for the benefit of humanity, and ratifies international responsibility to protect its "wilderness and aesthetic values."
https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/environmental-protocol/protocol-on-environmental-protection-to-the-antarctic-treaty-1991/

[203] Mounce, B. Greek-English Concordance in *For an Informed Love of God*. Retrieved from https://billmounce.com/greek-dictionary/hypsos

[204] Wilson, E.G. (2003) *The Spiritual History of Ice: Romanticism, Science, and the Imagination* New York: Palgrave Macmillan. p.164

infinite energy; the Son, figured as a serpent with crystal scales, coiled around the pole star; and unformed Matter. From the Father, the Son gathered ideas and forms, and with his power he shaped material reality to echo the divine.

> But - as the Gnostic further knows – the snake also coils in the human heart. Vertically gathering sky and earth, horizontally merging mundane differences, the Peratic serpent is the still point of the turning self: a psychic pole marrying opposing pulls, matter and spirit, reason and emotion.[205]

The Antarctic continent, like this serpent, marries oppositions; Wilson sees Coleridge's Ancient Mariner as a prophet of the polar gnosis – transformed by his sublime experience of the ice, he is forced to retell his story in the hope of passing on his message. Here, too, language - in the form of poetry - is a means of transmitting a higher power.[206]

As well as holding together the literal and the metaphorical, the earthly and the divine, the word 'sublime' contains another apparent opposition: movement and stasis. The definition of 'sublime' in English retains its connection with a moving 'power.' The root word 'limen' means 'threshold' or 'oblique'[207] (as in lintel). The prefix 'sub' contains opposing ideas of movement: under, and up to;[208] 'sub limen' (under the lintel) is therefore a threshold, a transitional place and time; before measurement of direction or movement, it is like the "quantal event" discussed earlier. Looking ahead to Kant, who explained the combination of pleasure and fear in the sublime by looking at the interactions of sensory perception, imagination and reason, this moment before measurement, with two possibilities superposed,

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[205] Wilson, E.G. (2003) *The Spiritual History of Ice: Romanticism, Science, and the Imagination* New York: Palgrave Macmillan. p.165

[206] ibid. pp.164-6, p.187

[207] Brown, L. (Ed.). (1993) *The New Shorter Oxford English Dictionary* Oxford: Clarenden Press. Vol.2 p.3119

[208] These opposing directions echo what Philip Shaw sees as the irony of the sublime, "a promise of transcendence leading to the edge of an abyss" but which, I suggest, indicate instead the paradoxical simultaneity of positive and negative emotions which are only resolved after the event.
Shaw, P. (2006). *The Sublime.* London: Routledge. p.10

could be seen as the complex response to an external stimulus before reason has taken the measure of it.

Transformation, often as a result of the way language is employed, is a key aspect of the sublime. Used as a verb, 'to sublime' refers not to the transition from one place to another, but to matter turning from one state to another without passing through the liquid phase.[209] In the Antarctic, a lump of ice can quite literally vanish as a result of this process. Something 'sublimed' is transformed; 'to sublime' is to bring about that transformation. Samuel Johnson's entry in *A Dictionary of the English Language* (1755) quotes a range of literary examples of the word in use, showing its different applications: literal ('high in place'), scientific ('To raise by a chemical fire') and metaphorical ('To raise on high'). Kant's word for the sublime was 'das Erhabene' – meaning raised or elevated.[210]

The importance of language in the transformative aspect of the sublime (resulting from the addition of some kind of height) is demonstrated by Johnson's inclusion of this quotation from Addison:

> The *sublime* rises from the nobleness of thoughts, the magnificence of the words, or the harmonious and lively turn of the phrase; the perfect *sublime* arises from all three together. [211]

Here the sublime is something ineffable, between the writer who composes and the reader who reads, which 'rises' from the thought, or the words, or the way the words are put together (and, ideally, all three at once). Addison's definition returns us to Longinus, whose work was a handbook of rhetoric. Longinus recognised that the affective power of language is not so much a feature of the word itself, or its sound; the sublime results from a "high style," produced as a result of language in particular combinations, like a beautiful body dependent

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[209] I wrote a poem about this. See Appendix p.238

[210] Kant, I. (1987). *Critique of Judgement.* (W.S.Pluhar, Trans.). Indianapolis: Hackett Publishing Company. (Orignial work published 1790). p.lxix

[211] cit. Ashfield, A. & de Bolla, P. (1996) *The Sublime: A Reader in Eighteenth Century Aesthetic Theory.* Cambridge: Cambridge University Press. p. 111

on the harmonious arrangement of limbs.[212] He calls it an "element" which can be removed, "like taking the soul out of the body,"[213] and a "power" which sustains and energises, and yet its existence is dependent on the successful combination of audience, text and speaker. Longinus considered the ability of an orator to convey his own emotional intensity in the delivery of the words an important part of the "sublime genius" shown by Demosthenes, whose "intensity of lofty speech, living emotions…all his unapproachable vehemence and power…so outpoints his rivals."[214] Longinus cites Demosthenes' powerful use of an oath to raise the spirits of those who had just suffered defeat,[215] and argues that the perfect combination in Demosthenes' oration, of place, motivation, language and speaker, enabled the weary soldiers to conceive of victory, and allowed them to participate in imagined greatness. Emotional power was transferred from the speaker to his listeners through the medium of language, recalling the example cited earlier from the Greek-English Concordance. By extension, "we", as readers, can share the experience:

> For by some innate power the true sublime uplifts our souls; we are filled with a proud exaltation and a sense of vaulting joy, just as though we ourselves had produced what we had heard.[216]

The sublime power is, in these terms, transformational; it brings about a state of extreme empathy in which the listener/reader identifies fully with the speaker/writer in a way which breaks down the boundaries between them.

The representation of such sublime dissolution of boundaries does not always require "lofty speech", or even speech at all. Katherine Yusoff has argued that a different kind of language which expresses the dissolution of boundaries can be found in the script created on

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212 Longinus (1965) *On Sublimity.* (D.A.Russell, Trans.). Oxford: Clarendon Press. p. 47
213 Murray, P. & Dorsch, T.S. (Trans.) (2000) *Classical Literary Criticism.* London: Penguin. p.129
214 Longinus (1965) *On Sublimity.* (D.A.Russell, Trans.). Oxford: Clarendon Press. p.41
215 ibid. pp.24-6
216 Murray, P. & Dorsch, T.S. (Trans.) (2000) *Classical Literary Criticism.* London: Penguin. p.120

the skin by frostbite, and the extreme brightness of the sun.[217] In *'Waste Dominion', 'White Warfare' and Antarctic Modernism*, Mark Rawlinson argues that the Antarctic limit experience can be expressed through the assertion of the inadequacy of language to fully describe the power of the landscape. He sees the alienation of the subject from his own humanity in this environment as "characteristic of the residual natural sublime…narrated as a form of self-transcendence at a scientific and technological frontier,"[218] the idiom of this narrator being "taciturnity and adynaton."[219] What we can see here is the opposite of reaching for language 'appropriate' to describe the experience; instead of words and structures to summon the vast, the tremendous, the horrifying, there is silence or understatement.

As significant as the choice of words in the evocation of the sublime is the way in which they are linked. Although the form of words on the whole may be assumed to have an arbitrary association with what they signify, both Longinus and Burke (who makes little explicit reference to the classical writer) agree that choice of language and the way it is combined, on a sentence level and in the context of an overarching narrative, needs to emerge from felt experience. The subsequent linguistic and stylistic choice will have an emotional impact on readers (or listeners) by which the success of the combination can be measured. Burke's focus is on the "force of union"[220] in language, an idea pursued in the last part of the *Philosophical Enquiry* where he remarks on the additional power gained by linking the words for material things with words standing for abstract ideas. He quotes the impact created by

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[217] Yusoff, K. (2007). Antarctic exposure: archives of the feeling body. *Cultural Geographies*, *14*(2), 211. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.44251141&authtype=sso&custid=s8993828&site=eds-live&scope=site

[218] Rawlinson, M. (2013) 'Waste Dominion', 'White Warfare', and Antarctic Modernism', in Nigel Llewellyn and Christine Riding (Eds.), *The Art of the Sublime*. Retrieved from https://www.tate.org.uk/art/research-publications/the-sublime/mark-rawlinson-waste-dominion-white-warfare-and-antarctic-modernism-r1136827. p.8

[219] ibid p.8

[220] Burke, E. (1987) *A Philosophical Enquiry into the Origins of our Ideas of the Sublime and Beautiful.* Boulton, J.T. (Ed.). Oxford: Basil Blackwell (First published 1757). p.174

following the asyndetic list of landscape features which Milton's fallen angels travel through ("Rocks, caves, lakes, fens, bogs, dens and shades"[221]) with the abstract "universe of Death."[222] In this example, death and infinity provide a source of the sublime because they cannot be fully known in any empirical sense. As a phrase on its own, however, the "universe of Death" is insufficient – there are few sensory corollaries for such a universe, but in combination with "Rocks, caves, lakes, fens, bogs, dens and shades," its presence is evoked in and through and beyond the material world.

The difficulties associated with the expression of the empirical and theoretical bases of the sublime - the slippage between the initial phenomenological experience, writing about this experience, and the second order discussion based on that experience - contribute to the instability of any definition. Burke was an empiricist who believed that knowledge of the world is derived entirely from the evidence of the senses. The *Philosophical Enquiry* could be seen as an early document of philosophical psychology in which the affective power of language marks the limits of empirical proof.[223] He writes that

> Whatever is fitted in any sort to excite the ideas of pain, and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the *sublime*…it is productive of the strongest emotion the mind is capable of feeling.[224]

Here the sublime is clearly an experience felt within the *mind* of the person perceiving. Confronting vastness, darkness, obscurity, infinity, a person becomes cognisant of what Ashfield and de Bolla term "the limit experience of the sublime,"[225] and sublimity shifts from denoting properties of the object to its effect on the perceiving subject. Burke's definition,

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[221] Burke, E. (1987) *A Philosophical Enquiry into the Origins of our Ideas of the Sublime and Beautiful.* Boulton, J.T. (Ed.). Oxford: Basil Blackwell (First published 1757).. p.174

[222] ibid. p.174

[223] Shaw, P. (2006). *The Sublime.* London: Routledge.p.50

[224] ibid p.39

[225] Ashfield, A. & de Bolla, P. (1996) The Sublime: A Reader in Eighteenth Century Aesthetic Theory. Cambridge: Cambridge University Press. p.4

which involves both body and mind in the act of perception, requires that the primary emotion which gives rise to the sublime is fear. This fear, however, must not be too great - "[n]o passion so effectually robs the mind of all its powers of acting and reasoning"[226] - or it will no longer give rise to the sublime. Considering pain and terror in the final part of his work, Burke suggests that whereas pain is felt in the mind as a result of a sensation in the body, "things that cause terror generally affect the bodily organs by the operation of the mind suggesting danger."[227] Indeed, such is the interdependence of mind and body that, should one recreate the physical manifestations of an emotion such as terror – contracted eyebrows, wrinkled forehead, hair standing on end – these gestures will give rise to an echo of the original emotion in the mind. The sublime, concludes Burke, arises as the result of a felt and thought response to an object of perception; it is dependent on the senses.

Opposing Burke's view of "the great and sublime in *nature,*"[228] Immanuel Kant in the *Analytic of the Sublime* (1724-1804) wrote "what is sublime, in the proper meaning of the term, cannot be contained in any sensible form."[229] The sublime feeling, he argued, arises from the tension between the negative response of the imagination to sensory stimuli, and the subsequent recognition of the transcendent power of reason; picturing the danger of falling from a great height, or being overwhelmed by a storm, the imagination gives rise to fear; reason pictures ways of escape, giving rise to the close connection between pain and pleasure. Kant identified two different kinds of sublime: the mathematical, a response to temporal or spatial magnitude (the starry sky, vast oceans and deserts, for example) and the dynamic, a response, from a safe place, to power in nature (great storms, torrential oceans, exploding volcanoes). The basis for Kant's claim that sublimity cannot be found in a natural object is

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[226] Burke, E. (1987). *A Philosophical Enquiry into the Origins of our Ideas of the Sublime and Beautiful.* Boulton, J.T. (Ed.). Oxford: Basil Blackwell. (First published 1757). p.57

[227] ibid p.132

[228] ibid.p.57

[229] Kant, I. (1987). *Critique of Judgement.* (W.S.Pluhar, Trans.). Indianapolis: Hackett Publishing Company. (Orignial work published 1790) p.99

that the sublime is formless and limitless, beyond the capacities of the senses and the imagination to fully apprehend. This lack of materiality, in conjunction with the difficulty of locating or fully describing the sublime,[230] highlights the problem of definition evident in sublime discourse more generally, which moves between considering the sublime as a quality or power inherent in an object, as a literary or psychological effect, or as a descriptive model which accounts for "the transactions between inner mental states and the qualities of objects in the world."[231] Philip Shaw suggests that a quest for definition is self-defeating since the sublime occurs at the point where distinctions begin to break down. However, it is precisely its slipperiness as a concept, the way it inhabits spaces between language, the senses and the natural world, which makes it a useful lens through which to consider Antarctic writing.

Discussion about the sublime which followed the publication of the *Philosophical Enquiry* led to an evolving discourse in the work of philosophers and writers during the 19th century in England and beyond. Francis Spufford describes the sublime as "…an uncontrolled category of perception that roared through and around the tidy certainties of art and experience,"[232] a description echoed in *Mountains of the Mind* where Robert MacFarlane remarks that "…as a concept it began to sprawl in a suitably chaotic and ungovernable way across the neat partitions of classical aesthetics."[233] Both these writers explore the importance of the sublime to the literature and culture which influenced people's interactions with wilder, more inaccessible, "sublime" landscapes: high mountains and the polar regions.[234] The title of

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230 Thomas Stackhouse complains of a lack of clarity in Longinus's depiction of the sublime: "…it does not in my opinion give us any precise ideas wherein this sublime consists. He tells us indeed in the first place what are its effects, then what are its causes, and comes at last to give us examples of the true and false sublime, but in all this, it does not appear to me that he determines wherein it consists." cit. Ashfield, A. & de Bolla, P. (1996) *The Sublime: A Reader in Eighteenth Century Aesthetic Theory.* Cambridge: Cambridge University Press. p.49

231 Ashfield, A. & de Bolla, P. (1996) *The Sublime: A Reader in Eighteenth Century Aesthetic Theory.* Cambridge: Cambridge University Press. p .14

232 Spufford, F. (2003) *I May Be Some Time: Ice and the English Imagination.* London: Faber and Faber. p.18

233 MacFarlane, R. (2003) *Mountains of the Mind.* London: Granta p.76

234 The Tibetan Plateau and surrounding mountains are, after all, referred to as the Third Pole.

both works present the close relationship between forms of nature (whether mountains or ice) and the activities of the mind. Whether depicted as something "chaotic" and "sprawling" which breaks across, or as something "roaring" that breaks through and around, the sublime involves sensations, rational activity (and its breakdown), the breaking of boundaries, and literary, artistic and theoretical responses to natural forms which both influence, and are influenced by, changing societal structures.[235]

As the shapeshifting 'both/and' of philosophical discourse, the sublime is the ultimate icy concept; Antarctica is the ultimate sublime form. In Burke's terms, everything about the polar regions (particularly the Antarctic) is sublime. Vast, dangerous and extreme, those who travel there can experience terrible privations,[236] and become lost in the obscurity of a whiteout, or blinded by a light so bright it appears like darkness.[237] Some contemporary criticism of the sublime in relationship to Antarctica returns us to the moment of encounter, suggesting that the extremity of the Antarctic landscape troubles the movement from the first phase of the sublime, where the distinction between subject and object is broken down, to the

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[235] Ashfield and de Bolla's conclusion is that the sublime is a linguistic structure, a discourse which "infiltrates" the other discourses it encounters, and subsequently transforms them.

"…a trope first isolated and analysed in the discourse on the sublime is taken into another discursive environment in which it begins to generate mutations at both the surface level and within the figurative structure of the text. In this way the 'transport of the reader' comes to represent a complex figurative knot in which the possibilities for extensive tropological transformation are created."

Whilst representing a considerable movement away from the rhetorical devices presented by Longinus, this exploration of the transfiguration of sublime tropes, and their transformational effect on other texts brought about by a writer-reader, does address the sublime as a moving power arising from the structures of a text and visible in its effect on the reader.

Ashfield, A. & de Bolla, P. (1996) *The Sublime: A Reader in Eighteenth Century Aesthetic Theory.* Cambridge: Cambridge University Press. p.4

[236] "All *general* privations are great, because they are all terrible; *Vacuity, Darkness, Solitude* and *Silence.* With what a fire of imagination, yet with what severity of judgement, has Virgil amassed all these circumstances where he knows that all the images of a tremendous dignity ought to be united, at the mouth of hell!"

Burke, E. (1987) *A Philosophical Enquiry into the Origins of our Ideas of the Sublime and Beautiful.* Boulton, J.T. (Ed.). Oxford: Basil Blackwell (First published 1757) p.71

[237] ibid p.80

"Extreme light, by overcoming the organs of sight, obliterates all objects, so as in its effect exactly to resemble darkness."

second where the distance between them is reconstituted. Mariano Siskind makes a persuasive claim for an "Antarctic sublime" which consists only of this first phenomenological stage, citing Cook's "undiscovery" of the continent (and significant refusal to give it a name) as demonstrating its continuing resistance to the "universalising operation of globalisation"[238] partially enabled by western colonial embrace of Kantian reason.[239] Joanna Price looks at later instances of breakdown in the face of the "radical sublimity of Antarctic nature"[240] and sees not paralysis or refusal but a slippage from the sublime to the traumatic. Both terms, she suggests, "evoke borders which may also be thresholds."[241] The extreme environment, its "irreducible particularity"[242] all that which is represented by the ice, breaks down a variety of different boundaries: temporal, spatial, physical and linguistic.

Kathryn Yusoff ('Antarctic exposure: archives of the feeling body') comments on the way that boundaries of the body are breached by the hardships of Antarctic exploration. She analyses two photographs, of Cherry-Garrard, Bowers and Wilson, before and after their winter journey, noting the way in which privation (trauma) had marked their features and was recorded in the photographic moment. "Antarctica can be mapped through the landscape it

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238 Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1). 1. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40247458&authtype=sso&custid=s8993828&site=eds-live&scope=site p.19

239 Though the continent has been returned to, and subsequently mapped and named, its exceptionalism continues, as we saw in Chapter 1, in its management by international treaty.

240 Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1). 1. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40247458&authtype=sso&custid=s8993828&site=eds-live&scope=site p.19

241 Price, J. (2018) Antarctica and the Traumatic Sublime. In Heidkamp, C.P. & Paddock, T. *Environment, Space, Place*. Retrieved from http://researchonline.ljmu.ac.uk/id/eprint/5473

Price makes significant distinctions between them with respect to the position of the observer and the sublime object: the sublime requires a certain distance, and a privileged viewpoint, but in a traumatic situation, distance is annihilated, and there is a breakdown of boundaries.

242 Siskind, M. (2005). Captain Cook and the Discovery of Antarctica's Modern Specificity: Towards a Critique of Globalization. *Comparative Literature Studies*. *42*(1). 1. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40247458&authtype=sso&custid=s8993828&site=eds-live&scope=site. p.9

enacts in the masculine body,"[243] she comments, though she also develops the idea further by suggesting that "Antarctica presents itself on and through the body *beyond* representation, a place unresolved and potentially unmappable." Antarctica is not unmappable, as it is not un-writeable. Its quality of being both within and beyond representation is what makes it sublime. After the "quantal event" of the sublime experience, there is a choice to be made about how Antarctica should be represented, a choice not between waves and particles as a form of measurement, but about the kind of language employed to evoke its particular presence.

(ii) Antarctic Time

One of the distinctive qualities of Antarctica is the impact it has on perceptions of time, perceivable on all levels: corporeal, quotidian, official and epic. The perception of broken boundaries between time zones and epochs on a vast scale is one of the ways in which the sublime is experienced in Antarctica. Elizabeth Leane cites a line from Elizabeth Arthur's novel "the most extraordinary thing about the Ice is not its placeness so much as its timeness"[244] and Francis Spufford considers that one of the strongest imaginative themes in response to the continent in the 20th century is as "a repository of lost time."[245] "In Antarctica, even the butter is primeval,"[246] writes Spufford, and the scale and depth of the ice is part of what contributes to this idea of Antarctica as a deep freeze for time itself. There is a

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[243] Kathryn Yusoff. (2007). Antarctic exposure: archives of the feeling body. *Cultural Geographies*, *14*(2), 211. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.44251141&authtype=sso&custid=s8993828&site=eds-live&scope=site pp. 219-20

[244] Leane, E. (2012). *Antarctica in Fiction: Imaginative Narratives of the Far South*. New York: Cambridge University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=451733&authtype=sso&custid=s8993828&site=eds-live&scope=site p.154

[245] Crane, R. & Leane, E. & Williams, M (Eds.). (2011) *Imagining Antarctica.* Hobart: Quintus Publishing. p.18

[246] ibid. p.21

constant sense of the distant geological past, as well as the less distant human past, intruding on the present, making Antarctic ice a physical manifestation of the complex temporalities of the Anthropocene. The lack of linearity in the perception of time is also seen in its non-singular chronological measurement: on official meteorological records, two times are recorded, base time and GMT. At the South Pole, which technically belongs to all (or none) of the systematised time zones, an arbitrary choice had to be made about which time zone to employ; South Pole time is measured to coincide with that of the largest base, US McMurdo, which operates according to local NZ time. In winter, the sun is not visible for up to 119 days, creating a long polar night which has a profound impact on both body and mind. For someone experiencing it, the reality is disorientating, even destabilising as McNeil writes in her introduction to 'Night Orders':

> that to know light you must also know darkness, that extreme opposites are somehow two faces of a whole, and that the fantastical regimes of light and dark have internal as well as stellar and planetary rhythms. In the polar regions I tilted between euphoria and dread, and sometimes lost the struggle for equilibrium.[247]

The extreme disturbance caused by her experience of polar time shows both the body as a measure of time and that holding together of opposites, and temporary loss of equilibrium, so characteristic of the sublime.

Photography, drawing by light, mirrors the way in which ice can apparently 'freeze' a moment in time. To return to Yusoff, who was writing about Eduardo Cadava's consideration of Walter Benjamin's work on history and time:

> The photograph arrests time, and in doing so marks it with its indexal ordering. This ordering of time – as an arrest in the flow of information – creates another dwelling place in time that has the duration of shutter speed. This duration of arrest is cast against an unreclaimable sea of lost time.[248] (223)

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[247] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.3

[248] Yusoff, K. (2007). Antarctic exposure: archives of the feeling body. *Cultural Geographies*, *14*(2), 211. Retrieved from

Both Elizabeth Bradfield and Jean McNeil employ photographs as part of their poetic responses to the Antarctic continent. McNeil also includes diagrams, charts and tables alongside the poems to emphasise the relationship of her poetry to a particular kind of evidence gathering, and to suggest the importance of poetry as another way of recording readings of the world. The photograph is empirical evidence of having been there, a moment preserved in this "unreclaimable sea of lost time," like the glacier, or the ice shelf, water in its apparently solid form, slipping towards the sea. In this ice, the bodies of Scott and his men are preserved, as traces of the winter journey team were preserved in photographs by the reaction of light on chemicals; it is a different kind of "arrest."

If photographs, proof of presence, can be described as making a claim on a moment of time, they can also be used to make a claim on territory. Elizabeth Bradfield considers the problem of claiming ice (which moves and can melt and is therefore resistant to international law which regulates territorial claims[249]) in her poem 'The Third Reich Claims Neu Schwabenland.' As well as taking 11,000 photographs, aluminium darts were dropped into the ice

> as if they could fix it, as if
> they could pin it fast
> and point to it as theirs
> here here[250]

But "Ice is not land. Is restless. And what was claimed/has moved, is inching towards the sea…"[251] Bradfield reflects on the possibility that one of these aluminium darts has fallen into the sea as the ice has calved, mixing with human and animal detritus, travelling through layers

https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.44251141&authtype=sso&custid=s8993828&site=eds-live&scope=site p.223

[249] As explained by Klaus Dodds in a talk '60 years and counting: The Antarctic Treaty - past, present and future.' British Antarctic Survey. 02/10/2019

[250] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.30

[251] ibid p.32

of the ocean, its salinity and temperature variations, to rest on the sea bed "…declarative not of claim, but of time."[252] As well as showing the futility of human endeavours to claim the Ice, or to stop the movement of time, even if only for an instant, this poem encapsulates the complex temporalities and scales of both Antarctic ice, the sublime and the Anthropocene.

(iii) The Sublime, Antarctica and the Anthropocene

Antarctica is a touchstone for the earth's systems, and the science done there is committed to investigating global warming and developing our understanding of global ecology.[253] Writing in 1987, Edwin Mickleburgh, the photographer, writer and film-maker, suggested the sublime, because it is a discourse associated with transformation, language and power, as well as with landscapes which inspire awe and fear (even which suggest intimations of the divine) offers a useful companion to the habits of thought associated with scientific discovery in an Antarctic context.

> Antarctica, the last true wilderness, has emerged as the symbol of our age, the evocation of the natural world in its time of greatest crisis. It represents the last chance man has of a change of heart so necessary in preceding the reconciliation with nature that will determine the future of our planet.[254]

Mickleburgh's reading of 'The Ancient Mariner' (with which his book begins) sees the sailor who kills the albatross as a prefigurement of all those whose greed, or lack of understanding, has had such a devastating effect on Antarctic wildlife, and by extension on the earth's environment. He calls for "a new form of language, a sharpening of perception,"[255] when writing about Antarctica, seeing in modern exploration of the continent one of those "rare moments where …poetry and science speak briefly with a single voice."[256] However, despite

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[252] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.32
[253] This is the reasoning behind the British Antarctic Survey tagline 'Polar Science for Planet Earth'
[254] Mickleburgh, E. (1987). *Beyond the Frozen Sea: Visions of Antarctica.* London: The Bodley Head. p.192
[255] ibid. p.8
[256] ibid p.8

this wish, in his effort to evoke an emotional response in the reader (and a consequent "change of heart"), he reaches, like Palmer, for an old form of language - conventional tropes associated with Burke's *Enquiry*[257] - when writing about Antarctica. He describes it as a "place of the most terrible beauty;"[258] an 'empty' continent where the scale of the landscape echoes "the stillness of eternity"[259] mirrored and contained in its icy surface; its "countless horizons" spread beyond him in all directions in "giant white waves, waves without beginning, without ending."[260] Here the vast ocean viewed by Kant as the archetypal example of the mathematical sublime is recast in snow; the dynamic sublime pictured in "the terrible chaos of glaciers topped by swirling clouds and scoured by mighty winds."[261] Whereas in Francis Spufford's interpretation of heroic age exploration, the Antarctic landscape took the role of Gothic villain "and the explorers responded by identifying themselves with its sublimity, glorying in the place even as it thwarted or even hurt them,"[262] Mickleburgh describes instead the ecological fragility of Antarctica as the gothic heroine who is not just threatened with rape, but systematically abused from the first excesses of the sealers in the mid-19th century. In a reversal of the sublime of power, "Antarctica [has] been broken into and innocence defiled."[263] No longer is ice the monster against which the hero, physically vulnerable but mighty in spirit, must pit his life; it is the victim of "the brutalising philosophy of industrial power and military might, the deadly alliance that has engulfed the world, destroying its

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[257] James Meffan, in his essay, 'The Nothing that Is', criticizes Mickleburgh's use of "a litany of exhausted rhetoric" but grants that this language is the result of a difficult project: sharing the experience of Antarctica with those who have never visited it, and who do not understand why such a distant wilderness should be so important.
Crane, R. & Leane, E. & Williams, M (Eds.). (2011) *Imagining Antarctica.* Hobart: Quintus Publishing. p.33

[258] Mickleburgh, E. (1987). *Beyond the Frozen Sea: Visions of Antarctica.* London: The Bodley Head. p.7

[259] ibid. p.7

[260] ibid. p.8

[261] Mickleburgh, E. (1987). *Beyond the Frozen Sea: Visions of Antarctica.* London: The Bodley Head. p.117

[262] Spufford, F. (2003) *I May Be Some Time: Ice and the English Imagination.* London: Faber and Faber. p.37

[263] Mickleburgh, E. (1987). *Beyond the Frozen Sea: Visions of Antarctica.* London: The Bodley Head. p.52

beauty, poisoning its natural systems and imprisoning its citizens."[264] According to Mickleburgh, humanity must, like the Mariner, learn from their wrongdoing before it is too late; they are at once responsible for the fate of Antarctica, and cause and victim of impending global crisis.

Emily Brady, like Mickleburgh, argues for the contemporary relevance of the sublime in providing one way in which aesthetic appreciation of the environment can feed into moral appreciation (and therefore appropriate action).[265] She argues that science presents us with knowledge which enables us to understand many things greater than we are (even leaves us with a sense of the "ungraspable" which can often accompany the sublime experience), but suggests that an aesthetic, rather than a conceptual, experience is more powerful.

> Science can provide us with the reasons why we ought to admire the great natural phenomena, but we can get a real sense of this greatness only when it is presented to us through the immediacy and intensity of sublime aesthetic experience.[266]

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[264] ibid p.182

[265] Brady, E. (2003). *Aesthetics of the Natural Environment.* Edinburgh: Edinburgh University Press. p.37 and

(2013). *The Sublime in Modern Philosophy : Aesthetics, Ethics, and Nature*. Cambridge: Cambridge University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=592740&authtype=sso&custid=s8993828&site=eds-live&scope=site p.183

[266] Brady, E. (2013). *The Sublime in Modern Philosophy : Aesthetics, Ethics, and Nature*. Cambridge: Cambridge

University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=592740&authtype=sso&custid=s8993828&site=eds-live&scope=site p.183 p. 197

And so we are thrust right back into the heart of the Romantic debate, and the famous dinner table controversy about rainbows at Hayden's house. My own work in 'Met Obs' explores this debate.

The loss of self-awareness entailed in a sublime experience of nature allows us to move towards "a material experience of the natural world that resists human appropriation,"[267] an attendant humility which leads, she argues, to a greater respect for, and desire to protect, it.

Where Brady argues for "the immediacy and intensity of sublime aesthetic experience" in the natural world, Timothy Morton suggests we exist within the hyper-object which is global warming, and are therefore unable to achieve any distance from it, aesthetic or otherwise. Global warming forces us to "acknowledge the immanence of thinking to the physical;"[268] and on the necessary closeness of art and science.

> Human art, in the face of this melting glass screen…has to actually *be* a science, part of science, part of cognitively mapping this thing. Art has to be part of the glass itself because everything inside the biosphere is touched by global warming.[269]

Morton presents us with aesthetic distance as a glass screen melted by the heat. His style in *Hyperobjects* is deliberately personal to acknowledge "no discourse is truly "objective," if that means that it is a master language that sits "meta" to what it is talking about."[270] The formal register melts away; figures and the figurative merge.

The rapid melting of the ice-caps provides a measure of the impact of climate change; Morton's description of global warming deliberately evokes the sublime through number:

> 7 percent of global warming effects will still be occurring one hundred thousand years from now as igneous rocks slowly absorb the last of the

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[267] Brady, E. (2013). *The Sublime in Modern Philosophy : Aesthetics, Ethics, and Nature*. Cambridge: Cambridge University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=592740&authtype=sso&custid=s8993828&site=eds-live&scope=site p.195

[268] Morton, T. (2013) *Hyperobjects: Philosophy and Ecology After the End of the World*. Minneapolis, London: University of Minnesota Press. p.2

[269] ibid. p.133

[270] Morton, T. (2013) *Hyperobjects: Philosophy and Ecology After the End of the World*. Minneapolis, London: University of Minnesota Press. p.4

> greenhouse gases. I have decided to call these timescales the *horrifying*, the *terrifying*, and the *petrifying*.[271]

The scale introduced in the reach between 7 and one hundred thousand (number and word, the apparently measurable and countable) is set within the vastness of geological process. Fitting for the disrupted temporality associated with the Anthropocene, the distant future contains a present tense "as igneous rocks slowly absorb the last of the greenhouse gases." Associated with distance, calculation and a rational exploration of how things work rather than the way they feel, numerical terms would appear to be fundamentally unsuitable, but "Think of the weight of the sheer numbers with which global warming is thrust on us,"[272] Morton writes. The scale of the catastrophe is evoked time and again in statistics which are aimed to rouse us to action.[273]

Antarctica has a particular relevance to the Anthropocene. The science carried out on the continent helps determine the extent of human impact on the planet, and analysis of its ice cores provides an indication of the point at which this new epoch (still being debated) begins. The term itself, combining the Greek words for 'human' and 'recent time,' describes when "*Homo sapiens* became a geological super-power, setting Earth on a new path in its long development."[274] Lewis and Maslin go on to write: "The stakes could not be higher. Yet the idea of the Anthropocene is so immense it can be debilitating."[275] The sublime icescape, which posed such a threat to the men travelling across it, has been replaced by global warming and the idea of the Anthropocene as a source of the sublime.

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[271] ibid. p.59

[272] Morton, T. (2013) *Hyperobjects: Philosophy and Ecology After the End of the World.* Minneapolis, London: University of Minnesota Press. p.137

[273] *The Uninhabitable Earth* by David Wallace-Wells (Penguin, 2019) perfectly exemplifies this approach.

[274] Lewis, S. & Maslin, M. (2018) *The Human Planet: How We Created the Anthropocene.* London: Penguin Random House. p.5

[275] ibid. p.5

Lisa Bloom considers this issue in 'The Aesthetics of Disappearance'. She wants, as with the artists she studies, to position the female in an icescape defined "in explicitly gendered terms as spaces of male bonding, conquest and suffering"[276] and she looks at the work of three different artists who attempt to find alternative narratives and aesthetics without having to resort to earlier heroic or gothic tropes of the sublime. Their work suggests the collapse of linear representations of time – in Hersko's collage which forms part of 'Anna's Cabinet of Curiosities' (2011), for example, where the fictitious Anna Schwartz is added to a photograph of Scott at the South Pole, or Noble's presentation of two tourists in an Antarctic-themed entertainment centre looking at a painting of the Barnes Glacier which recalls the work of Ponting and Hurley. Joanna Price's critique of Hersko's artwork, focusing on the representation of normally unseen species affected by climate change (the pteropods), finds another dissolution of boundaries in the exposure of the photographic transparencies to atmospheric UV radiation in Antarctica and California.

> The fading image that results from this process of dissolution suggests the embeddedness of humans in their environment through their materiality, and the threat posed to both humans and the environment by global warming. The evanescence of this artwork…returns to the sublime as a phenomenology and 'aesthetics of disappearance' (Bloom, 2011) which is unrecuperable to the permanence and transcendence of sublime re-composition.[277]

Once again, that "irreducible particularity" of the Antarctic experience suggests the problematic nature of its representation, here in the context of a climate crisis in which the permanence and transcendence of sublime re-composition, should it be possible, might itself be a matter for debate. However, Price's hope is that through an understanding of Antarctica

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[276] Bloom, L.E. (2011) The Aesthetics of Disappearance: Climate Change, Antarctica and the Contemporary Sublime in the Work of Anne Noble, Connie Samaras and Judit Hersko. Retrieved from https://www.conniesamaras.com/DOCs_current/Web_Biblio_pdfs.5.11/2012/03_Bibl_TheAestheticsOfDisappearance_ISEA2011_Istanbul.pdf p.2

[277] Price, J. (2018) Antarctica and the Traumatic Sublime. In Heidkamp, C.P. & Paddock, T. *Environment, Space, Place*. Retrieved from http://researchonline.ljmu.ac.uk/id/eprint/5473 p.13

as the locus of the traumatic sublime, new and creative responses both to the continent and to climate change will remain possible.[278]

It is evident from this survey of the relationship between the sublime and Antarctica that contemporary studies need to take account of the language and experience of scientists on the continent, as well as of climate science. This is precisely what Werner Herzog set out to achieve in his documentary *Encounters at the End of the World,* a tribute to the continent and to the "professional dreamers" who work there. Part way through the film, Herzog features the particle physicist, Dr Gorham of the University of Hawaii, who was working on neutrinos in Antarctica. He describes their work in terms which make it clear that the process of measurement can, in some contexts, be more than an instrumental one. Neutrinos, he says, are fundamentally important to the creation of the universe but so small[279] and fast-moving that a billion neutrinos can pass imperceptibly through the nose.

> We are trying to make contact with that other-worldly universe of neutrinos, and as a physicist, even though I understand it mathematically and I understand it intellectually, it still hits me in the gut that there is something here, around, surrounding me, almost like some kind of spirit or God that I can't touch – but I can measure it. I can make a measurement. It's like measuring the spirit world or something like that. You can go out and touch these things. [280]

Immediately after he has spoken, Herzog notes the painting and quotation (a Hawaiian spiritual invocation) on the neutrino detector and then, as a Russian Orthodox choir sings,[281] moves outside to show a glacier transfigured by sunlight. Both Dr Gorham's words and Herzog's cinematography here highlight the sense that divinity, or something like it, can be

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[278] ibid. p.14

[279] The sublime can be experienced on small scale too: "the last extreme of littleness is in some measure sublime likewise." Burke, E. (1987) *A Philosophical Enquiry into the Origins of our Ideas of the Sublime and Beautiful.* Boulton, J.T. (Ed.). Oxford: Basil Blackwell (First published 1757) p.72

[280] Hertzog, W. (2007) *Encounters at the End of the World.* Maryland: Discovery Films. (1 hr. 29)

[281] Glaciologists speaking to Herzog describe diving under the ice as going into the cathedral.

apprehended in the workings of the material world and made accessible through measurement.

Critical studies of art and Antarctica tend to focus on the relationship between now and the heroic age, overlooking the mid-years of the twentieth century when the process of gathering scientific data began to gather pace.[282] The speed of climate change can be measured and modelled because of the existence of the long term data sets, many of which were initiated during these years. As Hertzog, and those he interviewed, suggest, recording and measurement such as this is not a purely instrumental process; it can be simultaneously spiritual and aesthetic. The entry for 3rd July in the Lockroy base diary for 1954 reads:

> Saw a very good illustration of "Mother of Pearl" clouds during the morning…The delicacy of structure and the beauty of the colouring beggars description…Several of us bemoaned the fact that we hadn't a colour film…[283]

The frustrated desire to record the clouds on film (again, this reaching for the camera to provide documentary evidence) perhaps unwittingly recalls Apsley Cherry-Garrard, and Rawlinson's analysis of his words which led to his suggestion that the Antarctic sublime can be inferred through statements about the impossibility of verbal representation. The diary entry suggests that several men wanted a means not just to record a meteorological phenomenon, but also to convey its beauty and its effect on them. Along with the drawings which accompany the Lockroy meteorological reports, this is evidence that scientists on base were just as alive to the aesthetic qualities, as to the scientific value, of what they were observing in the landscape. I would suggest that there is a case for adding another strain to the taxonomy of the sublime to take account of the field of Antarctic science. In an attempt to bridge the gap between what is known and what is not understood, between what is

[282] Analysis of measurements recorded over thirty years from the International Geophysical Year in 1957-8 led to the discovery of the hole in the ozone layer, and subsequent action which led to its repair.
[283] Base Diary Port Lockroy 1954; British Antarctic Survey Archive Reference AD6/2A/1954/B

intimated but not felt on the body, to convey the sense of an almost overwhelming higher order, not necessarily of the divine, in a sublime landscape, the scientist's reaching for numbers and measurement can be read as an expression of the sublime in its second phase, where reason tries to make sense of the experience. Writers who take account of science, and of the Antarctic scientist, in their writing about the continent will find their work is modified by number and measure. Such work might be termed an expression of the empirical sublime.

(iv) Time's measure: the empirical sublime in the Antarctic poetry of Elizabeth Bradfield and Jean McNeil

The sublime, however it is termed, is a threshold experience where the boundaries between the perceiving subject and the object are broken down as the result of an encounter with something vast, or powerful, or, conversely, as in the case of the neutrinos, something infinitesimally small. Like the sublime, the Antarctic experience is a limit experience "at the end of the world;"[284]entrance into this threshold place is marked by vast sentinels[285] of ice. Poetry about the continent is drawn inevitably into a consideration of this experience of ice and time, of human responsibility for what is happening on a planetary scale. For the purposes of this study, what I have termed the empirical sublime is an expression of that experience through different kinds of measure. Reflecting on the writing of *Toward Antarctica* Elizabeth Bradfield remarked that her journey, which the volume records, was "an opportunity to ground-truth what I'd written in my 2010 collection of poems *Approaching Ice,*"[286] identifying it as an empirical test of her earlier imaginative representations of the continent from the perspective of someone who had not been there. The haibun in the later collection combine echoes of note form (like field notes) with short poems and documentary photographs; her tone is measured, and her approach empirical. The sublime as it is figured

[284] As Herzog suggests in the title of his film.
[285] This is a recurring image. Jean McNeil describes the tabular bergs as "sentries" [*Night Orders* p. 28], Palmer as "Sentinels" (*Thulia* p.29)
[286] Bradfield, E. (2019) *Toward Antarctica: An Exploration.* Pasadena, California: Boreal Books. p.13

here appears in the dissolution of boundaries between generic forms. Whilst the poetry of Jean McNeil has the sublime within its compass, *Night Orders*, the collection of poems written after her residencies in the Arctic and the Antarctic, eschews its traditional language in favor of the language of science: its terminology, a syntax which echoes the language of field notes and observations, and the visual language of graphs, photographs and diagrams. "Science is a way of seeing things clearly, a process of revelation,"[287] wrote Jean McNeil in the introduction to *Ice Diaries*. "This language is at once a part of the Antarctic world and an instrument by which any revelation gained there is expressed." Scientific language may be the language of revelation for an Antarctic sublime; time markers provide orientation.

Time in 'Night Orders' is noted, observed, its qualities felt with other forces at work in nature. Whilst the actual environment is strange, and the experience of time felt within it is disturbed, the language in which time is recorded in the poem is simple. Each of the sections of the poem 'Ice Observations' begins with a date and a time, showing a movement through the sequence towards winter; the time markers are there to show linear, chronological progress. Time markers in this environment are numbers to steer by. In twenty four hour darkness or light, it is difficult to tell the difference between day and night without a clock; in addition to its obvious function of keeping a record of events and providing psychological release, keeping a diary forms an important way of maintaining a sense of control over time.[288] McNeil evokes both the sublime qualities of this environment and its overwhelming effect on the one experiencing it when the familiar is turned to mirage: "A shimmering/humid city"[289] in the ice. The perceptions of the observer have merged with what is being perceived: the sea

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[287] McNeil, J. (2016) *Ice Diaries: An Antarctic Memoir.* Toronto: ECW Press. p.xvii

[288] Leane, E. (2012). *Antarctica in Fiction : Imaginative Narratives of the Far South.* New York: Cambridge University Press. Retrieved from https://search.ebscohost.com/loginester.aspx?direct=true&db=nlebk&AN=451733&authtype=sso&custid=s8993828&site=eds-live&scope=site p.156

[289] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.23

is "curdled with knowledge/breaking up."[290] For readers of the poem, the time markers are also part of the evocation of place, echoing, as they do, the tradition of observation, journal and record-keeping which makes up a large part of the literature of Antarctic exploration. Whilst they suggest a sequence of precise times, the gaps between them gesture to the disorientating temporal and spatial landscape surrounding the writer.

These spaces are resonant with poetic sound. The rhythmic pulse of 'Ice Observations' is supplied by the rhythms of the shipping forecast and weather code:

> Stern shallows. Floe
> shadows. Heavy strain.
>
> Riggings weakened.[291]

The sounds shift and merge through changed consonants – from "shallow" to "shadow" (with ice sounding in sibilance) – from measurable to intangible, and this weakening of the riggings reads like an early loss of intellectual grip on the surroundings. "Rime" (with all its word echoes) makes the instruments unreadable. Amidst pressures, mirages and disappearances, things "snapping" and "breaking up", the recorded times are a mark of someone paying attention; the sounded poetic measure, its steadying rhythm. Time's progress is, however, inexorable:

> Caught in this
> nocturnal cold
> gyre
>
> Who can bear us back
> to our latitude
> of error?[292]

At the onset of winter, beset by ice, it is possible to be held in stasis, with whiteness above, below and all around. It is possible to see three suns in the sky and not to know which one is

[290] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.22
[291] ibid.p.22
[292] ibid. p.26

real, to navigate by means of water reflected on to the clouds – the "dark water-sky, indigo"[293] of 'Ice Observations.' The magnetic Pole, which gives us our compass bearings, is constantly on the move.

In this apparently unstable environment where empirically measurable facts appear fantastic, empirical language gains the resonance of metaphor. Whilst the ice has not stopped chronological time, it has changed human experience of it. Trapped in the ice, some of which might be the wreckage of ice thousands of years old, the person in the ship is apparently at the still point of the turning world, caught in a cycle of tightening and release which feels, at the point of record, like a stopped pulse. There is no person who can carry the observer back to the human world, the "latitude of error" – but recording the changing of chronological time is a reminder that the gyre will turn, the ice will melt and the ship will move.

The title of the poem 'Glacier, 11pm' illustrates several aspects of an empirical sublime: it is economical, and precise; the temporal and spatial position of the speaker is made clear. The glacier, a river of ice, embodies subjective understanding of time; it contains both ancient ice and the water of its future melting, echoing Merleau-Ponty's idea of a "waking time where eternity takes root":

> …the field of presence with its double horizon of originary past and originary future, and the open infinity of fields of presence that have gone by or are possible. Time only exists for me because I am situated in it, that is, because I discover myself already engaged in it…[294]

11pm represents the moment of intersection between past, present and future where they all collide in the perception of the one observing it. Looking at it offers the possibility of revelation. McNeil describes the glacier as a "congealed abyss/ more sublime/than crystals;"[295] sublime in scale, and because of a collapse in familiar notions of time. The abyss

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[293] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.22
[294] Merleau - Ponty, M. (2012) *The Phenomenology of Perception.* (D.A.Landes, Trans.). Abingdon: Routledge. (Original work first published in 1945) p. 447
[295] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.21

and the crystal reference Eric G. Wilson's *Spiritual History of Ice* in which he elaborates on the crystal as "something of an angel frame: a medium in which otherwise viewless laws make themselves known." [296] The poem identifies the glacier with the abyss, and with angel messengers, "transmitting/ between the known and the unknown."[297] The "fabulous angel" also references Rilke's *Duino Elegies*, and the position of the artist at the threshold of the material and spiritual worlds. These intertextual echoes create a literary, as well as a spiritual, "beyond", but in the end, the writer is not granted more than a glimpse of the world intimated by the presence of the glacier; instead she is thrown back on personal relationships, time spent in the laboratory: "Moss hours. Our/confessions - "[298] Revelation, like the sentence, is incomplete.

Elizabeth Bradfield employs dates in a similar way in the poem 'Polar Explorer Ernest Shackleton (1922)'. The poem is anchored by its date in a linear chronology of historical figures; the poems in the collection range from 'Polar Explorer Capt. John Cleves Symmes (1820)' to 'Polar Explorer Lynne Cox (2002)', the pattern of the titles also providing the assurance of regularity promised by an accurate timepiece. Between the poems about explorers are notes on ice and in terms of the layout of the collection, it is as though a procession of explorers is making its way through the ice to the present, the volume of poems like an ice mass containing the cross referencing of history in its unitary body. However, the measurement of time works another way in the poem. The pulse of the heart as a clock, "the

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[296] Wilson, E.G. (2003) *The Spiritual History of Ice: Romanticism, Science, and the Imagination* New York: Palgrave Macmillan. p.15 "The crystal, because of the way it refracted light, could refresh dull ways of seeing and, it was believed, make visible unseen spirits or agencies; it was a threshold between matter and spirit, where reflections of interior desires and refractions of external objects merged, revealing the conjunction of subject and object, beholder and beheld." The "abyss" is "the Neoplatonic One, the Gnostic plenitude, the abyss of life" (262) where material forms open out into their spiritual counterparts, and facts are realised as "circumferences, thresholds of inside and outside, boundless and bounded." (p.262)

[297] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.21

[298] ibid. p.21

heart's slight variations of *tick* and *tock*,"[299] is the sound of mortality and the poem is full of that ticking – hard consonants and plosives like "slap", "rattle" and "clocking" - preparing us, if we did not already know, for the fact that Shackleton died of heart failure. The opening lines indicate the importance of sound in making things memorable: "There are a few things, sounds mostly, that stay in the mind, repeating"[300] and the development of Shackleton's inner world is tracked through remembered sound - "The octet rustle/of his sisters' skirts now linked to mountain slope glissade"[301] – which we, as readers, can hear, too, through the sound patterning of the lines.

Despite the promise of order in the title, the chronology of the poem itself is disrupted. There is the time of the writer, indicated in the opening lines by the present tense which governs the habitual, followed by the simple past tense of Shackleton home after the men left on Elephant Island had been rescued. The steadiness of this time is troubled by the filmic record of the fate of the Endurance expedition in the more distant past which "flickered twice daily"[302] for London audiences, the sound of the "smooth ticking of reels"[303] an auditory recollection - in the poet's mind, at least - which recalled, despite being "unlike", "the unrhythmed slap of halyards or/of the snap of a hull's planks."[304] This soundworld operates outside linear time, suggesting circumstances further in the past: "the evening rattle, part of his boyhood/clocking…of his father's medical bag,"[305] or, in the case of the sibilance of his sisters' skirts, the future "sad, aluminium rush of fertiliser"[306] associated with one of Shackleton's ill-fated non-expeditionary careers.

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[299] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.68
[300] ibid. p.68
[301] ibid. p.68
[302] ibid. p.68
[303] ibid. p.68
[304] ibid. p.68
[305] ibid. p.68
[306] ibid. p.69

This disrupted chronology has Shackleton's heart stop (South Georgia 1922) in the stanza before the memory of South Georgia 1916, where the chronometer "flew out", "all/jewelled wheels and unnecessary, grinning cogs"[307] as the three men made their rapid descent of the ice waterfall to safety and rescue. The timepiece in the poem therefore serves multiple functions: it initiates the sound patterns which create narrative connections; as "steady chronometer"[308] it represents linear order in the less steady world of the emotions; it functions as metaphor. Bradfield describes Shackleton's final return to Antarctica as an "attempt to recoil the clock spring" after "his fame wound down."[309] The conclusion of the poem takes us back to the elision of the heart and the timepiece at the beginning: "the unexplained rhythms/and echoes inside the still mysterious landscape/of our chests," an example of the way the material and the metaphorical, the emotions and the body, and the landscape itself, all overlap within the Antarctic imaginary. The language of measure provides one means of navigating that landscape.

The poems 'thresholds' and 'salinometer' by Jean McNeil show us a different balance between the actual and the metaphorical, employing the particulars of scientific investigation. The title of the poem 'thresholds' recalls "the series of invisible/ thresholds marked by a gelling of the world"[310] which are crossed when making the transition into Antarctica, as well as recalling the threshold experience of the sublime. The thresholds referred to or implied in the poem are physical experiences of abstract emotional states expressed through simple verbs and the language of fact. In the poem, creatures in the aquarium are being investigated to discover the impact of a warming climate on marine life; they are "probed for the upper/temperature threshold/of their survivability"[311] – and are (metaphorically) burning up because of the increase in water temperature. Their condition, the physical fate of humanity

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[307] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.69
[308] ibid. p.69
[309] ibid. p.69
[310] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.16
[311] ibid. p.45

and the emotional state of poet and scientists are bound together: "we grow and grow/giants of the plateau/our hearts exploding."[312]

In 'Salinometer', terms and definitions, rather than conditions, are set next to a pared down poetic vocabulary; language, like the people in the poem, is in conversation:

> He tells me *Seism* means shock,
> that an elastic medium
> can be subjected to two types of deformation:
> compression and shear.
>
> The language of ice
> is one of rent and quiver.
> I tell him about other kinds
> of stress and flux: *Ludus, Storge, Mania,*
> *Pragma, Eros.* He tells me
> *P* waves and *S* waves are determined
> by elastic parameters.[313]

By setting the languages next to one another, but identified as separate (compression and "other kinds of stress") both gain an emotional resonance amplified in the dialogic structure of the poem and its setting. The speaker is "technically submerged," taking measurements "from a device that looks like/ an ice cream machine". The factual "device" is followed by its poetic shadow. We recognise that the different forces at work in the natural world - seismic, climatic, magnetic, for example – have an emotional correlative, as in 'Magnetic Poles' where the "wandering magnetism./The spike and guile of him"[314] is attraction described in terms of the 'spike" of a graph. The whole volume references a male 'other', and this relationship, as well as the writer's relationship with her past, tracks a parallel path through ice types (brash ice, pressure ice, neve, stamukha and rotten ice) and their definitions. The movement towards winter, where the winter "darkness" is both itself and the dark night of the soul ends the poem 'Endurance' and the Antarctic section of the volume:

> We used to know so many things.
> Now we are strung on

[312] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep. p.45
[313] ibid. p.42
[314] ibid. p.38

one thin rule:

not far now
until the darkness.[315]

The particular quality of this Antarctic winter is overwhelming, without the pleasurable aspects of sublime experience; knowledge is reduced to "one thin rule." Both the ship Endurance, and the emotional quality of endurance, is required to take the travelers home. The name of the ship is full of resonances - of Shackleton's ship which was crushed in the ice, heroic stories - reminding us that, like the Antarctic imaginary, language can become rich with past and present meanings and associations - factual, experiential, scientific, poetic - which, with careful placing, can be sounded out.

Both Jean McNeil and Elizabeth Bradfield employ ice terms and their definitions as part of their work, making evident the inherently poetic qualities of words from texts which are intended for practical use. They evoke a verbal icescape within and through which there exists an emotional landscape of memory and desire; here, too, it could be said that a combination of the prosaic depersonalised descriptions, from *The American Practical Navigator* and *A Glossary of Ice Terms*, with personal meditations is another instance of the empirical sublime as a style which evokes something of the particular experience of travelling through the Antarctic ice. Bradfield's 'Notes on Ice in *Bowditch'* are arranged alphabetically, to suggest regularity and order, stasis and stability further compounded by words in the initial definitions such as "solid", "anchor", "atlas", "boundary."[316] This ice is chartable, with boundaries. However, the definition for "ice-blink" in this first section alerts us to something different: "ice-blink" is a "whitish glare on low clouds above an accumulation of distant ice."[317] Boundaries dissolve, materially and in language. The term itself is suggestive of a bodily

[315] McNeil, J. (2011) *Night Orders: Poems from Antarctica and the Arctic. Sheffield:* Smith/Doorstep.p.60
[316] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.8
[317] ibid. p.8

response in the face of too much brightness, and heralds a state of "Endless metaphor."[318] Experienced navigators examine the sky for signs of ice and open water; travelling through this landscape is a kind of reading. Bradfield's choice of the word "Notes" for these meditations on ice is suggestive of study, incompleteness, the compilation of evidence from a particular experiential point of view.

This is the direction of thought pursued in the second of the 'Notes on Ice' where ice is conceived in terms of relationship and measurement, between places, kinds of ice and people:

> ***ice canopy.*** *From the point of view of the submariner.*
> Always a point of view. But try and rig this up for my birthday also, over the ice cake, sky filtering through, refracting. And indicating by its very presence we must be drowning.[319]

The individual is the starting point of the measurement, but the measurement is taking place in an unstable medium, ice and water and sky, time and desire. Again, the sound patterns connect, stability within instability: "view" with "view" and "through," and the repetition of the present participles make the time of the poet's thought chime with the reader's reading.[320] The third section recognises the limitation of numbers:

> ***ice cover.*** *The ratio, expressed in tenths, of the amount of ice to the total area of sea surface in a defined area.*
> Chill blanket. Breaking at the sea's restless turning which is not a ratio or an algorhythm. Or, if it is, is too complicated for us to explain with anything as whole as numbers. Nights, one leg always comes bare when you turn. Nights without you, the bed is cold.[321]

What can be measured is set next to what can't: the ice against "the sea's restless turning". The passage modulates from definition to metaphor ("chill blanket") which poses the sea as both the bed and the people in it, and the ice their blanket. People in general ("us") become

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[318] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.8
[319] ibid. p.25
[320] I found I made frequent use of the present participle in my own work in an attempt to evoke the quality of time experienced in an ice landscape
[321] Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.35

particular people in the bed; the final word "cold" is both a physical and an emotional temperature.

Further reflections on "ice needle" and "ice patch" in the fourth section are about mending: clothing ("Darn my shirts with this, please."[322]), the body ("I want cold to stitch me."[323]), a relationship ("Let the argument cool"[324]) and the planet ("Its mending is all about a falling off of heat."[325]) The effect of such writing, rooted in observations of the natural world, specifically ice, gives rise to a sense of human relationship embedded in it, to an "affective geography."[326] Tom Bristow's study *The Anthropocene Lyric* comments specifically on the work of John Burnside, Alice Oswald and John Kinsella, but his description of an Anthropocene lyric "as an embodied view of life conceived afresh to redress human-nature relations within a series of emotional contours, intellectual dispositions and broad environmental contexts"[327] is particularly apposite for McNeil and Bradfield's writing. The empirical sublime, as a form of writing which acknowledges the scientific and embodies a disrupted chronology which breaches the boundaries between the perception of self and the environment, thus enabling a fresh relationship, achieves precisely what Emily Brady argued is possible - "a material experience of the world that resists human appropriation"[328] - in her defence of the sublime as an aesthetic category. Whilst knowledge and relationship becomes mixed with the ice which is the subject of their poems, ice retains its distance, its otherness and, in McNeil's work in particular, its spiritual mystery.

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322 Bradfield, E. (2010) *Approaching Ice.* New York, NY: Persea Books. p.71
323 ibid. p.71
324 ibid. p.71
325 ibid. p.71
326 Bristow, T. (2015) *The Anthropocene Lyric: An Affective Geography of Poetry, Person, Place.* Basingstoke: Palgrave Macmillan doi: 10.1057/9781137364753.0004.
327 ibid p.7
328 Brady, E. (2013). *The Sublime in Modern Philosophy : Aesthetics, Ethics, and Nature*. Cambridge: Cambridge University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=592740&authtype=sso&custid=s8993828&site=eds-live&scope=site p.195

'Five-Year Checkup, 2017' is one of the last haibun in *Towards Antarctica* and in it the problematic ethics of writing and travel in Antarctica are explored in the context of global warming: "We gawp at tabular bergs, awed, unsure if it's ok to find them beautiful."[329] The sublime is referenced in "awed," modified by the colloquial register, the contractions and the uncertainty over whether aesthetic appreciation is "ok." There is more than one voice: italicised people ask the writer whether she has noticed the effects of climate change since her visit five years previously. "*Is it different? Do you notice? Do you see?*"[330] She thinks they are asking about her failure to notice: "Really they're asking, *Have I missed it?* I don't know."[331] Her observational judgement is uncertain, relative, dependent on her own eyes, and the observation of the inter-relationships of the non-human animals and the environment around her: "More humpbacks maybe because less ice and thus the minkes elsewhere. More fur seals and, thanks to fewer rats, more pipits." The vast catastrophe, the hyperobject that is global warming, is too big to see at once, and the human body an insufficient instrument to measure it.

> The big picture? We chug along. I'm no gauge, my stick too short to measure true. But I've seen the colourful maps. Why do you need me to say it? It's red where we sail. I don't know if our presence is benign.[332]

The sublime experience as it is recorded in this text is a long way removed from a man standing in reverential, fearful awe in front of gigantic blocks of ice. The environment is not a background; the observer is implicated in it, humbled out of certainty by its scale, and the potential catastrophe it represents. The journey *Towards Antarctica* as it is written is similarly distant from the powerful oration of Demosthenes before a mass of exhausted soldiers; the response called for requires empathy and engagement, but makes no claims for the privileged

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329 Bradfield, E. (2019) *Toward Antarctica: An Exploration.* Pasadena, California: Boreal Books. p.141
330 ibid. p.141
331 ibid. p.141
332 ibid. p.141

position of the narrator or the writer's voice, for the reader in relation to the text, or for one genre over the other. Bradfield was inspired by the writing of Matsuo Basho who wanted to find a form for his perception of eternity in nature and the ephemeral world:

> Basho's collections of travel-inspired *haibun* are interspersed with calligraphic paintings, and the dynamic between image, prose and poem create deeper, more mysterious rendering of his experience. I took the photographs included in this book as I usually do when working: as documentation, with an eye toward use in illustrated lectures. Upon returning home, though, I realized that some of them revealed something else. Something emotional. A visual counterbalance to the classic, heroic images of that kept-wild place.[333]

Note how the wildness referred to is "kept wild;" it is impossible to remove the human from the Anthropocene. However, the human perspective can be made less dominant. The image before 'Five-Year Checkup, 2017' shows a manicured hand with a camera in the corner of a frame otherwise dedicated to a colony of black-back gulls and a foam-streaked sea. Other images pursue the visual echoes of ice and rock, water and sea. A photograph can take notice, bear witness. There is a proliferation of scales, a recognition of the human gaze set in the particular moment in geological time. Textually, the form requires us to respond to the dissolution of generic boundaries between image, prose and poem with a different way of seeing the world around us as a result of reading the poems. In the 'Epilogue: A Letter Home', Bradfield addresses her home nation, and by extension other readers, writing of a book by Thies Matzen and Kicki Ericson about the two years they spent sailing around South Georgia in a little wooden sailboat:

> For them, the vast, raw place was made of intimate moments. Tenderness, even. America, I want all of us to know wild places in this way.[334]

It is expensive to go to Antarctica, and comparatively few people make the journey; indeed there is an argument that we should be discouraged from going. Bradfield herself is unsure

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[333] Bradfield, E. (2019) *Toward Antarctica: An Exploration.* Pasadena, California: Boreal Books. p.14
[334] ibid. p.147

whether she will return. The way we can know Antarctica, if we do not go there, is through writing about the place, accounts of experiences of those who have been there, as well, of course, as the visual and audible record – the photographs and films which document it. In the next chapter, I will look at a different kind of writing which creates a sense of Antarctica as a place, the base diaries of Halley research station, and suggests that, once again, number and measure operate to evoke the sublime. That empirical sublime, as we have seen from the poetry of Jean McNeil and Elizabeth Bradfield, can arise from a sensory appreciation and evaluation of the natural world, the language of measure merging literal and metaphorical, providing orientation within, and gestures towards, the vast Antarctic icescape beyond.

Chapter 4: Antarctic Building and Dwelling

The Poetics of the "Wide, White Page"[335]

There is no history of continuous habitation in Antarctica, and human presence there is comparatively recent, and mostly seasonal. As a result there is no traditional mythology, no family histories rooted in the contours of the landscape, and no native languages which express an embodied understanding of the environment. However, since the first European sightings of the continent, there is a particular and developing Antarctic heritage associated with exploration, sealing, whaling and science, and though there are no towns or villages supporting a multi-generational population as elsewhere in the world, there are permanent settlements for people who work there. By looking at the way in which people have recorded their impressions of Antarctica, the writer William Fox believes we can discover something fundamental about how human beings develop a sense of place. Following the movement from mapping external to interior landscapes described in Chapter 1, I would like to consider the construction of the first Halley research station on the Brunt Ice Shelf in Antarctica, built in advance of the International Geophysical Year in 1957, and demonstrate how written records from the base diaries of the time not only provide readers with an opportunity to witness the process by which place is created, but also offer an insight into the poetics of writing that experience. In the last chapter we saw how temporal markers in Antarctic texts can signpost the sublime icescape beyond the page. A reading of the base diaries show that other forms of measure perform a similar function. The syntactic features of the diary form, or of field notes, evoke the active rhythms of the scientists' lives, and inform poetry or writing about the continent which engages with that experience.

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[335] The title of Bill Manhire's anthology of Antarctic writing:
Manhire, B. (ed.). (2004) *The Wide White Page*. Wellington: Victoria University Press.

It is possible to identify three key strands of place theory: descriptive, social constructivist and phenomenological.[336] The first of these concentrates on the distinctiveness of smaller locations such as towns and regions. A study of Antarctica informed by this approach might focus on different topographical features, distinctive terrains and climate, the particular organisation and history of Antarctic bases. A social constructivist analysis, however, would be more concerned with the wider social processes – such as the structures of capitalism, post-colonialism or feminism – and how they contribute to our understanding of the unique attributes of a place. It might concentrate on science as a colonialist enterprise or exploration as a "masculinist mode[s] of rationality"[337] when writing about Antarctica. The third approach is concerned less with the material particularity of a geographical location and more with the concept of place itself. The phenomenological reading of place can be traced back to Aristotle's belief that place is the ground of existence: in order for something to *be,* it has to have *somewhere* to be.[338] Place as an important philosophical concept in itself, integral to human ways of being in the world, is explored by Heidegger in *Building, Dwelling, Thinking.* "To be a human being means to be on earth as a mortal," wrote Heidegger. "It means to dwell."[339] The sequence of gerunds in the title gestures to the interdependence of the three actions, and the way in which physical making is threaded through with abstract thought. A dwelling is not just a shelter, it is created out of the activities we do there: dwelling is place *constructed*: physically, emotionally, imaginatively and spiritually. It is this embodied idea of place, described by geographer David Seaman, as a "body ballet" of actions "performed on a

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[336] Cresswell, T. (2015) *Place: An Introduction.* Chichester: John Wiley and Sons Ltd.

[337] Bloom, L. (1993). *Gender on Ice: American Ideologies of Polar Expeditions*. Minneapolis, London: Universityof Minnesota Press. p.8

[338] Cresswell, T. (2015) *Place: An Introduction.* Chichester: John Wiley and Sons Ltd. p.26

[339] Heidegger, M. (1971). *Poetry, Language, Thought* (A. Hofstadter, Trans.).New York: Harper Colophon Books. Retrieved from http://www.wwf.gr/images/pdfs/pe/katoikein/Filosofia_Building%20Dwelling%20Thinking.pdf. p.2

daily basis through people living their everyday life"[340] which informs the analysis of the base journals in this chapter. The ground, the physical location, of such performances, becomes a kind of theatre of transformation where place is created anew on an individual, social and daily basis.[341] It is in the nexus of attachments and connections; activities and experiences; ways of seeing, being and recording, that the equation of text and place - which is so eloquently expressed by the buried bases at Halley - can be found. Place is something which can be read.

(i) Reading the "windscoop": Halley base journals, scientific measure and the writing of place

Reading is grounded in a physical text but is an activity of the mind (itself both organic and an idea). In his comparative anthropology of the line, Tim Ingold returns repeatedly to different ways of reading both the landscape, and the printed page. He cites medieval commentators who compared reading to wayfaring, and the surface of the page to an inhabited landscape. "The reader, in short, would *inhabit* the world of the page, proceeding from word to word as the storyteller proceeds from topic to topic, or the traveller from place to place."[342] The language and theory of reading might have undergone a multitude of changes since the middle ages, but the essential parallel between "the world of the page" and the "inhabited text" is illustrated in the photograph of Halley. [Fig. 10] It is a difficult scene to read: parts of the sky have the same texture as the snow, and the areas of bright white on the horizon are icebergs, thrown above the sea line as a result of an optical illusion. There are lines in the snow, and objects positioned in an arrangement which appears random without the code which will unlock the connections between them.

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[340] Cresswell, T. (2015) *Place: An Introduction.* Chichester: John Wiley and Sons Ltd. p.64

[341] Nigel Thrift regards place as something "understood as an embodied relationship with the world…constructed by people doing things and in this sense never 'finished' but…constantly performed." Cresswell, T. (2015) *Place: An Introduction.* Chichester: John Wiley and Sons Ltd. p.69

[342] Ingold, T. (2016) *Lines: A Brief History.* Abingdon: Routledge. p.94

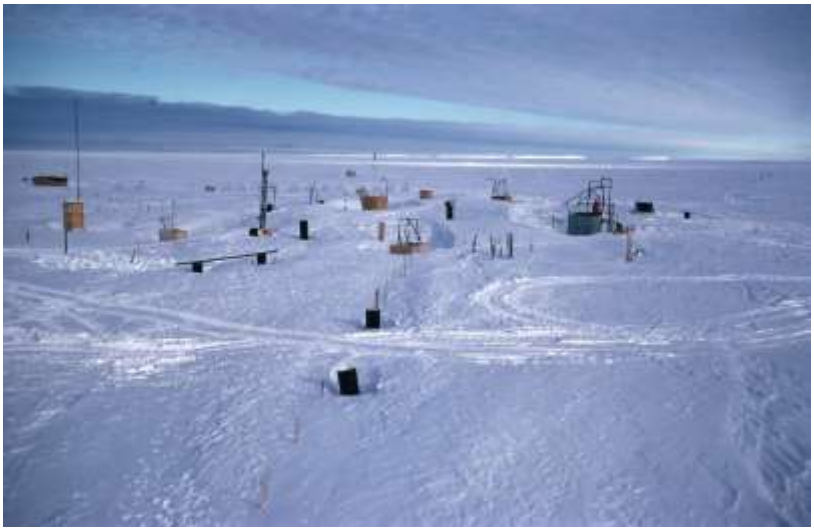

Figure 10: Surface installations at 1956 hut (1969)[343]

A closer look shows a man wearing red apparently standing in a crate. He is located on a threshold we do not understand as such until we know his context: he is a scientist, and the scattered items on the snow are all related to the scientific base below. This base began life as a single hut above ground in 1956; it was eventually buried and an entrance was made in the roof, reached by a tunnel reinforced by stacked wooden crates, built and lengthened as the snow accumulated.

In the second picture of Halley Bay from 1970, [Fig 11] the development of living quarters, laboratories and storehouses can be seen under the snow. The first photograph shows a text on the surface (entrance hatches, storage markers, aerials) connected and partially explained by the invisible subtext (living rooms, laboratories, garages etc.) in the second.

[343] Reproduced by kind permission of the British Antarctic Survey Archives Service. Archive reference: AD6/19/3/C/Z17

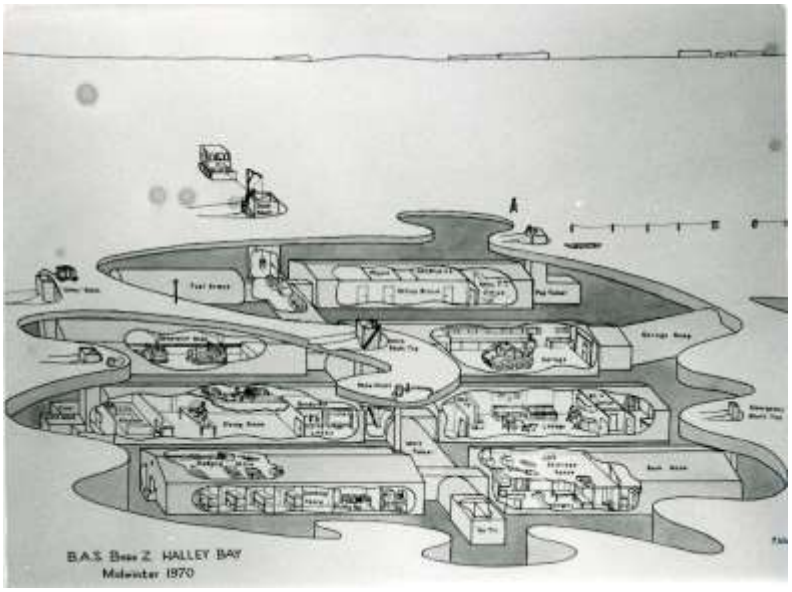

Figure 11: Halley Bay, Midwinter 1970[344]

The move under the surface is wittily referenced by the addition at a later date of a London underground symbol on the entrance hatch. Comparisons between the blank page and the white snow are almost a critical commonplace,[345] but this instance of placemaking and reading is worth exploring for another reason. The snow creates a particular kind of surface for its text: mobile, permeable, on which the marks of human activity and natural forces are made and erased. Underground at Halley is not so much under-the-ground as immersed-in-deep-surface, a physical manifestation of ambience[346] such that prepositional differences are simultaneously dissolved and maintained; the hut is on/within/above/below the 'surface'. The snow which causes the wood to buckle in the picture of the Halley base hut below could

[344] Reproduced by kind permission of the British Antarctic Survey Archives Service. Archive reference: AD6/2Z/1971a

[345] From "the real, unabstract snow" of 'Malcolm Mooney's Land (Graham, W.S. (2005) *New Collected Poems*. M. Francis (Ed.). London: Faber and Faber)to Bill Manhire's anthology of Antarctic writing entitled "the wide white page." Manhire, B. (ed.). (2004) *The Wide White Page*. Wellington: Victoria University Press).

[346] Ambience is defined by Timothy Morton as "the surrounding atmosphere, more or less palpable, yet ethereal and subtle." [Morton, T. (2009) *Ecology Without Nature: Rethinking Environmental Aesthetics*. Cambridge, Massachusetts, and London, England: Harvard University Press. p. 34]

be described as physical context; its deep surface not only holds objects which can be compared to words on a page, it physically impacts on those objects. It is transformative. Human activity takes place within a real and a symbolic medium; the pressures on the building echo pressures on the men. Within the white space of a page of poetry resonates a similarly transformative "whiteness" which impacts on the written language of the text.

Figure 12: Interior Base Z (Halley) 1966[347]

Snow modifies the external appearance of the hut (making it disappear) as well as its internal structure; the buckling of the wood inside requires an active response from the men in order to prevent the collapse of the building. The entry for 27th February 1959 reads, "Wall between gable end and first truss being forced in by the ice – this will have to be chipped out."[348] There is a continuous adaptation – accommodation, even – of their hut and ways of being in the environment which accords with Heidegger's ideas about building: "the activities of cultivation and construction,"[349] which inhere in dwelling ("the manner in which we humans

[347] Reproduced by kind permission of the British Antarctic Survey Archives Service. Archive reference: AD6/19/3/C/Z15

[348] Base Diary Halley Bay 1959; British Antarctic Survey Archive Reference AD6/2HB/1959/B [59234] p.7

[349] Heidegger, M. (1971). *Poetry, Language, Thought* (A. Hofstadter, Trans.).New York: Harper Colophon Books. Retrieved from

are on the earth."[350]) Although the Antarctic hut, packaged up in parts before being built in an environment entirely hostile to human habitation, appears unlike the farmhouse in the Black Forest which Heidegger cites as an ideal form of dwelling, the hut is positioned, like the farmhouse, after a careful reading of environmental conditions. The General Report for Halley in 1956 states:

> By observing the sastrugi it appeared that the prevailing wind was ENE-WSW and so I oriented the hut so that a corner was straight into wind…an endeavour to delay the complete burial of the hut in drift.[351]

The men performed on a daily basis the repeated actions of place making in physical terms (building, repairing, maintenance) and also in terms of living in a meaningful relationship with the environment (their reason for being there was to study it closely). The base journals record the building of the hut in all its stages; they itemise various attempts to dig out doors and windows as the snow accumulated, or to dig tunnels and create different ways into the base hut, or to dig out, defrost and repair the tractors; the weather is noted, birds observed; the relative success or otherwise of contact made with the outside world via radio is set down. Distances between various points are noted; activities of all sorts –from cooking dinner to blowing penguins' eggs – are put on record. The hut is more than a material object; it has a profound *emotional* resonance. Without its shelter, the men would not survive, and the diaries are documents which preserve, and make present, both building and dwelling.

A narrative critique of ways of living and adapting to Antarctic ice and snow, based on diaries and memoirs, and which demonstrates the interconnectedness of reading the

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http://www.wwf.gr/images/pdfs/pe/katoikein/Filosofia_Building%20Dwelling%20Thinking.pdf p.2

[350] ibid p.2

[351] The Royal Society's Antarctic IGY expedition at Halley Bay, 7530S/2636W, from January to December 1956. General Report.
British Antarctic Survey Archive Reference : AD6/2HB/1956/A p.3

environment, producing a text (both 'built' and written) and reading that text, can be seen in John Wylie's essay 'Becoming Icy,' in which the expeditions of Scott and Amundsen are contrasted through a creative-critical analysis of key moments in their journeys. Wylie rejects the notion of Antarctica as a "sublime background," focussing not so much on the material qualities of the Antarctic landscape as on the men's different "styles of occupying and traversing" it, embodied in their use of food and clothing, and ways of travelling.[352] Wylie's use of the word "style" reflects an approach that equates living within, and travelling through, a landscape to something which can be read (we think again, perhaps, of lines in the snow). Amundsen, he argues, stayed alive as a result of *"becoming-icy."*[353] Unlike Scott, who persisted in treating the Antarctic as a background or white page on which he could inscribe certain deeply held masculine structures of Englishness, Amundsen had a more reciprocal relationship with snow and ice. He allowed the environment to transform him; Scott resisted its relentless iciness as though it was a moral challenge. Amundsen applied his practical experience of Inuit ways of living and moving through the icescape to the world into which he had journeyed; Scott held to a view of Britishness and empire and maintained a strict naval hierarchy in a hut prefabricated in England.

> each evening before the latest lecture on terrestrial magnetism, or ice physics, or the constitution of matter, Scott and his men are obliged to spend time in the cold and darkness clearing away the incessant ice. To the east, Amundsen's base is quickly completely submerged. But he always wants to move with the ice, to use it, to mould its patterns with his own. He sees the futility in constant shovelling. He digs into the ice, carving a series of caves and tunnels, shaping ice-spaces, *becoming-icy.*[354]

The actions of placemaking are equated with being and becoming; they constitute a process which, in an Antarctic context, is bound up with survival. That Amundsen survives is the

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[352] Wylie, J. (2002). Becoming-icy: Scott and Amundsen's South Polar voyages, 1910–1913. *Cultural Geographies*, *9*(3), 249–265. https://doi.org/10.1191/1474474002eu247oa p.249

[353] ibid p.257

[354] ibid p.257

result of allowing himself to be shaped by, as well as shaping, the surrounding snow. Wylie's analysis makes of snow something active (like the writer) and something to be shaped (like the white page); the behaviours arising from responses to it are something which can be read, and reshaped into narrative.

We can read the construction of Halley in a similar way. Like Amundsen's base, it is quickly submerged by snow, which, like ice, was resisted but also incorporated into the fabric of the building, as well as being melted for water. Snow was an element which sustained as well as housed them. On 2nd September 1959, for example, the writer "filled hole with ice from the south door."[355] Unlike the men of Scott and Amundsen's expeditions, however, the scientists at Halley were largely confined to base. A psychological report written by Lieutenant G.R Lush, the base leader, and the doctor, J R Norman, at Halley in 1959 comments on the difference between the earlier expeditions and life on a scientific base.

> Previous writers have dealt in the main with the question of mobile expeditions, and considered the conditions encountered while moving constantly, or wintering in preparation for a journey, as soon as the sun returns. The problem of a static base in the depths of Antarctica where the main part of the programme, though intense, is very routine, are largely based on close personal contact and the persistent monotonous routine, which are established when the ship arrives and continue till it returns.[356]

Like Amundsen and his men, the scientists living at Halley adapted to the environment; like Scott's men, certain routines and habits were observed: naval routine, toasts to the Queen, the food of British exploration. The base diary for Tuesday February 21st 1956 records the first "proper evening meal – soup, steak pie and tinned fruit. A change to pemmican."[357] Because

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[355] Base Diary Halley Bay 1959; British Antarctic Survey Archive Reference AD6/2HB/1959/B [59234] p.36

[356] Lush, Lieutenant G.R. (M.B.E., R.N. Base Leader, Halley Bay 1959) & Norman, J.R. (M.B., Ch.B. Medical Officer, Halley Bay 1959) 'The Psychology and Administration of an Antarctic Base.' Archive Ref. AD6/2Z/1959/M3 p.1

[357] Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.4

of the closeness of being and surviving in this context, the place created by these actions becomes a kind of objective correlative for the compound of emotions invested in human survival; the language which records it is transformed in the mind of the reader from the instrumental to the poetic. The Antarctic hut for the reader of the diaries is a "house of language," language itself confirmed as "the house being."[358] David Seamon remarks that it is "through participating in these daily performances that we get to know a place and feel part of it."[359] As readers, we cannot participate *physically* in the daily life of men making their place in Antarctica, but we can *read* about them doing it. The entry for 21st September 1956 mentions a film taken of some penguins, and the only expression of emotion in the entry is in the phrase "we hope that the hut will show in the background."[360] The language is observational, stripped bare, but in the background of the page between and around the printed words is the feeling which gave rise to the choice to record these things. The reader tunes into this 'space' and responds emotively, without language which signposts it explicitly, to understand that the hut, and the picture which might show it, is a visual record of hard work, resilience and adaptability, for the men and, perhaps, for those who are not there to see it.

An extract from Wednesday 13th February 1957 suggests a snowy equivalent to the physical space into which we reach when reading. The environment on which the snow falls, and against which the wind blows, shapes the drift and creates a "windscoop" between snowdrift and platform.

> There are some interesting drift patterns already to be seen. Along the Dexion platform which is carrying the bulk of our outside stores, drift is accumulating on the windward side, although it remains two to three feet away from the dexion. The higher the pile of stores on the platform, the higher the drift, and opposite the radio-sonde boxes, which are perhaps fifteen feet from ground

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358 Heidegger, M. (1982). *On the Way to Language.* (P.D. Hertz, Trans.). New York: Harper and Row. (Original work published 1959) Retrieved from https://epdf.pub/on-the-way-to-languageae871a0b6a49e989003a2c612fa7e2b947002.html p.135

359 Cresswell, T. (2015) *Place: An Introduction.* Chichester: John Wiley and Sons Ltd.p.64

360 Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.21

> level, the drift is already as high as on the platform. A windscoop remains, however, between drift and platform, the latter remaining clear right down to ground level, while on the leeward side, there is no snow accumulation.[361]

Immediately prior to this extract was a note about high winds during the night and the non-arrival of a helicopter, followed by mention of an ionospheric blackout making radio contact problematic. The weather was noted as having improved during the day, but the installation of a thermometer and a hair hygrograph, necessitating ten millibars of vapour pressure, created a new set of problems: "considerable trials and experiments will have to be conducted". The language of observation is functional, but in the space between the lines we understand difficulty and isolation; the methodological use of the word 'trial' resonates with its emotional reading, a useful reminder that language is not easily separated into instrumental and poetic use.

A number of different ideas about place, and the text which records it, are implicit in my father's description of his arrival at Halley Bay in 1959; it is a gaze into the deep surface described earlier.

> Close to you are several chimneys just sticking out through the snow and many feet below these is an enormous hut some 120ft long. This is home. There is no front door as on other bases, just a hatch cover flush with the snow. You slide back the hatch and peer into what looks like a bottomless pit. All is dark. "Take off your goggles and go down," someone will say.
>
> At the bottom of an almost vertical ladder is a front door after all, just as on other bases.[362]

A place has been created underground which is material and specific, but also something more. Object becomes symbol, bypassing deliberate metaphor. It is "home." The future reader (you) is invited to stand with the writer in the present tense of his memory. Writing,

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[361] Base Diary Halley Bay 1957; British Antarctic Survey Archive Reference AD6/2HB/1957/B p.13

[362] Lewis, A.G. (2019) *Years on Ice: Life in Antarctica 1958-1965* (Ed. Lewis, M.I.) ISBN: 9781704809571 p.30

remembering and imagining are bound up with a particular location, and with the state of being itself. The main verb in five out of the seven sentences is "to be." The reader is carefully positioned, as the use of prepositions and distances show: "close," "sticking out," "many feet below," "120 feet long," "back," "into," "off," "down," "at the bottom" (18% of the word count in this description). The other verbs are simple actions, and involve the perception of the writer who is remembering the alien quality of a particular location where 'home' is a hut buried in snow, and giving instructions to the reader in how to imagine it. The instruction to "slide back the hatch and peer" into darkness echo the removal of goggles and descent of the ladder. The journey into understanding is short; the reader is reassured, with the writer, that, despite its apparent difference, Halley is just like other bases, or home in a more universal sense: it has "a front door after all". In memory and in imagination, writer and reader stand in the deep snow before a front door hinged open.

Doors are in their essence metaphorical. Physical objects standing between one place and another, they open into and shut out of.[363] At this point it is useful to return to Tim Ingold's discussion of readers as inhabitants of the page, making the journey from word to word as travellers from place to place: "We have seen that, for the inhabitant, the line of his walking is a way of knowing. Likewise, the line of his writing is, for him, a way of remembering."[364] Ingold describes the emergence of the printed text as the end of writing as understood by these commentators. However, I would argue that in the base diaries at Halley the opposite is true. They provide examples of printed text which are absolutely created as "a way of remembering," as we can see from the comment in brackets at the start of the base diary for 1956: "(The first part of this diary was not written until July – August, from a rough

[363] Ref my poem 'Base Z' (Appendix p.239) and Miroslav Holub's 'The Door' in Holub, M. (1990). *Poems: Before and After.* (I. & J. Milner, E. Osers, G.Theiner, Trans.). Newcastle: Bloodaxe. p.64

[364] Ingold, T. (2016) *Lines: A Brief History.* Abingdon: Routledge. p.94

diary of my own that I kept during this period.)"[365] The typewritten entries are not written to evoke a place for an absent reader in the way of fiction: they provide information from which later reports will be compiled, and record the incidental details of daily life. However, this record of activities, measurements and observations also creates an accidental script from which the performance of place can be experienced by the reader. The transformational context (or deep surface) of the Antarctic snowscape is evoked partly by the way in which the instrumental language of recording and measuring, whilst remaining entirely matter of fact, also functions as the symbolic language of poetry.

Snow transforms the physical landscape; by naming things, and making them, and living in them, the men perform other acts of transformation. One of the crates used for the transportation of tractors to Antarctica is repurposed as 'Ma Watson's Café'. It develops a character of its own and is missed when the hut is completed and the men can eat their meals there.[366] Other material and linguistic changes of use are evident in the following entry from January 23rd 1956:

> Drifting from the ENE…Doug has dug an al fresco lavatory to the SW of us. Three planks form the seat and a brilliantly coloured advertisement (for Slumberland matresses) on cardboard forms the lid. The view is very simple, being just the snow and sky, and makes for deep contemplative thought (unless its [sic] drifting.[367]

Here the word "deep" is used metaphorically, but it is an instance of the way in which the metaphorical and the literal have the potential to merge in an Antarctic context; depth could become all too real if the person remained on the improvised seat whilst it snowed (though there is no incentive to do so, once the view is removed and the conditions deteriorate.)

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[365] Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.2
[366] ibid. February 23rd. p.3
[367] ibid. January 23rd. p.2

The most evident intertwining of the environment and language can be seen in the verbs employed by the diary writers. They convey a powerful sense of the nature of base life, and the conditions which govern it, to the reader. Two pages from 30th August to 12th September 1959 contain the following verbs:

> failed to start … refitted (x2) … prepared … cleaned … extended (x3) … took up … can see … working … filled … completed … building … had to do … cleared … manhauled … cleared out … prepared to dig out … dug out … re-sited … commenced laying out … good progress made … cut away … completed … commenced … found … salvaging … cleaning routine completed … cold spell still persisting … wind getting up.[368]

Much of the rhythm of daily life is contained in these actions: it is not enough to build - note the present participle – one must continue building, as the environing weather (also in the present participle) is "still persisting". Over time, actions, like the weather, are repeated. "Drifting from the ENE…Still drifting from the ENE…ENE drift."[369] There is a certain dullness to it, both in the living and reading, compounding a sense of "a life already fraught with similarity and monotony."[370] Entrances must be dug out, tunnels extended, equipment maintained and repaired, food located and brought in. The references to direction function like the temporal markers in the midst of the disorienting qualities of Antarctic time – they root the observer within particular spatial coordinates. Activities are all linked to placemaking, both practical and in the sense of dwelling; in its repetitions, it conjures the place into continued being. Look at the following entry from 1956:

> Friday September 21st
>
> Sunny.

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[368] Base Diary Halley Bay 1959; British Antarctic Survey Archive Reference AD6/2HB/1959/B [59234] pp.36-7

[369] Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.2

[370] Lush, Lieutenant G.R. (M.B.E., R.N. Base Leader, Halley Bay 1959) & Norman, J.R. (M.B., Ch.B. Medical Officer, Halley Bay 1959) 'The Psychology and Administration of an Antarctic Base.' Archive Ref. AD6/2Z/1959/M3 p.6

> Robin got in some fuel.
> Ken got in some fuel oil.
> John some Ciment Fondu.
> During the afternoon 35 Emperors came to within ¼ mile of the hut; from Halley Bay I think, but anyway they went back there. I got Gus to take a film of them and we hope the hut will show in the background. There was an obvious leader; and when they stopped some stood up and did the egg display and walked on their heels.[371]

From our privileged position as readers, we can see penguins and men engaging in patterns of behaviour arising from the place in which they live. Without food and fuel, the men will not survive; food is buried in the snow and can get lost (as evidenced in this entry for May 12th 1956: "I dug again for the second sheep but could not find it. A sad loss."[372]) 'Getting' food and fuel is therefore a marker for continued survival. An earlier entry comments on the upset in the penguin colony following the loss of many chicks after a storm which had removed some of the sea ice on which they were living. It includes the observation that many of the penguins were doing the egg display "as if they couldn't quite believ [sic] that their chicks had gone."[373] The inclusion of the Emperors' 'visit' is a recognition of connection, of different creatures alive in a hostile environment; the mention of the egg dance is both a note in a process of long-term observation and also bears the poignancy carried over (through white space or windscoop) from the earlier entry about the loss of the chicks.

Apart from the work of building and maintenance, the men have scientific jobs to do and these activities impact on the language of the diary, creating a linguistic environment from the language of observation and measurement: compass points, distances, meteorological conditions, changes in the upper atmosphere, and the nature of snow and ice. It is not surprising that the diaries are full of numbers: wind speed, the height of drifts, the distance

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[371] Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.21
[372] ibid.p.10
[373] ibid p.21

between places, the number of birds seen, how many boxes dug out, fuel oil calculations, the angles of a solar arc, radio frequencies and times. There is a rhythm to it; and with no corner shop, and no supplies coming in for months, food - calculated, rationed, controlled - counts.

> Commenced laying out food boxes in new pattern. i.e. in rows one box high with numbers showing. Six inches between rows three inches between boxes.
>
> 96 laid out this afternoon. [374]

Regular night watches and measurements which have to be taken whatever the weather, constitute other repetitions, and contribute to a routine in which both religious observance and military discipline ("Reveille at 0800 has now become a Sunday routine." 27th January 1957) find their echoes in the midst of domestic activity. On Sunday 18th January 1959 there was "No church service today, everyone cleaning," and on Monday August 13th 1956 the men on base "observed today as August bank holiday, it seemed more appropriate when the sun had returned." The return of the sun is profoundly important; its prolonged absence, as noted in the psychological report, has a physical and psychological impact on men living through months of darkness.

> The depressing effect of the absence of the sun is almost unbelievable and has to be experienced to be appreciated. Before winter, three months of darkness does not seem too terrible a prospect, but the eventual longing for the sun towards the end of winter becomes almost intolerable.[375]

The base diary records the way behavioural patterns changed, the elision of days into one entry itself significant:

> <u>Friday July 5th to Thursday July 12th</u>

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[374] Base Diary Halley Bay 1959; British Antarctic Survey Archive Reference AD6/2HB/1959/B [59234] p.37

[375] Lush, Lieutenant G.R. (M.B.E., R.N. Base Leader, Halley Bay 1959) & Norman, J.R. (M.B., Ch.B. Medical Officer, Halley Bay 1959) 'The Psychology and Administration of an Antarctic Base.' Archive Ref. AD6/2Z/1959/M3 p.5

> Mostly calm weather. The perpetual darkness and working inside all the time produces a universal lethargy and breakfast has gradually slid back until we are having it an hour later. I think it better that it should remain so for the time being.[376]

The impact of environmental conditions, here the changing regime of light and darkness, on the men's activity is clear. A loss of bearings is expressed in terms of a change to routine, in the same way celebration of the sun's return is expressed as an alteration to observance. In both the diary entries, the syntax of empirical observation - subject/(simple instrumental) verb/complement - sees an alteration that matches physical changes: we have "seemed" in place of something more certain; "breakfast has gradually slid back," presented as a negative lapse in the men's discipline. The (environmentally appropriate) verb is in the passive form. The change in verb form signals a change in tone – as though it is breakfast not the men which has agency. The men are, in a profound way, unmoored by darkness, subject to a force over which they do not have complete control. Men[377] must be adaptable within themselves as well as within the environment, or else, as the psychological report makes clear, they become "more of a liability to the base than an asset."[378] This constant intertwining of self and environment, the emotional and the impersonal is part of what gives the use of instrumental language its affective power.

Integral to the diary form is the regular chronological succession of day and date, and this feature, too, can lend emotive power to a statement. In the following extract from the 1956 diary, the relief experienced at the sun's return is manifested not only in the different

[376] Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.15

[377] In these days the scientific base was an exclusively male domain.

[378] Lush, Lieutenant G.R. (M.B.E., R.N. Base Leader, Halley Bay 1959) & Norman, J.R. (M.B., Ch.B. Medical Officer, Halley Bay 1959) 'The Psychology and Administration of an Antarctic Base.' Archive Ref. AD6/2Z/1959/M3 p.5

ways in which light is observed (sunlight, sunspots, aurorae) but also in the (very rare) instance of exclamation marks.

> Saturday August 25th
>
> George took down the covers from the kitchen window which have been up during the winter; its surprising how much warmer they make a room. There was then sunlight on the kitchen stove!
>
> Gus showed me two sunspots.
>
> There was a magnificent display of Aurorae, many bands all over the sky and even some red ones. Several of us went out to see it in shirt sleeves and slippers at -40.°F.!
>
> Sunday August 26th.
>
> George has requested that he does his weeks cooking in spite of his hand.[379]

The rhythmic regularity of the underlined day and date also grants a stoicism, or dogged continuance, to George's request, energised by the return of light to their world, to continue with his duty despite the injury to his hand (a possible chip fracture to the thumb metacarpal) sustained the previous week.

In a similar way, the recording of times can take on an emotional inflection. Before the hut is built, the men live in tents, and food is difficult to prepare.

> We are all experiencing the most acute hunger throughout the day. We leave tents at 0700 and return at 1830 – 1930, and sometimes not until 2130. We will open some food crates and Gus will make a stew each day at midday.[380]

[379] Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.19

[380] Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.2

The clipped sound of 'acute' allied with the precise times contribute to our sense of hardship and hunger which is somehow bounded and inescapable.[381]

There is a clear inter-relationship of environment, body and language evident in all these entries; the language it produces creates for the reader a sense of the circumambient world of the writer. Textually, it is the opposite of what Timothy Morton describes as ecomimesis. Morton is writing about literary texts, and comments that the conscious effort of the writer to employ language to cross the gap between writer and reader to help them inhabit the same imaginative space requires the use of more and more figurative language. "The more I try to show you what lies beyond this page, the more of a page I have…"[382] These base journals present us with an ambient poetics of a non-literary sort, which evoke a surrounding context, a language weather and environment, which create a sense of place partly through verbs and the rhythms of measurement and observation, which is not written with the express intention of evoking place. Numbers, measurements and observations jostle alongside actions and the details of domestic life. There is an equalising tone created by the regularity of the sentence structure, and the absence of emotive language; it is not concerned with emotional impact on the reader, but with the recording of information which might be useful. Nonetheless, these rhythms and spaces create a palpable atmosphere - "the amplitude of vibrations"[383] Morton associates with the timbral – in which the background/foreground distinction is undermined. The rhythms and syntax, like the prevailing wind on snow, create a significant "windscoop".

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[381] The men operate on at least two time scales - base time (recorded in the journals) and GMT (which regulates the times for the meteorological observations). The combination of emotional intensity and apparent precision in recorded times is something I tried to employ in *Met Obs.*

[382] Morton, T. (2009) *Ecology Without Nature: Rethinking Environmental Aesthetics.* Cambridge, Massachusetts, and London, England: Harvard University Press. p.30

[383] Morton, T. (2009) *Ecology Without Nature: Rethinking Environmental Aesthetics.* Cambridge, Massachusetts, and London, England: Harvard University Press. p.45

> Got dinghy out from beside the oil dump where it too had become buried, then George, Gus and I lashed it to some davits which George had attached to the met tower.
>
> There was an eclipse of the moon which we did not appreciate very much and during the eclipse we had to use the tractor headlights in ernest.
>
> During the day we could hear the penguins crying very clearly against the wind. [384]

In this extract, the juxtaposition of hard work with darkness and opposing wind makes space for the penguin's cry to inflect the mood. The underlining of 'against' focuses our attention on the word. Placed in the context of the various difficulties thrown up by the weather – the snow which buries, the wind which unmoors, and the eclipse which hides – the penguins' cry does what the men, with their societally conditioned understatement, do not: it rails against the elements. A similar juxtaposition functions in the following extract from November 1956:

> John has constructed two extra bunks in the 2nd bunkroom as requested by Dr. Martin.
>
> On Saturday my first Marigold was out. Our first flower for a long time.
>
> We hear with great pleasure that Uncle Lief is in Tottan.[385]

The brightness of the marigold lifts the mundane work in the bunkroom, as well as colouring the writer's pleasure at the news that the relief ship, Tottan, is captained by the reliable "Uncle Lief."

(ii) Scientific and poetic measure in 'Antarctic Field Notes'

Standing back and surveying the territory of the journals, it is possible to see different aspects of poetic measure in the workings of the prose. The "lyrical possibilities"[386] of language were

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384 Base Diary Halley Bay 1956; British Antarctic Survey Archive Reference AD6/2HB/1956/B [59237] p.11

385 ibid. p.26

386 Manhire, B. (ed.). (2004) *The Wide White Page*. Wellington: Victoria University Press. p.17

identified by Bill Manhire when he chose 'Impressions on the March' for inclusion in *The Wide White Page* over the more famous later entries from Scott's diary. He homed in on the "sort of rhythmic layering and listing…" of the piece he included.

> The small green tent and the great white road.
> The whine of a dog and the neigh of our steeds.
> The driving cloud of powdered snow.
> The crunch of footsteps which break the surface crust.
> The wind-blown furrows.[387]

The syntax is simple; this is a series of notes in which Scott aimed to convey, for his own memory and a future audience,[388] what it was actually like to be on the march, sense impressions centred in the observer, and detailing the surrounding sights and sounds – the environing atmosphere. The words themselves create a soundscape like blown snow: variations on four of the five vowel sounds are set resonating in the first line; the 'i' of 'whine' is carried into 'driving;' there is the alliterative repetition of 'g' and 'c,' the regular print of 'd' and 't;' the assonance of 'cloud' and 'powdered' which merges into the internal rhymes of 'snow'/'windblown' and 'furrows.' The rhythmic regularity of the march is sounded out in the double beat of each line, the second half mirroring the structure of the first, giving each line a forward spring. The intensity of this soundscape works to evoke a sense for the reader of the (sublime) context, giving (along with our knowledge of what happened next) an epic quality to the march. Setting the base diaries against this lyrical extract by Scott underlines their generally prosaic instrumental style, the absence of 'poetry.' However, if we look again at the extract from 21st September 1956, we can see that where space is introduced by setting the

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[387] ibid. p.142

[388] Scott had a clear sense of audience when he was writing as the correction of 'wife' to 'widow' in his final letter makes clear. However, although diaries were personal documents, they were also intended as source material for accounts of expeditions which would be written up when the men returned home.

lines one under the other rather than sequentially, the text not only appears more like a 'poem,' the weather and each action are also given significance by the space around the lines.

> Sunny.
> Robin got in some fuel.
> Ken got in some fuel oil.
> John some Ciment Fondu.

In addition, the sounds of the words are amplified in this space. The dactylic rhythm (as well as the 'o' sound) of "got in some" is repeated, and then echoed in "John some Cim/ent;" there is the alliterative 'f', too, and the partial rhymes of "food"/ "fuel"/ "Fondu." These accidental soundings (as in Scott's extract) - the repetitions, rhythms, sounds and spaces of these texts - function poetically to evoke its ambience,[389] and in so doing, have a transformative effect on the instrumental language which constructs them.

Poems which seek to evoke the extreme living and working environment of Antarctica for a reader therefore need to be attentive to the particular qualities of those prose texts which detail the conditions and routines of life. 'The Ice House' by Anne Michaels and 'The Hut' by Bill Manhire are two poems which demonstrate an understanding of the poetic qualities of such documents. In 'The Ice House,' Michaels shows Kathleen Scott continuing to mourn her husband's absence; her work as sculptor for the team led by Henry Tonks and Harold Gillies echoes her imaginative reconstruction of her husband through memory, and, at night in the studio, in stone.[390] Scott journeyed as far as New Zealand with her husband before he travelled to Antarctica; her references to the continent in the poem are limited to "furthest

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[389] Denise Riley, in her discussion of Jan Mukarovasky, a Czech literary theorist involved in the *Prague Linguistic Circle*, describes the way in which *timbre* can be a poetic component determined by the text itself, and quotes his view of the 'sound' components of language as being "not only a merely sensorily perceptible vehicle of meaning" but also having "a semantic nature themselves." Unpublished paper, 2014.

[390] They were engaged in pioneering plastic surgery rebuilding soldiers' faces after WWI. (Millard, S. (2016) Exposing the Face of War. Retrieved from https://blog.sciencemuseum.org.uk/exposing-the-face-of-war/)

south…further…forsaken places."[391] Instead, what summons the essence of the time and place to which Scott was travelling is a quoted list of supplies: numbers, weights, food, fuel, accommodation and the means of transport:

> Thirty five dogs
> five tons of dog food
> fifteen ponies
> thirty two tons of pony fodder
> three motor sledges
> four hundred and sixty tons of coal
> collapsible huts.[392]

The pathway through Apsley Cherry Garrard's tale of *The Worst Journey in the World*, has similar waymarkers: sledge weights taken from the reckoning made by Bowers, lists of depots and men, as well as extracts from journals and letters, alongside fragments of poems. Recalling or imagining this place is aided by the instrumental record, the affect arising partly from what is unspoken, partly from the way of life the lists evoke, and partly because of their rhythms. The most commonplace language has something essentially poetic about it – set light in this environment where the sublime seeps through porous walls and invests the everyday with the extraordinary.

We are on the threshold again where poetic and functional language operate the same. There is a list of food at the centre of Bill Manhire's poem 'The Hut'. The opening stanza marks the rapid transition from "alien space" to "homeplace"[393] as described by Yi-Fu Tuan in 'Desert and Ice':

> Four doormats domesticate you
> as you enter: step by step
> you leave the ice behind.[394]

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[391] Manhire, B. (ed.). (2004) *The Wide White Page.* Wellington: Victoria University Press. p.169
[392] ibid. p.167
[393] Tuan, Y. (1993). Desert and ice: Ambivalent aesthetics. In S. Kemal & I. Gaskell (Eds.). *Landscape, Natural Beauty and the Arts.* 139-157. doi:10.1017/CBO9780511554605.007 pp.139-40
[394] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.272

Words and objects alike resonate in the invisible "order" which joins them, a chiming signalled by alliteration and half rhyme.

> And inside, there's Edwardian order:
> furniture and food,
> a late-twentieth-century broom.[395]

The language relates to simple actions and things which can be seen, either objects seen by the writer, or in the imagination of the reader (which will include the witty picture of "a poet sweeping the floor."[396]) 'Poetic' expression is left on the doormat – and yet the deliberate specificity summons something abstract: the paradoxical quality of Antarctic time where the Edwardian and the late-twentieth-century coincide. Traces of the vanished Edwardian world can be glimpsed in the punctuation and product names - the "bloater paste", "Moirs Mutton Cutlets" and "the A1 Mulligatawny Soup / (Specially Prepared for Invalids)" - tastes and attitudes which bleed into the space between the time they were transported and the poet's present. The list of preserved food (which has been kept long past its anticipated consumption) does not have a regular poetic metre, but it does have the rhythmic spring of Scott's 'Impressions' and the euphony of accidental alliteration and assonance:

> Minced collops, rump steak,
> cans and cans of cod roe;
> stewed kidneys, Roast Veal,
> Flaked Tapioca, anchovies.[397]

And yet the poet who compiled this list of seen things, has chosen their order: the repetition of "cans," the echo of "collops" and "cod," the longer 'o' vowels linking three of the four lines, 'c' sounded and resonating throughout. The *timbre*[398] is not just determined by the

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395 Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.272
396 ibid. p.272
397 ibid. p272
398 Riley, D. Unpublished paper, 2014

speaking of the poem; it is in the text itself, part of what creates its ambience. In Antarctica, like anywhere else, food is necessary to stay alive, but the difficulty of preparing it, the ferocity of the cold, and the psychological challenges of living in that environment make food emotionally as well as physically important. Food was identified by Lush and Norman as "an important psychological as well as purely physical consideration" and an important means of injecting more variety into "lives already fraught with similarity and monotony."[399] That importance can be heard not only in the inclusion of the foodstuffs in the poem, but also in the relish of the sounded list.

At the end of the poem the reader is reminded once again of the Antarctic context when, recounted in the same measured unornamented language, "Erebus starts to go up"[400] and we are returned to the alien space of the external landscape. This line is reprised in the poem 'Going Outside' where, once again, time in the historic huts is shown as collapsed, and "Erebus starts going up."[401] The 'you' of the poem steps outside "into ancient weather"[402] where a list of objects "boxes & broken glass & rusty nails" stand for something abstract: "courage and hope and indecision."[403] These cross poem echoes, of theme, line and landscape, are another illustration, in geographical terms, of the vast presence of Antarctic topography, and in textual terms, of the way in which the white 'space' of the page is not empty, but resonant.

The poem 'Current' looks at some Antarctic sounds and the subtle transformation of language effected through sound. The first of these is in the title, a pun on current as running stream and that which is happening now. The narrator poet is standing by an expensive

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399 Lush, Lieutenant G.R. (M.B.E., R.N. Base Leader, Halley Bay 1959) & Norman, J.R. (M.B., Ch.B. Medical Officer, Halley Bay 1959) 'The Psychology and Administration of an Antarctic Base.' Archive Ref. AD6/2Z/1959/M3 p.6

400 Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.273

401 ibid. p.273

402 ibid. p.281

403 ibid. p.281

research station experiencing "cold elation" whilst "Bryn was measuring every agitation."[404] There is a space between the two lines, but the rhyme highlights the relationship between "elation" and "agitation."[405] What Bryn is measuring are the vibrations of sound from his position on the Taylor Glacier (radio echo is used to map out the features below the glacier); emotion from the line before inflects "agitation" with mood as well as movement, and in the following line – across another space – we are shown "Brian suspended/ from the lip of the Taylor,"[406] the physical suspension suggesting the suspense of the observers. As he climbs the ice fall (water metamorphosed into "palisades," solidified light, and "organ pipes"[407] which sound to the reader though they are silent in fact), Brian shifts on the rope, his feet in the air. Their similar names draw them together, and the others, who were previously shown watching, share the two men's experience of listening and "walking on air", each "place" transformed into "palace" and resonant with sound.

> Yet even crossing the lake
> we were walking on air,
> walking on water.
>
> Beyond the moat
> lay low chapels of ice:
>
> and each place, each palace,
> did chime and tremble as we passed.[408]

In his notes to *Collected Poems*, Bill Manhire describes all but the first poem in his collection as "spring[ing] from the firsthand experience of having been there."[409] The later poems are deceptively simple, "firsthand experience" in poetry taking much from the form of scientific

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[404] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.265
[405] Jan Mukarovsky, *On Poetic Language,* cit. Denise Riley, unpublished paper, 2014. "Rhyme has a semantic as well as a euphonic and rhythmic function: to reveal hidden possibilities of semantic relations between words."
[406] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.265
[407] ibid. p.266
[408] ibid. p.266
[409] ibid. pp.292-3

field notes of the title. Not quite 'Impressions on the March', the poems nonetheless begin from observations and are full of scientific activity: glaciology, geology, radio-echo, biology. 'Into the Ice Shelf' takes us into a terrain not by describing it (the only reference to the ice shelf is in the title) but through a series of notes, instructions ("Right ten degrees rudder!"[410]) and actions ("Checking zero two two.") which evoke the scientific world of action, observation and measurement. There are at least two disembodied voices in the poem, and the rhythm is of speech – the tone is far from mystic. Nevertheless, the invisible otherness of this environment infiltrates the familiar. The italicised "*Homelight. Quiet light*"[411] and "*Horizon*"[412] bring together the quality of light associated with a feeling about home, and that of the future on the ice shelf ahead; resonance, not description, creates a sense of the environment.

Figure 13: Crate of Lamp Oil, Scott's Hut

"Homelight" refers to one of the objects in Scott's hut, a wooden crate full of lamp oil. [Fig.4] This image, and Manhire's use of it in the poem, highlights another of the ways in which language is essentially metaphoric: an object stamped with a word; the object and the word are both full of resonance.

Deixis is important in the poems, in order, perhaps, to emphasise that the Antarctica of 'Antarctic Field Notes' comes from "firsthand experience." People are often carefully and

[410]Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.261
[411] ibid. p.261
[412] ibid. p.262

specifically located, whether hanging from a glacier, or inside a hut. Sometimes the specificity suggested by "here" is lost in the vastness of

> Antarctica!
> Where a single
> footprint lasts
> a thousand years
>
> and here we are
> with our
> thousand footsteps
> etcetera.[413]

The "etcetera" expresses an impatience with trying to re-present the familiar collapse of scale and time associated with Antarctica, and not always with the traumatic experience which Cherry-Garrard described as having "beggared our language."[414] The second section roots the narrative subject of the poem "here" – in the "pure environment" which is not snow, but kinds of language and stone "*sandstone and dolerite,"*[415] "the granite protocols / and colour-coded receptacles;"[416] the stuff of scientific work. The word "here" recurs frequently as if to stress the empirical nature of the poetic field notes, and "Here" is the pivotal word in 'Blood Falls' which marks the movement from observation and simple language to a more 'poetic' construction, where "a stream /running beneath the ice"[417] becomes "Cold music."[418] 'Here' is where that transformation happens, and 'here' is not just in Antarctica, it is on the page.

The Antarctic environment represented in 'Hoosh', the first poem in the collection, is in some ways less problematic: it "approaches Antarctica through the received frames of science, heroic exploration, and polar tourism."[419] Hoosh is the traditional food eaten by

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413 Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.263
414 Cherry-Garrard, A. (2010). *The Worst Journey in the World.* London: Vintage. (First published 1922). p.304
415 Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.263
416 ibid. p.263
417 Ibid. p.262
418 ibid. p.263
419 ibid. pp.292-3

explorers on manhauling expeditions: a mixture of dried meat, crumbled sledging biscuit and melted snow, heated up and mashed together. The poem's form on the page references both mixture and exploration: each of its six parts is broken into smaller units separated from each other by asterisks, an erosion of boundaries emphasised by the absence of full stops where they might otherwise be expected, and representing on the page what happens in the imagination: fragments of explorer narrative mix with collected facts and impressions garnered from varied reading, and a trip to "a world where/it's even better than being there."[420] (such as Kelly Tarlton's Antarctic Experience in Auckland.) The place is evoked for the reader not through description of landscape, beyond fleeting references to ice and snow - glaciers which "calve and thunder"[421] and a blizzard which "repeats itself/every twelve minutes"[422] - but through a combination of scientific vocabulary - "lenticular", "katabatic", "sastrugi" - fascinating details of Antarctic experience - "the sun setting twice,/icebergs that fly"[423]- the evocation by name of explorers across time - such as Byrd, Drygalski, Oates, Mawson, and their ships, *"Fram, Terra Nova, Pourquoi-pas"*[424] - and the scientist in the present - Emily, who has "gone to Antarctica,"[425] Asgard and Olympus transmogrified into "Butter point, Cape Chocolate,"[426] immortal gods to men frozen at the point of their death and "lost in whatever Emily might find //of sediment and algae."[427] The narratives of different kinds of exploration provide myths for a continent which does not have a history of human habitation; Emily is drilling holes in the ice as the narrator imagines her, whilst at the same time Oates' body is "going deeper and deeper"[428] into the ice and "Scott stares at the Christmas tree."[429]

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[420] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.255
[421] ibid. p.253
[422] ibid. p.254
[423] ibid. p.256
[424] ibid. p.257
[425] ibid. p.253
[426] ibid. p.255
[427] ibid. p.260
[428] ibid. p.260
[429] ibid. p.254

It is the breakdown of boundaries in time and perception familiar from our investigation of the sublime; Scott's words merge with the narrator's - there are no quotation marks in the poem to separate his words from Manhire's. It is not just the "meltwater of whatever was freezing here/a million years before Christ"[430] but "the labels of tins/ *Boiled Beef, Le Lait condense*"[431] which evoke the sublime thrill of disruption to our bodily notions of time. In 'Hoosh', there are two points of consciousness: the poet's, in the library, or "strolling indoors in a world where it's even better than being there"[432] and Emily's. Emily is located by her drill and her science; the Antarctica of the poem is in the mind. It is interesting to note a similar shift which occurs between the first and second volume of Elizabeth Bradfield's poems about Antarctica. "Working in Antarctica felt different,"[433] she wrote, and the rhythms of her work influenced the form of what she was writing.

Manhire's later poems are not so much concerned with the intersection of the past history of the continent with current activity, but they do show us the occasional puzzled glimpse of artists trying to represent scientific activity, or the world in which it takes place. In 'Listen, Nigel,'[434] the poet (referencing Shackleton) declares that he would rather eat dogs than doggerel. Manhire's playfulness is evident in the poem's rhyming and wordplay. However, there is another facet to this comic chiming: comic verse was written by many of the men during heroic age expeditions as entertainment, and poetry was also a source of motivation and inspiration. Apsley Cherry-Garrard recommended the use of a volume of poetry in the field because learning the lines was a good way of keeping going through the tedium and hardship of the march. Elizabeth Leane comments on this at more length in 'The poetry of Antarctic sound and the sound of Antarctic poetry':

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[430] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.253
[431] ibid. p.254
[432] ibid. p.255
[433] Bradfield, E. (2019) *Toward Antarctica: An Exploration.* Pasadena, California: Boreal Books. p.13
[434] Important to note, perhaps, that the message will be *heard* rather than read.

> 'Sledging songs' — motivational verses composed on the march, recounting the challenges of the journey and celebrating its achievements, often put to the tune of a sea-shanty or music-hall song — were particularly important. Their rhyme and rhythm matched the repetitive onward tramp of sledging, and their personal content and well-known melodies gave a homely familiarity to the alien icescape.[435]

Examples of comic rhyme are also sometimes found in later base journals, for example this 'Ode to the Gash Hands' from the Deception Island base journal, November 1972, which shows the unexpected confrontation with domestic tedium the men faced during life on a static base.

> They came to be explorers
> Well that's what people think
> Instead they are washing dishes
> Piled three feet high on a sink.[436]

Manhire produces some doggerel of his own in the poem, 'Goodbye':

> Say goodbye to the penguins,
> say goodbye to Cape Royds;
>
> we're going down to Cape Evans
> and Royds is for the boids.[437]

The inclusion of such pieces (there are also three songs) in 'Antarctic Field Notes' is part of the soundscape, and a means of conveying the sense of the past as continuous with the present which is a feature of individual experience of the continent. Elizabeth Leane's article about Antarctic sound was written with the intention of establishing poetry "as not merely a

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[435] Leane, E. (2015). The Poetry of Antarctic Sound and the Sound of Antarctic Poetry. In Hince, B., & Summerson, R., & Wiesel, A., (Eds.). *Antarctica: Music, Sounds and Cultural Connections.* Retrieved from http://www.jstor.org.stable/j.ctt169wd6t.13

[436] Deception Island Base Diary 1956; British Antarctic Survey Archive Reference AD7/B/1/1962

[437] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.277

way of textually representing the sounds of the Antarctic, but as itself a form of sonic response to the continent."[438] This formal sonic response arises from the rhythms of lived experience which we saw documented in the base diaries and is instrumental in creating a textual ambience and sense of place which echoes the experience of the continent itself.

The section of the poem 'Listen, Nigel' which follows Manhire's preference for dogs than doggerel, explores the difficulty of representing Antarctica. The poem brings together many ideas about language, the use of space and sound in an Antarctic context. Nigel is shown on the ground painting an iconic picture of "a hut in a blizzard, /the wide world of snow."[439] The space which follows is pivotal (marked by the rhyme of "snow" and "no"). Then the narrator realises something about Nigel: "he's trapped on his canvas: / the world's painting him."[440] The snow is both the canvas on which the artist is trapped, and the medium which transforms the artist into canvas – another image, perhaps, of the resonance of the white between words, of the deep surface of transforming snow. This poem is not a series of field notes, but it has adapted the way in which accidental juxtapositions in notes or journals can give rise to a kind of 'found' poetry. The three characters in their situation are presented sequentially, with parts separated by an asterisk (which is incidentally shaped like a snowflake). The sections of the poem are linked by repetitions ("Actually, no"), actions (eating doggerel, regurgitation, a penguin chick) and word echoes (the skua "settles" which reminds us of snow falling) in such a way that (without being explicit) they comment on one another, and on the nature of the environment. Antarctica resists anodyne depiction and conventional metaphor; it insists on the brutal facts: the poet (proved wrong twice) thought the skua wanted

> that patch of regurgitation
> which the fledgeling missed.

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[438] Leane, E. (2015). The Poetry of Antarctic Sound and the Sound of Antarctic Poetry. In Hince, B., & Summerson, R., & Wiesel, A., (Eds.). *Antarctica: Music, Sounds and Cultural Connections.* Retrieved from http://www.jstor.org.stable/j.ctt169wd6t.13 p.119

[439] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.276

[440] ibid. p.276

Actually, no,

it wants the fledgling.[441]

Manhire does not suggest that attempts to represent this environment are pointless; his work instead embraces the empirical in simple language and syntax. Antarctica is not described in terms of its topography, or in complex or 'poetic' language, but through actions, sounds and objects (things, people and creatures). Elements of field notes and journals are employed in the forms of the poems, the rhythms and structures of an active observer's life. The use of space, and the way things sound in that whiteness, evoke an Antarctic context in which the reader can tread both a poetic and a scientific measure[442] on the same page.

The base diaries from Halley do not necessarily provide a model for Manhire's poetry or for Antarctic poetry in general. They were not written as literary documents for an audience beyond those who already had, or were about to gain, some Antarctic experience. They are, however, a direct record of building and sustaining a place (in an environment which resists it) which highlights the parallel between the physical and social environment in which language is written, and the linguistic environment of a page. In the one, the drifting snow provides a deep surface, a transforming context, in which to live and work; in the other, language – its lexis, structure, rhythm, the way in which words are positioned – makes the white page resonant.

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[441] Manhire, B. (2001) *Collected Poems.* Manchester: Carcanet Press. p.276

[442] "It is somewhat remarkable that no trace can be found of any special music to which Measures were danced; this circumstance seems to prove that there was no definite form of dance tune for them." Squire, W.B. (1900). Measure. In *A Dictionary of Music and Musicians* (1900) (Ed. Grove, G.) Retrieved from https://en.wikisource.org/wiki/A_Dictionary_of_Music_and_Musicians/Measure_(dance)

Conclusion: Reading the Planet

This exploration of scientific and poetic measure in Antarctic poetry has engaged with the particular materiality of the continent, and its position as a focal point for climate science and the study of earth systems. Reading the earth, or the weather, requires the application of one kind of measure; the reading and writing of poetry involve the experience and application of another. Just as a study of ice provides insight into the distant history of the earth's climate, and makes possible climate models for the future, the operation of ice illustrates the metaphorical quality and deep time of language. The poetics of 'writing' the continent has to take account of, and represent, its resistant snowscape, its complex temporality, its sublime vastness, its transformations. Such a poetics would be inter-disciplinary, acutely aware of the conditions of the Anthropocene, and would concern itself with representations of place and time which allow the reader to reconsider the human as one part of a more-than-human world.[443]

My research demonstrates that the work of reading the planet (or its non-human inhabitants) in the Antarctic context is bound up with the poetics of place, and can inform the practice and reading of poetry. In Chapter 1, I looked at the way in which binary oppositions are broken down in a world of disorientating (and often extraordinary) optical phenomena, of whiteouts, and temporal disruptions, where the material and the abstract collide. This collapse of the factual, material and metaphorical in representations of the continent is also implicated in the writing about Antarctic birds. In Chapter 2, I explored the ways in which birds figure in

[443] An Antarctic poetics would share many similarities with the Anthropocene poetics characterised by Tom Bristow (*The Anthropocene Lyric*) and David Farrier (*Anthropocene Poetics)*.

Bristow, T. (2015) *The Anthropocene Lyric: An Affective Geography of Poetry, Person, Place*. Basingstoke: Palgrave Macmillan doi: 10.1057/9781137364753.0004.

Farrier, D (2019) *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction.* Minneapolis: University of Minnesota Press.

Antarctic writing as messengers, envoys of the Ice, their symbolic qualities embodied in their material reality. Through them we understand, like the Ancient Mariner, the ways in which human beings are part of a living, breathing planetary system. The collapse of scales involved in this geographic imaginary - from the bird to the planet - evokes the temporal and spatial disruptions of the Anthropocene, and points towards the sublime as a discourse with a peculiarly charged relevance to both Antarctica and the Anthropocene. In Chapter 3, I proposed the term 'empirical sublime' to describe the ways in which the environmental and literary sublime are brought together through scientific and poetic measure in Antarctic poetry. To conclude, in Chapter 4, I returned to the idea of Antarctic place and placemaking, and, through a study of the base diaries which documented the construction of the base at Halley, showed how the work of building and measurement impact on the linguistic world of the page. Both Bristow's exploration of the ways in which people create and inhabit place, and how this is reflected in poetry, as well as his questioning of "where (or whether) borders or divisions exist between mind and body, body and world, human and other, space and place,"[444] and Farrier's presentation of "storied"[445] matter, and the peculiarly wrought and fraught intimacies of the Anthropocene,"[446] is relevant to Antarctic writing which demonstrates the inter-relationship of human and non-human creatures in the material (and abstract) worlds.

In my critical work, I have shown the power of poetry, from Coleridge to Bradfield, to create a sense of material and imagined Antarctic place, within and outside time, employing aspects of both poetic and scientific measure. As the collections in Barlow's book demonstrate, poetry does not have to deal explicitly with crisis in order to throw light on the

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[444] Bristow, T. (2015) *The Anthropocene Lyric: An Affective Geography of Poetry, Person, Place*. Basingstoke: Palgrave Macmillan doi: 10.1057/9781137364753.0004. p.13

[445] Farrier, D (2019) *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction.* Minneapolis: University of Minnesota Press. p.86

[446] ibid. p.8

Anthropocene. Its "peculiarly wrought (and fraught) intimacies"[447] make us re-value, rather than re-evaluate, the close relationship between the poem and the world, and the importance of placing a de-centred but emotionally attuned human being within a more-than-human environment. The contemporary Antarctic poetry I have studied reveals just such attunement, to the particularities of the physical world and the creatures inhabiting it, which asks us as readers to listen closely, observe carefully, and read – the text and the planet - with attention.

My own Antarctic poetry is the result of a journey in reading and not a response to the Ice itself. It is therefore inevitably tuned to different kinds of Antarctic text: documentary, analytical, scientific and literary. As indicated in my Introduction, the creative-critical process has from the outset been a dialogue. The first sequence of poems sets the meteorologists' work reading the weather against my work as a writer, reading, amongst other texts, their meteorologists' reports. Communication across great distance, interrupted by atmospheric conditions or the passage of time, was (and to a certain extent, still is) a problem of Antarctic existence; this became bound up with my own distance, in space and time, from the men writing the reports. Farrier's description of the way in which the lyric can contain "thick time" is apposite here. The white space of the page operates not just as the deep surface of Antarctic snow on which some kind of place must be created in order to survive, but also as "thick time" and absence; the curator-poet is located on the bottom right of the page in a different environment and time.

The relationship between reader, instrument and medium of communication, and the environment informs both the language and structure of the poems. The different forms of 'Met Obs'– prose poem, a variant of tanka, free verse lyric – are different instruments of communication. The measure they entail is both poetic and scientific. The forms, and

[447] Farrier, D (2019) *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction.* Minneapolis: University of Minnesota Press. p.8

language, are in conversation: meteorological code and metaphor working together, the observations of optical phenomena ultimately changing the shape and mood of the communications from the curator-poet. The drawings of optical phenomena, the photographs, the scanned page and snippets of document, recognise the importance of empirical evidence, of sensory engagement from multiple perspectives, in the context of a wider understanding of the environment, and of the human place within it. They are part of a field of study created at a distance from the material continent. Photographs are stored in the archives alongside base and field reports, letters, memoirs, menus and microscope slides with 'fixed' snowflakes on – and the 'Met Obs' sequence is constructed to allow the reader-speaker of the poems to create their own sense of place in the iterable "now"[448] of poetic time.

The sound world of poems is particularly important in establishing a kind of physical connection with place through text. Jonathan Culler describes "the exhilaration of the mind's response to what seems to escape representation"[449] when discussing the use of sound effects, rhythm and repetition to create a mood beyond the verbal. His words recall Longinus and the sublime, and could confirm that sound is a particularly effective medium to harness when considering the representation of Antarctica. Sound can transform our sensory understanding of place, both on the ground and in a text, and I have demonstrated the way in which sound patterns and echoes in the works of Bradfield, McNeil and Manhire evoke both the routines of Antarctic life and the breached boundaries between the perception of self and environment characteristic of an Antarctic (and an Anthropocene) experience. Farrier writes about poetry's ability to "compress vast acreages of meaning into a small compass,"[450]– he talks about it

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[448] Culler, J. (2014). The Language of Lyric. *Thinking Verse* IV (i) 160-176. Retrieved from http://www.thinkingverse.org/issue04a/CullerTheLanguageOfLyric.pdf pp.172-3

[449] Culler, J. D. (2015). *Theory of the Lyric*. Cambridge, Massachusetts: Harvard University Press. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1006650&authtype=sso&custid=s8993828&site=eds-live&scope=site

[450] Farrier, D (2019) *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction.* Minneapolis: University of Minnesota Press. p.5

opening our eyes, "widening the aperture of our gaze," or, again recalling the sublime, placing us on the brink of transformation. The work of Anthropocene poetry, in these terms, is, like the work of Antarctic scientists and Antarctic poets, concerned to bring about the re-valuing of our relationship with the environment in an ethical way.

The linkages which Farrier suggests that poetry in particular can make are *performed*, a reminder that the work of a poem is carried out in relationship: a communication across time between writer, text and the person reading or speaking the poem. The performative aspect of poetry involves movement and sound; poetic measure. When the shaman makes a move in 'The Iceberg Project', the voice which has until that point been instructive speaks in the first person. The disruption to chronology within the sequence (the shaman speaks in Part 1, before being formally constructed or recognised) acknowledges peculiar present tense of the lyric,[451] and the "thick time" of the Anthropocene. The shaman sweeps into the rift between iceberg and ice-shelf before merging with the scientist, and finally, the reader, too.

Antarctica is somewhere from which we really do "rethink our place on the planet."[452] Antarctic writing, especially poetry, shows how the environmental and the literary sublime come together, especially in the context of the Anthropocene. David Farrier and Tom Bristow argue, like Emily Brady, that as readers and as writers, we can, through poetry, develop the kind of critical thinking, and emotional sensitivities, which will enable "creative and instructive ways of placing the human at the scene of ecological breakdown."[453] This study of poetic and scientific measure has demonstrated the importance of both to Antarctic poetry.

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[451] Culler, J. (2014). The Language of Lyric. *Thinking Verse* IV (i) 160-176. Retrieved from http://www.thinkingverse.org/issue04a/CullerTheLanguageOfLyric.pdf pp.172-3 Culler emphasises that this is to do with the written, not the oral, form of the poem.

[452] Bristow, T. (2015) *The Anthropocene Lyric: An Affective Geography of Poetry, Person, Place*. Basingstoke: Palgrave Macmillan doi: 10.1057/9781137364753.0004. p.2

[453] ibid p.108

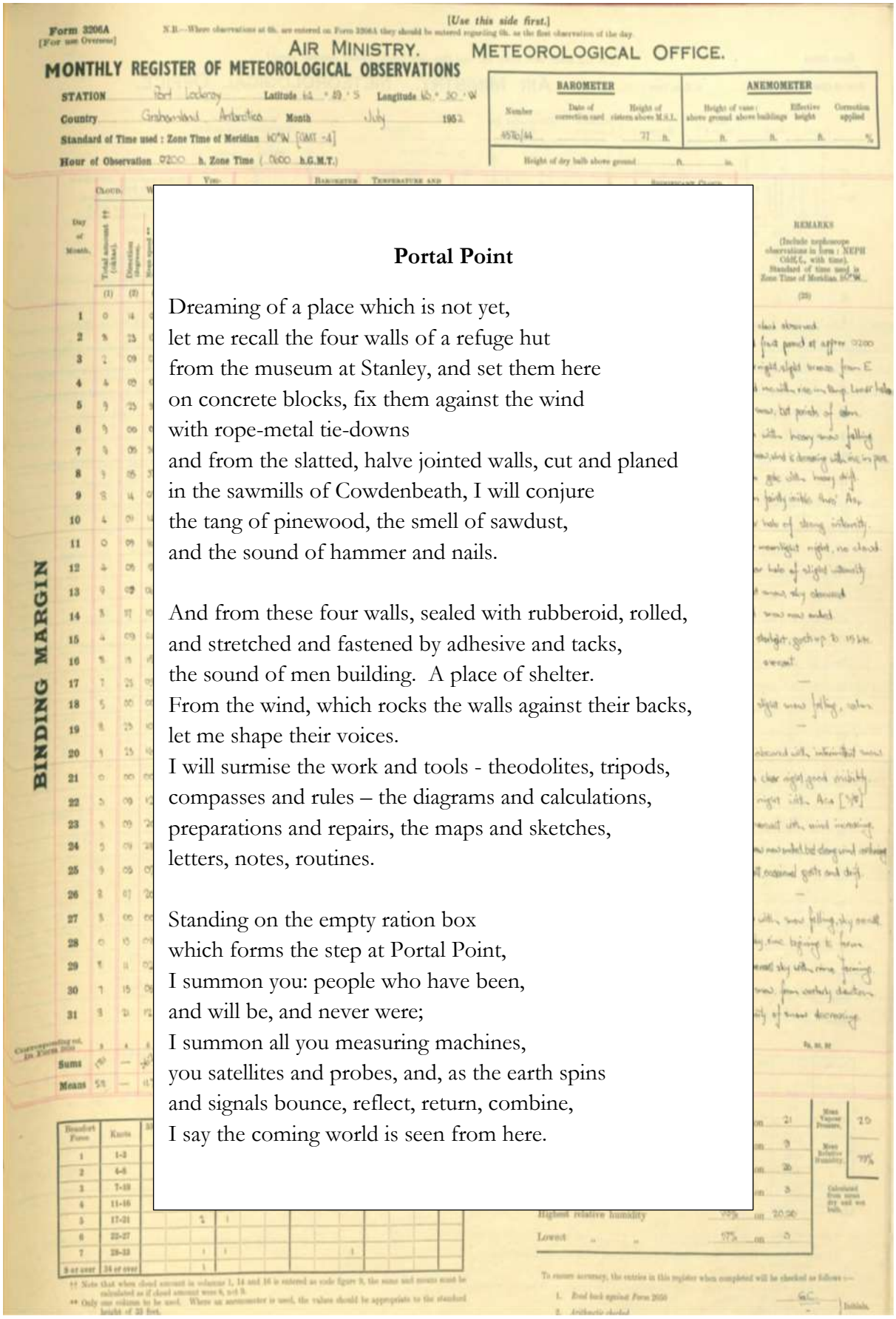
One of the conditions of the Anthropocene is the continued existence into the almost unimaginable future of human-produced material waste. Following his reference to Michelle Bastian's belief that the proliferation of ecological crises has left us in a state of confusion about time, David Farrier talks about the creation of "mythic entities":

> The everyday of the Anthropocene is populated with seemingly mythic entities whose temporality draws us to contemplate the prolonged presence of anthropogenic damage into the deep future – what Bastian and Thom van Dooren have called "new immortals," such as radioactive waste, PCPs, or microplastics.[454]

The shaman in 'The Iceberg Project' is one of these new immortals; the figure does not channel energies of a spirit 'over there' but belongs to the here and now of the material world, and the "thick time" of the lyric and of the Anthropocene. The impact of the warming climate, the proliferation of scales of time and size, are illustrated in the haibun; the haiku at the end of each offer glimpses of a shaman scattered around the globe. Waste plastic is gathered and animated by the imagination and the human voice. What we do with the shaman is up to us.

[454] Farrier, D (2019) *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction.* Minneapolis: University of Minnesota Press. p.7

THE MAGNETIC OBSERVATORY



Portal Point

Dreaming of a place which is not yet,
let me recall the four walls of a refuge hut
from the museum at Stanley, and set them here
on concrete blocks, fix them against the wind
with rope-metal tie-downs
and from the slatted, halve jointed walls, cut and planed
in the sawmills of Cowdenbeath, I will conjure
the tang of pinewood, the smell of sawdust,
and the sound of hammer and nails.

And from these four walls, sealed with rubberoid, rolled,
and stretched and fastened by adhesive and tacks,
the sound of men building. A place of shelter.
From the wind, which rocks the walls against their backs,
let me shape their voices.
I will surmise the work and tools - theodolites, tripods,
compasses and rules – the diagrams and calculations,
preparations and repairs, the maps and sketches,
letters, notes, routines.

Standing on the empty ration box
which forms the step at Portal Point,
I summon you: people who have been,
and will be, and never were;
I summon all you measuring machines,
you satellites and probes, and, as the earth spins
and signals bounce, reflect, return, combine,
I say the coming world is seen from here.

MET OBS

A raindrop needs a nucleus
on which water molecules can collect:

salt particles from sea-spray,
dust particles from dried clay
gathering moisture from ambient air.

Figure 14
Plate LXVI from Johan Jakob Scheuchzer's Physica Sacra

OP(i)

Water dispersing sunlight
showers different wavelengths

red to violet; look

an arc made from travelling light
and falling water.

Do not call me vulture
or accuse me of preying
on a poet's heart
as I anatomise
this coloured stillness.

[Where am I seeing from -
and when -
that voices rise and fall
conversing through this moving pen]

15th December 1952

Geoffrey, Robby and myself went ashore… to inspect the base hut, and to declare the base reopened. Simultaneous thrill of arrival and sting of cold; what matter a door broken by *persons unknown,* the hollowness of empty rooms, and a scattering of boxes islanded by meltwater and rain? Time to sweep floors, light fires, make our presence felt.

Figure 15: ***Falkland Islands Dependency Survey Map Islands in the Bismarck Strait 1954***

[The salt furrow has filled with earth.
I am an exile in a flat country.]

25th December 1952

Got turkey in the oven by bending sides of dish.

Rowed out to the rookery where the chicks are hatching (no eggs to collect) then walked up to the top of the ridge.

Found relics of past expeditions at Bernard Point

Ice is travelling in from the South and the channel is fairly full.

9th January 1952

New Esse cooker constructed in the kitchen and Geoff made his first batch of bread with great success.

Listened out for Met news but nothing heard again so think they must be suspended – no news until the arrival of the Biscoe.

After some experimenting, David perfected his chocolate sponge.

[Corn stubble in the snow,
the tally marks of winter.]

Litany of Hours

Every morning,

0600 (Zone Time)
0200 (GMT)
every afternoon,

1200 (Zone Time)
0800 (GMT)
every evening,

1800 (Zone Time)
1400 (GMT)
every night…

Robby moved his bed into the Nissen – he
couldn't sleep during the day because of noise.

No one else seems to have been affected the
same way.

[In the soul's winter
flight is measured
in the keening circles of the crow-scarer;
black stretched wings
wheel and swoop at the end of a line
staked to the earth.]

Prayer

Here have we been led
by the spirit of enquiry
or by restlessness.

Still your wonders draw us,
despite the blizzard's harrowing.

Grant me to understand
through all this white confusion
which comes first:
to praise you or to call on you?

Tell me how I can call on you
if I do not know your name.

Those who seek to know you will find you.
And I who have learnt this faith will keep on searching.

Great is the power of Creation,
and worthy of praise.

Will there be space within me
to host you when I call?

If you are all Creation,
then I am part of you,
and there is nowhere you are not.

The polar night is long.
Who will grant me peace
to know you in my heart?

Do not hide your face from me:
let me trace its features,
spell out the letters
of your name.

Codes (1)

Forms of Cloud

No Cloud

Heard a whale blowing, rather close

Low Cloud
Fair weather cumulus

Everyone watched its antics

Ragged low clouds of bad weather

No one thought to take a photograph

Fine Cirrus not increasing:
sparse

It circled several times

increasing:
usually in tufts

threshing the water white

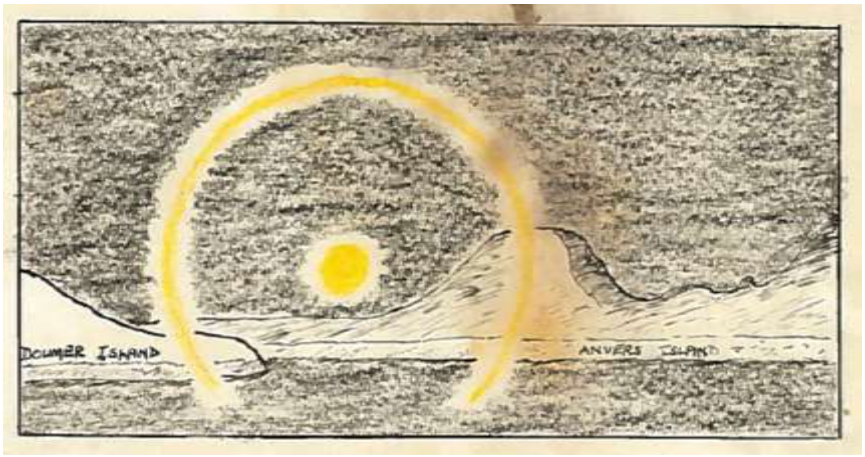
[In the absence of hills,
against the raw white of a February sky,
trees print themselves,
branches hatched like woodcut veins,
their upwards flow
stilled at the tips.]

7th April 1952

Miserable weather; trapped inside by drifting snow. Robby and Ralph have been proofing the Nissen walls – strips of bandage on the joints and more stuffed in holes. Covered the lot with tar.

Barrett has discovered he has no battledress trousers. *Making do this year by wearing mine.*

27th April 1953: Lunar Rainbow



OP(ii)

No one is awake except the night breathing rime into the air -
listen - we have drawn a circle rising from the sea
around the moon.

30th April 1952

– *one breakage, two omissions* –

Everything comes in a box.
If something's missing, you wait for a ship
(even then there's no guarantee.)

Take the equipment for the met station -
there was no maximum thermometer,
no drum for the thermograph
- so no way of recording maximum temperature.

Of course you can improvise.

We had an Ovaltine tin –
its circumference was just right
the exact measurement of a thermogram
and we made a key for winding the clock
with a split-pin.

The Stevenson Screen

(i)

Like a beehive with louvred sides
painted white to reflect the sun,

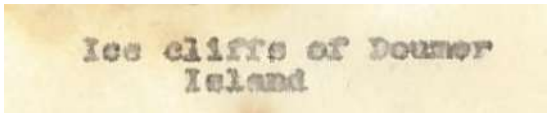
this box on a stand is a house of instruments,
a squat rectangle lent intelligence by its function.

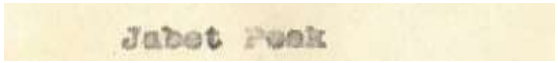
Its stillness has a listening stance;
the bees which fly here are invisible

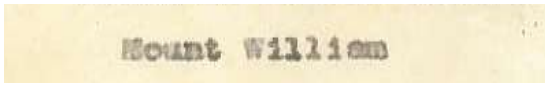
and silent, leave no waxy hexagons
but paper traces and honeyed number.

(ii)

King of a small rock
it looks without eyes
at the mountains whose distance
is measured from here:







their known heights simplifying
the estimation of altitude
when recording
an observation of clouds.

Notes concerning instruments.

The thermograph was placed for a trial period on the shelf of the Stevenson screen and later suspended from two cup-hooks from the roof

(iii)
Tend me.

In a blizzard,
snow accumulates around my coils.

When the wind blows
my instruments are skittish.

Hold me still –

but do not expect me
to read every day the same.

(iv)

At each determined hour
of the day or night,
this office:
the met obs.

Screen door opened
Polewards
and a man bows
before the instruments

notes – in pencil – temperature,
humidity, atmospheric pressure;
records wind speed
and direction.

Then he stands,
and with the evidence of his own eyes,
takes readings of the clouds
and listens
to the music of weather.

13th May 1952

The seagull with the broken leg failed to appear for scraps today, but there were nine sheathbills by the door, looking hungry, and all puffed up white and tame with cold. One followed Fred all the way to the point, and half flew half hopped all the way back. *Unable to say whether this change had any significance, the wind being 15 knots SW all the time.*

The shags were on the rock again. *David fixed up some fishing lines and we went out to try our luck.* Came back empty handed –

[I am driving along a road
transformed by frost melt
into magnesium fire
and I think
I could
but don't

drive into the bridge;

it's not the fear of blood and bone and pain
it's the knowledge
somewhere behind white light
of a family
waiting at home.]

Codes (2)

State of Sea

5 = Rough

I counted 94 fag ends per square foot
on the floor by the electronic equipment. Apart from the fact

6 = Very Rough

it should be forbidden because of the fire risk,
it's a disgusting habit.
One person here hasn't washed his socks
for 16 months.

To go day after day without washing and then make bread.

9 = Phenomenal

21st June 1954

Celebrated Midwinter's Day.

Arthur finally abandoned attempts to repair his clarinet (which has a broken reed). *Envisioning long hours of mournful burblings if he had been successful.*

Codes (3)

Code for Present Weather and General Characteristics of Weather (Snow)

70	Snow or sleet		
71	Slight snow in flakes		
		Intermittent	Continuous
73	Moderate snow in flakes		
		Intermittent	Continuous
75	Heavy snow in flakes		
		Intermittent	Continuous

3rd July 1952

Saw a very good illustration of 'Mother of Pearl' clouds during the morning…within the bearing of Mt. Francis and Jabet Peak.

Shy at first: a brief light on the lower slopes of the
Sierra du Fief. Then, for the first time since May,
ten minutes; balanced on Jabet Peak, the sun.

[A raven swooped in front of the car,
just above the level of the road,
before banking and turning
out of eyesight.]

13th July 1952

Constructed an igloo outside the hut – *not true to Eskimo style but nevertheless very workmanlike.* David spent Tuesday night sleeping out, and found it very cosy, though ground drift meant he had to dig himself out in the morning.

28th August 1952: Partial Solar Halo

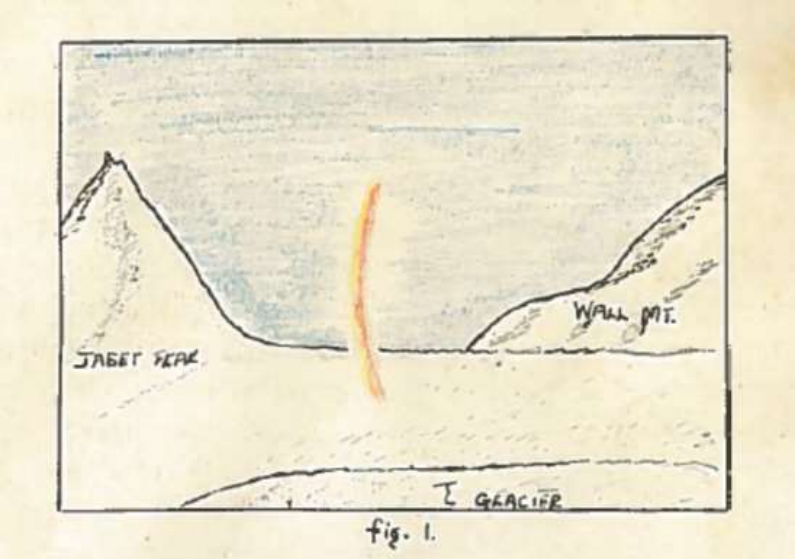


fig. 1.

OP(iii)

Rust red and yellow
a partial solar halo;
this slender pilgrim keeps its watch,
eyeless in the snow
and bowed before the sun.

August 1952

Have observed at least twelve different types of snow crystal but they melt before we succeed in fixing them (we do not know the method).

Took advantage of a fine moonlit night to ski to Curie Point and back in search of the luminous creatures seen earlier this year in the sea - but no luck.

1st Sept.

Fixed some snowflakes today and they looked fairly good specimens.

8th September 1953: Irisation

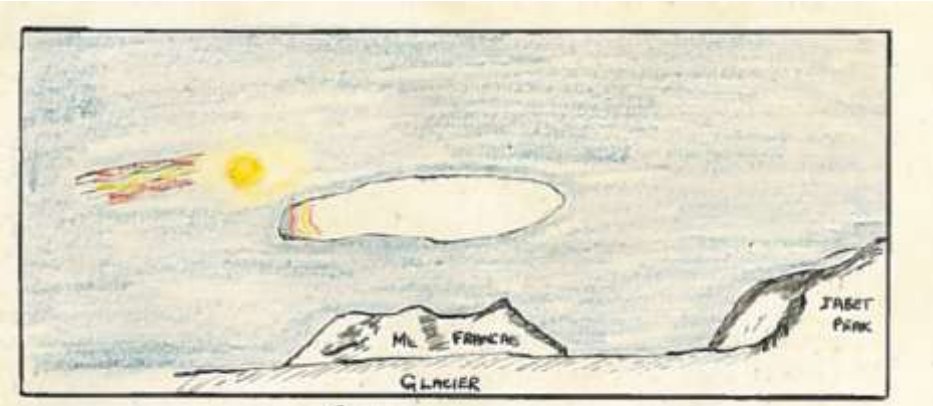


fig. 1.

OP(iv)

I am too corporeal
to ride a chariot of fire
but, look, my mind has lit upon this cloud
which shimmers with the sun.

Cumulus

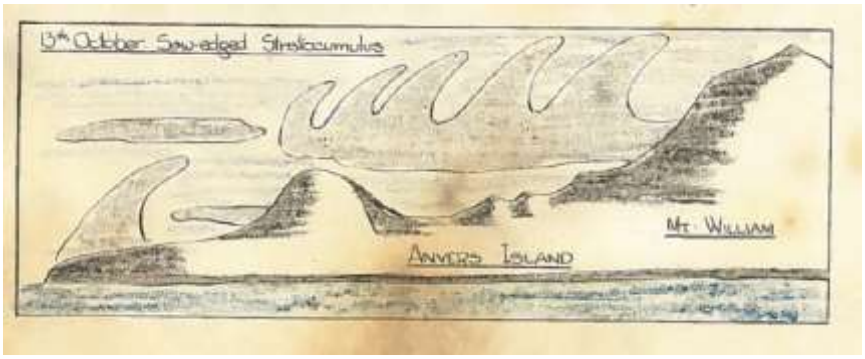
A medium-sized cloud weighs as much as 80 elephants,
or 6, 268.75 blue whales.

Such clouds are manifestations of convection
forming where warm air rises above sand or rock;
they have enough energy in the centre to crush a plane.

Often forming above small islands in the sea,
they are beacons
allowing sailors to navigate without instruments
before any sight of land.

In Sanskrit creation myth,
elephants created at the beginning of time
were shapeshifters,
white winged creatures prophesying rain.

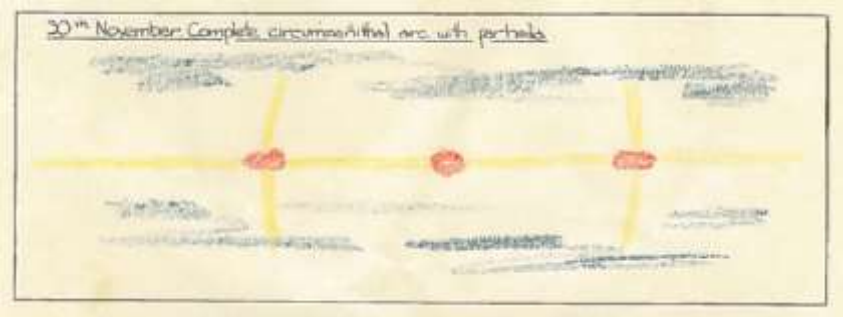
13th October 1953: Saw-Edged Stratocumulus



OP(v)

Towards dusk
waves are breaking in the sky:
a Kelvin-Helmholtz instability,
saw-edged stratocumulus.

30th Nov 1952: Complete Circumzenithal Arc



28th December 1952

Robby and Ralph busy concreting in the genny room until lunchtime. Genny is sick and needs a bed, a good solid one with shingle and sand. She needs to be cradled in a room reinforced with beams. Listen to her cough and rattle, the sputter of her valves. She will be moody, recalcitrant, but surprisingly fitted for reanimation. Hers are the habits you can try to fix. Lean against her heat, listen for her breath; diagnose with fingertips, her inlet pipes and pumps, and seek amongst the broken things for bits to make her new.

OP(vi)

Light frost outside on golden sedge;
sunset clouds like long necked herons
flying home.

OP(vii)

Do not call me thief or say I string
the tendons of dissected Gods
in the workings of my instruments

when I note
"…the parhelia circle…
first observed at 1400 GMT,
between Jabet Peak and Wall Mountain.

Bring with you an observant heart
and mark this wonder –
three suns in a circle of reddish light
being of a strong intensity…"

blazing above a frozen sea.

Today I saw a sun dog in the clouds:
ice crystals,
a host of hexagons,
refracting light

like angels
falling.

NOTES

Referred to in their abbreviated form, the Met Obs are atmospheric readings of such things as temperature, moisture, pressure, wind speed, and they are taken on a daily basis at weather stations around the world. The poems are inspired by documents from the British Antarctic Survey which relate to the life and observations of scientists working at the Antarctic Base of Port Lockroy in the early 1950s.

Quotations and images

I have included incidents and optical phenomena from different years but have sequenced them to give some sense of the development of a single polar year.

The images of optical phenomena are copied from the following documents:

Falkland Islands Dependency Survey Base A Port Lockroy
Meteorological Report June – November 1952
BAS Archive Ref AD6/2A/1952/X

Falkland Islands Dependency Survey Base A Port Lockroy
Meteorological Report January – November 1953
BAS Archive Ref AD6/2A/1953/X

The italicised quotations are taken from the above documents, or from the following:

Base Diary Port Lockroy 1952; British Antarctic Survey Archive Reference AD6/2A/1952/B
Base Diary Port Lockroy 1954; British Antarctic Survey Archive Reference AD6/2A/1954/B

The photographs were taken by A G Lewis who worked at Port Lockroy 1959-1960. They are reproduced by kind permission of the British Antarctic Survey.

OP(i) and **OP(vii)** provide a response to Edgar Allen Poe's sonnet 'To Science' (1829)

The Genny Room

So called because it contained the generator. The improvisations required to keep it functional are a regular refrain of the base journals.

Cumulus

A Google search for the weight of an average cumulus cloud, and its equivalents, throws up some interesting, and apparently contradictory, facts.

THE ICEBERG PROJECT

Part 1

Love Song in a Time of Crisis

"…the trouble with global warming is that it's right here. It's not behind a glass screen. It *is* that glass screen…Human art, in the face of this melting glass screen, is in no sense public relations. It has to actually *be* a science, part of science, part of cognitively mapping this thing. Art has to be part of the glass itself because everything inside the biosphere is touched by global warming."

Timothy Morton *Hyperobjects*
P.133

The Last Forests in Antarctica[455]

Fossil Ferns, 140 million years old from Hope Bay, Antarctic Peninsula
Fossil Plants, 25 million years old, from the South Shetland Islands, related to the Southern Beech (Nothofagus) *Scott Polar Museum*

Here are stalk (stipe), blade, torn from rhizome and root. Pale quills behind the glass, they scribe themselves. And something else: a sense beyond this still curated time. A beast browsing, stamping through the thick warm air. A breeze spinning a fallen frond, the water shallow. A leaf sinks, is covered, pressed, ghosted by a weight of silt and clay. The sound of hammer on stone.

The continent drifts, breaks up, and drifts again, and finally settles South. Hammer splits stone, releases a whispering of trees, this smoky imprint of the Southern Beech. Seasons change. Leaf falls, sinks, is covered, pressed. The creak of feet accompanies the shush of sledge on snow, knowledge that this frozen world was wooded once.

Craters open.
Microbes ride out on stinking breath.
Wasted fingers click.

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[455] The title of a paper which presents geochemical evidence from fossil deposits collected in the Transantarctic Mountains (480km from the Pole) demonstrating that a tundra ecosystem grew during periods of ice sheet retreat during the mid to late Neocene (17-2.5 Ma). Such evidence helps model the impact of a warmer climate on ice-sheet extent, and sea level.

Rees-Owen, R.L. & Gill, F.L. & Newton, R.J. & Ivanovic, R.F. & Francis, J.E. & Riding, J.B. & Vane, C.H. & Lopes dos Santos, R.A (2018). 'The last forests on Antarctica: Reconstructing flora and temperature from the Neogene Sirius Group, Transantarctic Mountains'. *Organic Geochemistry* (118) pp. 4-14 Retrieved from https://doi.org/10.1016/j.orggeochem.2018.01.001

Let them Speak

Break the glass
and let them out, the words,
let them spin and leap
from their fastening pins and run

out of this metered light
and down to the sea
where the water shadow
marks the tide's reach.

Give them voice, warm breath,
and where the storm petrels skim the waves
on a following wind, let them fly.

Reading by Proxy

1mm square
Diatoms taken from top 100m of Antarctic ocean surface water.
Photo: Leanne Armand
https://sites.google.com/site/sabrinaseafloorsurvey/school-pages/diatoms

The microscope opens on a square of circles, snakes and stars, a scattering of pictograms. *An iceberg is our home.* A floating ecosystem, enriching the sea with meltwater. Petrels and fulmars soar in its wake. *There is food here.* Icefish and polychaetes. Diatoms. Broken jewels and gemstones glint. *We are pocketed in the under-ice, on fragments of volcanic rock.* Tiny fossil timepieces, diatoms are plant creatures, convertors of light. Carbon-capturers, feasted on by krill, they release oxygen to the air. They sink to the seafloor and their silica skeletons hold. Sea levels rise and fall; glaciers advance, retreat. Time past, and time to come; diatoms keep their place.

Spindrift curls. Sticky
plastic skin gathers scattered
microplastic scales.

Song

I am right whale, sounding ocean,
sliced by hanging rope, severing fin.

I am seal, following fish,
caught in tightnet, cutting flesh.

I am turtle, learning to swim,
six-pack-yoke, cinching shell.

I am fish, a flash of scales,
collared in twine, slitting skin.

I am mollusc, filtering food,
particulate plastics, sifted grit.

I am arrow worm, bristle-jawed
swallowing fibres, lit up green.

We all need to eat something

Euphausia superba (krill) from the Bellingshausen Sea continental shelf.
Images taken onboard RRS James Clark Ross cruise JR230 (benthic pelagic coupling cruise).[456]

A patch of sea coloured pink - a swarm of krill - cloud spun of bodies jointed, always swimming. Their lives are vertical – a slow developmental fall and rise, eggs to the seafloor, larvae to the surface. By night, high out of whale sight, they eat; by day in the deep, excrete.

Bioluminescent, they make their own light.

Krill swarms stir the sea, recycle its nutrients, sustain and consume. Phytoplankton are crushed in the gastric mill. Carbon capturers, depositors, tiny ectotherms, tracking the ice. Their shells are thin; they are vulnerable to change.

Hot eye sun unseen
consumes its cover, glaring
now above the trees.

[456] https://www.bas.ac.uk/about/antarctica/wildlife/krill/

Love Song in a Time of Crisis

Come live with me and be my love
and we will all the pleasures prove
that valleys, mountains, woods and fields -
the earth in all its splendour - yields.

We'll wander in the shifting hills
where scavengers sift the garbage spills
and pick through landfill by the ton
as streams of glinting leachate run.

And I will make a swirling cape
of coloured plastics edged with tape,
a jewelled bag, a pair of shoes,
a belt of marbled greens and blues.

We'll walk through dusty fields and climb
above the blackened woods to find
at last a place to rest our heads -
a strip of dried out river bed.

And when we wake we'll sit on stones
admiring scattered human bones
and I will make you pinkish flowers
from flaps of skin around our bower;

from locks of human hair will twist
memorial bracelets for your wrist;
thus I hope your heart to move.
You live with me so be my love.

Part 2

The Calling of the Shaman

"My resistance to ecological awareness is a resistance to the charnel ground. It is the calling of the shaman to enter the charnel ground and to try to stay there, to pitch a tent there and live there, for as long as possible."

Timothy Morton *Hyperobjects* P.126

Who can tell the shaman from the song?

This creature,
with its stitched-together wings.

Would you call it a song?
Where is it coming from?

Poor wretch,
waiting to be made.

The Shaman Experiences Blindness

Where are my eyes?

There is a tangle of sound,
clankings and claxons, and something like air
snarling in the sea's throat

Where are my eyes?

a stink of sulphur and pitch, a ferment
of molecules, the slipperiness of oil slick,
carried on the wind.

Where are my eyes?

a convulsion of vapours,
a turbulence of clouds, a searing, smoking
storm of combustible heat.

Shadows on Ice

Mountains of the southwestern Antarctic Peninsula[457]
Photo by NASA/Digital Mapping System

Monitoring the images: shadows, scoops and distant rocks. Flake on flake, snow falls and melts. Falls and freezes. Falls and, scurrying, settles. Into this starting-ending, shadow-casting, histories fold their distant origins: the flow of lava, its solidification; the heave and crush of making mountains; the burial of forests and flowering plants. Memories of sea journeys; collision of continents, separation, subduction, eruption. Tectonic travellers hunker down, their mute script scored in ripples and knuckles of stone. Flake on flake, snow falls and melts. Falls and freezes. Falls and, wind-scoured, shifts, is sculpted, deepens.

Snowfeather skims
an upturned face; a wink of light,
its cold print blossoms.

[457] Hansen, K. (2018) Antarctica from Above: Flying for Science, Finding Beauty. Retrieved from https://earthobservatory.nasa.gov/features/OperationIceBridge

The Shaman Fashions Eyes

From a meltface of plastic
marked with stripbark and feather,
a long skinny finger grubs polymer furrows

eyes
rolled between finger and palm
these are my eyes

setting on stone a straggle of eyebeads
strung on sinews,
to rattle at the wrist.

A Simple Matter of Conversion

One iceberg (average Antarctic) =
drinking water for one million people
over five years. There's too much
melting ice in the world, isn't there?
And not enough water. Solution:
melt the iceberg for water.

Time not our Time

The Larsen C Ice Shelf: January 8th 2016[458]
Image by Jesse Allen

From the valleys, ice flows into the shelf which, hinged on land, is floating on the sea. Then and now and what's to come exist as one continuum of ice, visible to the satellite's eye as patterned flow. Mountain walls compress, direct the stream; the earth below resists, is frozen into, shattered, etched, striated. These glaciers gather rocks and dust, grumble into microphones; are covered, foreshortened, responsive to change. They are iceways, pathways, bodies of ice. No human ear can hear time's speeding up, the friction's heat, the water melted under ice. Animations model blue to red, degrees of speed, show tongues of fire are lapping at the sea.

Make an incision,
pull back the skin:
veins run cold with meltwater blood.

[458] *https://earthobservatory.nasa.gov/images/89717/the-most-studied-peninsula-on-antarctica*

The Shaman Orders a Spinal Cord

Amongst the litter of thrown pebbles
and the rusting of sea defences
sometimes there are vertebrae,
knuckled like flint, but plastic,
sea-cast and smooth on the strand line.

Admire their surfaces
and their apertures,
the puzzle of their pieces,
their articulations.

Atlas, to support the head;
Axis, to nod and turn.
Collect them all
from beak to tail,
enough for a spine:
the cervical 7,
the dorsal 12,
the lumbar 5,
coccyx and sacrum,
a ladder of bones.

Count them,
and place them
and string them
on twine.
Hang them from the rafters
and let them swing.

Disseminating Water

We will bring you an iceberg and anchor it in the bay
for you to admire.
We will bring you penguins and polar bears on its back
for you to enjoy.
We will bring you water and pipe it to the shore.

We will turn your desert green.

The Stuff of the Glacier is Earth and Sky[459]

Semi-permanent cracks on the Antarctic Peninsula[460]
(Photo by NASA/Digital Mapping System)

From the sculpting of the under-earth, informing stresses shape a field. Where they build, crevasses open - cracks and chevrons; chasms lateral, transverse. Resistance tends to fold and buckle, and ice falls, flow lines, seracs form. A surface modified from outside and within, by pressures, warming, freezing, winds and snow, a moving dialogue of earth and ice and air. Each trapped breath holds its memory of sky, and, lithified, the ice is marbled blue and white. They make gateways, pathways, solid to the human eye; arteries of moving ice.

On the mountain, silver white trees
ghost the southern beech.
Eyebeads clatter.

[459] Pyne, S.J. (2004). *The Ice.* London: Phoenix. p.210
[460] https://earthobservatory.nasa.gov/features/OperationIceBridge

The Shaman Orders Wings

Lay out the tools -
block, scraper, knife -
and fill three vats
with salt water.

When the air is scorch hot
and the scent is flayed
from the eucalypts,
when the screech and chatter
of the colony is stunned
fox bats will fall.

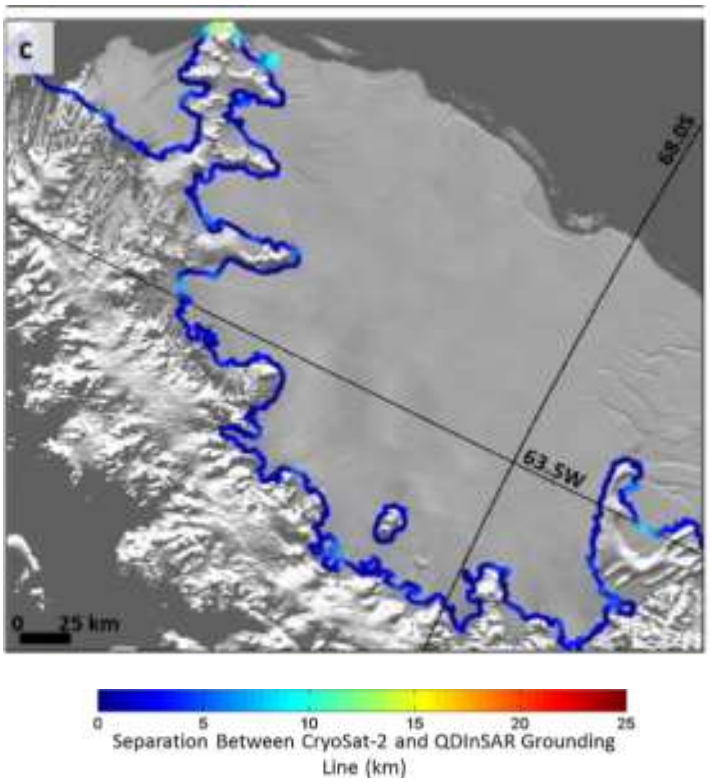
Gather them swiftly
before their skin crisps
Smoke them in wildfires
ready to stitch. Together

ten thousand wings
have the power of flight.

Securing a Berg

One which has escaped naturally. A good size –
say 3km² and 3km deep for a steady keel.
Tabular, to reduce the risk of rolling.
High length to width ratio, to lessen drag.
We will deploy two tugboats
and lasso the berg.

The Grounding Line[461]



Monitoring the ice-sheet, satellites and eyes clock ice over land, over sea. How deep, how high, how thin? Surface shade evokes mountains; undersea, unseen, the under-ice melts. The rock gatherer is sailor now, and craft.

Satellites and eyes clock ice over land, over sea; a break in ice sheet surface slope suggests the boundary below. Above, its Janus twin, the hinge. Mark the line, track it over time.

Satellites and eyes clock ice over land, over sea; searching for shadows, measuring change.

Clouds rake a pale moon
over the chimneys. Vast wings
unfurl.
Batskin cracks.

[461] Hogg, A.E. & Shepherd, A. & Gilbert, L. & Muir, A. & Drinkwater, M.R. (2018). Mapping ice sheet grounding lines with CryoSat-2. *Advances in Space Research* 62(6). 1191-1202 https://doi.org/10.1016/j.asr.2017.03.008

The Shaman Orders an Amulet

Gather dry bone skulls
and lay them out
the long curve of ibis,
the sharp hook of condor,
the finch's pick.

tapered into beaks
a memory of birds

Through nose holes
twist strong nylon twine
the owlet's harpoon,
the puffin's arrow,
the dagger of crow.

and eye holes
and let them dangle

This is a speaking necklace.
its bony mutters,
chip and chisel,
sip and shred
spear and pluck.

Translated into its clatterings,
the work of tools

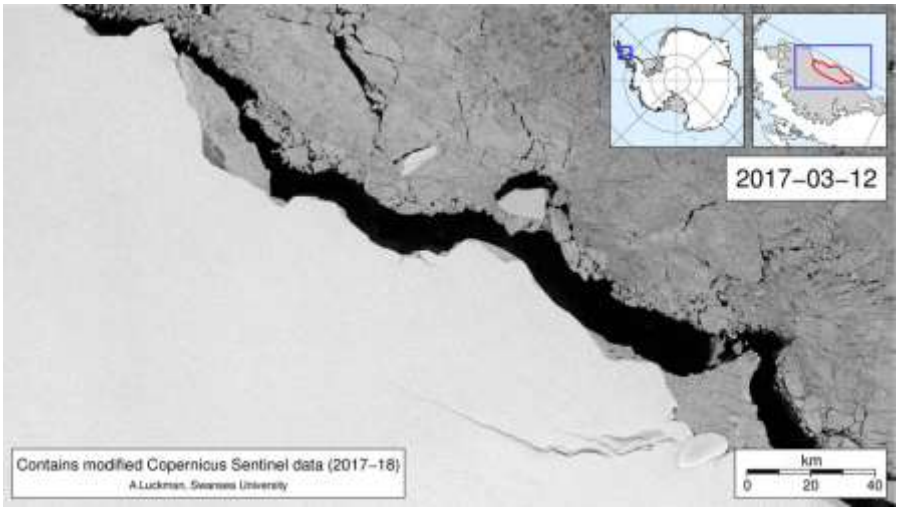
Should the need arise,
can scribe skin,
gouge flesh,
pick locks.

these sharp bills

Fitted for Transport

A naked berg will melt before it arrives;
it will be a year in transit.
We will wrap it in a geoplastic girdle
and slip a geoplastic skirt under the water
to repel the effects of friction
on such a large body of ice.

The Birth of an Ice Island



Iceberg A68 Escapes into the Weddell Gyre[462]

Ice shelf and sea ice are imaged, white and grey. Animated, sea ice pulses on the screen, its rumpled skin, now thin and veined, now mottled thick, forms and breaks with the season's breath. Ice shelf and sea ice are imaged, white and grey. The white shelf splits; the crack lengthens, rifts along a line of weakness, branches, widens breaks - a trillion tonnes of ice let loose into the sea. Ice shelf and sea ice are imaged, white and grey. Rocked between the ice rises, cradled on the waves, at last, rotated by the clockwise drift, this island turns.

After a storm, land
slides; blue severed arteries
dangle from the cliff.

[462] https://adrianluckman.wordpress.com/

The Shaman Considers Flight

Observe
this fine articulation of plastic,
this skeleton wing; test its fluency,
its possible range.

Twist me lengths of animal gut,
and string me tendons.
Gather me feathers
and give me flight.

Keeping Track

once it has set sail will be difficult. One iceberg
changing form amongst many. Shoot test tubes
of dye on board, and the colour will wash out.
Dart radio transmitters into the interior
and they will be lost. We have satellites,
we will harness the currents.

Part 3

On the Iceberg

"Ice is the beginning of Antarctica and ice is its end…The berg is a microcosm of this world… 'Everything is in it,' as Conrad wrote of the human mind, 'all the past as well as all the future.' The journey of ice from core to margin, from polar plateau to open sea, narrates an allegory of mind and matter."

Stephen J. Pyne *The Ice* P.2

The Shaman Begins Making

I have summoned an iceberg from the sky.

Here it is, released, the mass of it, floating
into unreal waters, the black, wind-lashed sea.

And here I am, suspended in the eloquent space,
that you and I have made between us. Now

I will show you moments in a life:
a girl, becomes a woman watching.

She is a shadow in the mist, an eddy of snow
circling the possible. Listen.

The Voice of Water

The stream is chattering in its own tongue,
busy with water boatmen, unsettling pebbles.
She makes it speak another way, around her fingers,
scoops it into sudden droplets which, silent, catch the sun.

In winter, its voice is echo-ey under an edge of ice.
She cracks it with her foot.
The frosted grasses bend and drip in the sun's heat.

A Science Lesson

Ice is the solid form of water;
its chemical composition is H_2O
(in its pure form).
Hydrogen and oxygen are gasses.
Water is wet.
This is magic.

The Shaman Addresses the Girl

How do you see the moon?
The one planetary body visible to the naked eye.
Do you count its distance?
800 million footsteps, if you could walk on air.

Is there a man there? Or a child gathering sticks?
Do you see a huntress, watching?

The moon is pursued by a great wolf:
You can feel it in your blood.
After centuries of spin and pull,
a molten wave is ripped from the cooling earth
and hurled into orbit. There are scars
on this earth's granite skin,
an ocean filled with years of rain.

The Girl in the Museum

sees in the display, a storyknife
a curved, carved splint of bone,
for scribing stories into riverbanks or ice.
Seven hunters mark its length, a walrus felled
its centre point, and from the tip spill songs
unheard, muddled between bones and tools
by ghost hands placing objects
so.

And then – who called? – she sees a girl, bent over,
making pictures, quick, appear through snow,
her sisters and the boys who watch, fleeting,
the sound of words, uncertain,
the sound of laughter, gone.
Her own reflection in the glass.

Hailstorm

The pressure has been rising,
cumulus gathering.
What is she waiting for?

The sound of it,
the disturbance of surfaces,
pelting supersized hailstones.

This icy pebble
quartzed by its rise and fall
on stormy updrafts.

The Shaman Makes a Move

Into the rift on the downdraft, I swoop, time stirred
and broken by an ice-rending so vast that comprehension crumbles
into ice-heaps at the cliff-foot.

I ride the air radiating from ice-walls,
the sheer-slip sheen of ice-light,
the jumble of ice-fall on a frozen sea, mastering between.

The Shaman and the Woman

I will fill the silence with a sound, and set it pulsing,
a high pitched whine above a lower note, stir the air
and keep it whirling, beating, threshed with noise

until the snow is driven into spectres, a flurry of white
spun from the ground by the wide whirling of blades.
The body of a helicopter hangs in the moving flakes

and as the skids touch down, there is an unsettling,
a rolling of tumbleweed snowballs, a tilting forwards.
From the slowing of rotors, the choking diminuendo,

I will unwind her, place my hands over her hands
shiver into her skin.

The Shaman and the Scientists

They emerge from the guts of the machine,
bodies in red with mirror goggles for eyes
passing wooden boxes hand to hand

tent, sleeping bag, primus,
dried food and drink,
dynamite and detonator

I should grow more solid with their approach,
feet and hands should collaborate in stacking
those objects required to trap and track a berg

wires, solar panels, batteries,
Megger MFT multifunction tester,
screwdriver, radio phone, hammer

But I am riding the white back of Leviathan
and I will be alone in the long night listening
through ice-light and sunlight, for the heartbeat, the breath.

Give me the tools of our trade,
receptacles for dreams
and sensors for song.

Receiving Signals

0600 (zone time) Northward drift.
Slow. Visibility good.
Slight breeze from West.

0630 Receiver 1. Uneasy hum.
Low pitched. Irregular.
Surface condition good.
Easy walking (in crampons)

> Drawing a line, new in the morning, new again at noon,
> between tent and each subsequent point,
> spun, drawn tight, leant away from.

0645 Receiver 2. Background white.
Medium. Steady.
Surface condition good.
Easy walking.

> This is an ice island. It has no roots.
> A ship without a sail, being towed.
> The definition of improbable.

0700 Receiver 3. Percussive boom.
Low pitched. Irregular.
Slight melt round entry point.
Easy walking.

> Netting an iceberg.
> Checking the knots on ropes. Two tug boats
> attended by petrels.

0720 Receiver 4. Background white.
Steady crackle. Evidence of drift.
Easy.

> Treading a rhythm between each flag.
> The steady pressure of walking
> structures the air.

0750 Receiver 5. Sound like wind
continuous. Occasional crack. With echoes.
Surface condition. Granular.

A shadow growing
somewhere below the ribs
between the tent and under the ice.

1200 (zone time) Northward drift.
Slow. Visibility variable.
Intermittent snow. Wind gusting ENE.

The Movement of Water

Snow field and sea fog merge.
The solid ice is slackening.

Everywhere the drip and trickle of water.
A mind untethered, slipping

down stress fractures,
loosening chronology.

The Shaman and the Iceberg

On the slow turn of the Weddell Gyre
the great berg moves.
Will the tow lines hold?

The meltwater seeps over the edge
and with it the atmospheric record

openings into empty rooms,
the skeleton of bedframes
a dessicated O

Into the sea slips a chill stream
running from a deep keel:

the shudder of eruptions,
the pale ash of winters lengthened.

Here is no water only rock

Homo erectus crossing the plains
marching with the teratorn,
the mammoth and the mastodon
across a future page.

The cicada sings in the dry grass
the dried grass of the desert land
crackling

Fissures fill with meltwater,
freeze and widen,
the slow haul over stony ground recalled
in cracks and groans of ice fracturing

fire spitting wood cracking
trees falling black bones

in a burnt out car.

If there were the sound of water only

On the slow turn of the Weddell Gyre
the great berg moves.

Across the ice-plain, streams are chattering, an animated babble
of water consonants tripping into vowels.

White men in houses on the sea.
Bodies in ditches, drains and fields.
The ice record of stopped breath.

When I look ahead up the white road
There is always another one walking beside you

Cities are drowning,
the telephones are silenced.

Numbers, pouring out of continents.

Water, water, everywhere, and not a drop to drink

Fingers hooked on fences,
faces bound against the dust,
corruption on the air.

This tabular flatness, cratered into blue; a meltwater lake
absorbing sky.

The measured turn of cogs; their greased fit.
The shuttle of spindles, the rattle and crash
of coal; the billow of wasted smoke.

On the slow turn of the Weddell gyre
the great berg is thinning.
The girdle slips.

Birds fly off course,
bewildered.

An underbelly hollowed by the waves' lick, its salt-scouring,
into caves which, at the ice-edge, boom, glow green.

The bergside splits and sinks
is followed by a rush of wings.

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Appendix

Calculating Risk

'You are *never* to do that again,' the Corporal said
when the men returned from the back of Doumer –
you and your colleague – entering this hut
after a safe return from the ski field by sea –
and a rift opens
between the spitting of your anger
and the fire by which I read.

I know your tone,
its defiance metamorphosed
as indignation licks back across the years.
You will not heed *such a stupid order*,
but, Father, you will obey
the laws which govern
the fall of ice,
and the displacement of water,
the motion of waves,
and what make them still.

Once again, you travel out to ski -
but this time you walk.
You have done your calculations:

sea ice 2 feet deep/a man needs 2-3 inches for walking
and little cracks can be stepped across
or bridged by skis.

Only the toppling of the nearby ice-cliffs could cause a break-up.

You have noted wave velocity, and know
from cliff to crossing is 2 minutes long;
40 yards from land (*ice resting on ground above sea-level*)
works out as 10-15 seconds' walk –
and so you know you're safe to go.

***

That cliff did fall –
and *from 100% safety* you and your colleague watched
the biggest ice movement in years
unleash an urgent wave, toss
thousands of tons of broken sea ice into the air,
heard this cacophony of ending

as if you yourselves were vibrating
within the cranium of sky.

And hoped that someone back at base had taken photos.
Had they hell!
The Corporal said, 'You do know there is a boat,'
and you wrote to your mother
a dinghy…would have been sunk
like an open cigarette tin in a storm.

Your misdemeanour was not recorded in the log book,
though the ice fall was noted.
You continued to ski.
I told your story to my children:

Grandpa George takes a Calculated Risk.

DECEPTION ISLAND
A Poem for Voices

FOREWORD

Who am I
Speaking in the dark?

George A Whitfield 1951-1953
Recollections
An Overseas Whaling Experience

G.Stock
May 19th-Sept 12th 1949
Hot Springs Observations, Deception Island

sprinkling stirring seasoning

Donald Hawkes 1961
The Geology of South Shetland Islands

sounds and syllables

D.J. George
April 22nd and 23rd 1953
Report on the Earth Tremor Experienced at Whaler's Bay

the sulphur of sentences

Edwin James Mickleburgh
Island at the Edge of the World

hot breath

Smith
G51/1/1.1

A.G. Lewis 1967
A School Introduction to Antarctica

British Antarctic Survey
The Archive

mine
a gift of words

Location:
The Antarctic Ocean

Nelson's Bellows

A bird beats into view.
It is a cormorant,
a wandering spirit.

See how I mould the air with my wings
mixing time in my slipstream

Basalt speaks

- Of Earth's molten core, and rising heat, and rock
That melting bursts its bounds and hurtles up;
Of lava flow to stilling stone; /of augite

The Ocean replies

- Watch me
split
your crystal structures
into
salted
syllables
and
force
my many tongues
to spittle
down
your fissured / side

There is a ship.

Hooded against the weather,
a man appears on deck,
listening.

a trespasser,

He is a scientist,
travelling to the Antarctic

orchestrating voices.

A young whale sings

- When the call goes up, mother,
and the hunter's fixed on me,
when the harpoon cuts the water
with precise ferocity,

will you sing me home, mother,
deep into the sea?

The voice of a whaler

- Sperm whale. 32 ft. Female.
First to Harper.

The whale continues

- And when my flesh is pierced, hunter,
and the barbs have opened out,
when my blood comes pulsing red
instead of water from my spout,

will you sing me home, hunter,
will you sing me free?

And when my lungs are pumped with air,
and my tongue hangs lolling out,
will you kill the shark, hunter,
that circles round about?

Or will you plant a numbered flag
into my glistening hide,
and let the shark consume my tongue,
whilst birds peck at my side?

Hump back
breaches the waves;
sky shine on whaleskin.

O, trim my tail, and mark the fluke,
and tow me through the sea;
a carcass on the flensing plan
is all that I will be.

The whaler is joined
by another

- There's a ramp called a skidway
runs through the centre of the ship
right up from sea level onto deck.
You can dissect the whales on board.

A tearing of metal,
as the grab is lowered
the whale hoisted.

- Flensers cut flesh
for insertion into kettles.

- The deck is a trap, a criss-cross of wires;
two steam driven saws
cut and drip and smoke.

- O, whaler, when you mount my back
and stand upon my head
and when you cut me open
believing I am dead,

- Boiler mouths gape and swallow.
Blubber and meat is steamed for oil.

- Will you feel some pity then
and sing me back to sea?

Hissing, clanking, slamming;
a cacophony of voices.

- After opening up, heat rises
like vapour.

- We found a foetus,
15 ft in length, maybe smaller.
Threw it overboard,

A mountain has vanished.

- even though everything going in the pit
adds to the final bonus.

- You take your life into your own hands
when you go to the mess for food,
dodging and weaving past the steam jets.

- Decks are awash with blood
slippery with guts.

In the bay, steam is rising
like ghosts from cinder scree
and shore water.

- I work the Vaps -
800 tons of water a day required
at maximum cooking -
so you can heat sea water,
condense it,
make it fresh.

- Sometimes we have 10 or 12 whales
moored alongside ship.
Birds everywhere.
Gulls, I think,
making a commotion.

The spirit again,
in the guise of a sheathbill.

Paddies.

She addresses
the scientist.

You'll know them as they stomp
on the roof above your head,
though you can't hear me.

Steadier now on his feet,
the manlevers open
the metal casing
of the camera,

- Did I tell you about that penguin?
Came up the slipway, got covered in oil.
They can't swim with oil on their feathers.
Someone cleaned him up and he swam off
right round the ship and back again.
Silly bugger.

centres rusting oil containers,
chimneys without smoke,
in the grid.

- There's a whale gone off at the side,
A few nice stenches lying around,
I can tell you.

The whalers have all gone.

Bodies in swimsuits wallow
in the future, on a black beach
where

Steam rises from the springs to form cumulus

Now men are waiting
to unload the ship.
From pallets and barrels,
they cobble pontoons.

New arrivals converse with
those who have wintered over.

- Our mail
- There's anthracite, and diesel fuel
- My sister's had a child
- A flat pack hut
- a nephew
- spare parts for the machine
- My family's moved
- and food/ in cans
- John's lost his job
- she's married
- bacon rations, beef suet / condensed milk

An elephant seal watches,
alert amongst the debris.
Skuas circle.

- We use the old whaling station/
- margarine, lump sugar
after the earth tremors
- Hartley's jam

A voice
from the Archive

a resonance activated
by a sweep of wings
across the air.

-Long light shudder/
which set lamps swinging.

We'll load the scow.

A cat squats
by the meltwater gully.
Snow has drifted over machinery
rusting in the Digestor Shed;
sunlight through a broken roof
fires iron oxide
red.

I bring you memory
from the future,
two black dots
on snow slopes,

Scoria speaks

- I am
cinder vitric vesicular

crunching sussurating
at the sea's
edge

travellers from Pendulum Cove

- Buenos dias! Hello!

Let me bear you with them now
across the layers of ash and ice

lava flows and

bedded agglomerate

My
memory
is petrified flow;
liquid rock spilling over
solid rock cracking, skin suffering /
a shattering of bombs

- The island is composed
of igneous and pyroclastic rocks.

- Steaming lakes of yellow and green
in a background of red and brown.

my kitchen of boiling cauldrons

- is a witch's landscape.

Can you feel the rush of my feathers
like air across your skin?

Come,
let me propel you across the snow
to Pendulum Cove,

- wine, sheep from Tierra del Fuego.…
to say nothing of running water.
Bloody wonderful!

set you down
amongst gathered men

- All through summer the sheep live outside.

in the warmth of a hut,

- In winter, they're brought indoors.

let you break the new bread,

- Each month a sheep is killed for food.

sip the sweet wine.

- Suspecting something perhaps,
  one just walked off.

Listen

- There's nowhere on this island
  a sheep can find its food
  it all arrives from home.

- Two months later,
  it returned,

- thin, dull-eyed, hungry.

You do not say
whether that sheep was saved,
but now
you sound the glacier with your skis,

The glacier speaks

light outstretched arms and tentative fingers spin in my memory to a fall melting freezing closer draw stiffen in a hold fast grip tightlipped I grow to glacier in time so slow that each particulate of gathered grit and falling ash each syllable of snow each breath of air split and fractured in its passage becomes leviathan.

remembering advice

- Only ever ski down a slope
which you have first walked up
- It is easier to see crevasses from below.

and I, high winged, nocturnal,
scribe the sky
and you return to base.

Two men squat by the meltwater
running past empty oil containers.
They are rinsing photographic prints:
ramalina terebrata
neuropogon antarcticus.

These are your kind –

Biologists
recording samples
Geologists
mapping rocks
Glaciologists
recording ice
Ionosphericists
gathering data
Meteorologists
charting weather
Seismologists
listening to the earth –

and I

The Digestor Shed, fallen sideways,
spills its workings:
pipes, cogs
and, amongst wood
scattered like bones,
chains are heaped,
intestinal.

Once more the voices
of the whalers can be heard.

- 1,955 whales in total. 100 blue,
1,400 fin, sperm.

- After the violent activity of these past few months
the bareness and silence is everywhere.

A FIDS man is cutting up
seal meat for dogs;

mosses and lichens
colonise the underscree;
are dried and packaged
to survive the journey.

I will patter my feet on the sea's surface,

Joining them,
the song of the young whale.

- And when my bones lie bleached and bare
on black volcanic sands

Whale baleen,
like grasses combed
by floodwater, greening.

rise on the thermals, swooping

- will you stand before me, traveller,
and open up your hands?

In the cold air,
steam from the springs appears
suspended, wraithlike.

between sea and rock

- They call it the whaling sickness
One poor boy hanged himself.
Missed the Opal, going home.

- Open up your heart, traveller,
and call me by my name,

- Someone told him he'd to stay behind.

- your words will warm these waiting bones,

- Such a small body.

your words will sing me home.

Having delivered its cargo,
the ship is leaving.
The man stands on deck,
prepares his camera.

change feathers
in a dazzle of air

Basalt speaks

- Dribble sodium and chlorine as you will;
I give you olivine and feldspar;
Take magnetite and haematite
for sulphate /
and magnesium

The Ocean replies.

- oceanus
  moana
  valtameri

  I

  hwaelweg
  the ocean
  am

- Hard this rock against your breaking waves.

Pock marked
by the rain's whip,
the dark sea
curls back its lips.

Subliming Off

When ice turns to vapour
without going through the liquid phase
it is known as subliming off.
A lump of ice can literally disappear.
A wet towel can freeze solid,
to flap dry after an hour.
That is, if the wind has not snapped it in half before then.

In a world of less than 10% humidity,
a blanket can shake out thunder bolts;
if you wind film onto a developing tank spiral
too quickly,
the electrostatic discharge
fogs the picture and forks it with lightning.

Here, in the snow,
paper breaks like a wafer.

Base Z (Halley)

There is an invisible geometry in the movement of air,
a harmony materialized in snow.

Compacted footsteps form pedestals and drifts.

Take this hut –
blown snow accumulates at a distance
before blizzards fill the space between
and bury it
fifteen foot below –
thus
all outside doors must open inwards.

In artificial light
men listen through white noise on the radio,
in a stove's warming, a needle's swing.

As the snow deepens,
a hatch in the roof is extended
upwards;

you can climb a ladder
into the sky.

EREBUS

Now the souls gathered, stirring out of Erebos[463]

Homer *The Odyssey Bk 11*

[463] Homer (1963) *The Odyssey.* (R. Fitzgerald, Trans.). London: Collins Harvill. p.198

Scott Base
Feb. 1964

Dear Mother and Daddy,

Thank you very much for your long letter and all the advice about which I will comment in detail later.[464]

[464] A.G. Lewis Unpublished letter. Lines in italics are taken from this letter, unless otherwise identified.

The gates of the underworld are open. Listen. Can't
you hear the restless dead, calling for you in water
sounds to hoist your sails, and set a steady course for south.

*

Sept. 1772

Mr Wales came on board to compare the watches[465].
Mr Kendall's is a fine instrument – keeps a uniform rate of going.

Tried out the temperature of sea water at different depths
with an ingenious device. 8º colder 10 fathoms down.

*

For Erebus, where silent dead trail through water as
if through dust in a night without a moon, where black sea
pools on rippled sand at the tide's turn, surface rumpled

by the wind. Erebus – where the dead will turn to face
you, fix on you their white empty eyes, and with fingers
of icy air, will slowly prise apart your limpet

lips, and pluck your lumpen tongue, and from the cavern of
your mouth set words upon the water. Listen. Darkness
is calling. The gates of the underworld are open.

*

You have to do things your own way, even make your own mistakes, to know what things actually mean. If you spend your whole life taking other people's advice, and doing things their way, life seems shallow and empty; you are living in someone else's world, and it doesn't teach you anything.

*

Tonight off Penguin Island the sea was all on fire.
A sudden squall of wind and rain, and the whole sea illuminated.

*

[465] All the observations in this format are taken from *The Journals of Captain James Cook II: The Voyage of the 'Resolution' and 'Adventure' 1772-1775.* [Cambridge Published for the Hakluyt Society 1969]
Some of the phrases are close, sometimes identical, to the original but their arrangement makes it difficult to credit each one independently.

We stand at the edge of a hole in the earth. My guide
in yellow drysuit ties the ropes for my descent,
tests the knot and clips the karabiner. I am afraid

despite my harness, of the drop and swing through black
until my feet and hands touch rock. I clasp the coupling
link and rope with clammy hands; I'm melting through my bones

into the soil. "Take it steady," he said. "I'll hold you
fast. Stand on the edge, lean back as if to fall, step down."
It's easier said than done, to pitch yourself into the air.

*

Fix a line to a piece of board so the baited hook floats.
Whiteness attracts the bird which swallows the bait and is caught.

A week of gales and common colds. Served each man a Fearnought Jacket
and a pair of Trowsers. Livestock suffer prodigiously.

*

No, she does not write to me or have anything else to do with me.

*

Hard gales and fog. Not a night passes without some animals dying.
We eat them notwithstanding. Saw two penguins and some weed.

*

The air is cold and damp; above, a diminishing
sky, the grip of rope. My stomach drops ahead to where
he says my feet will find a narrow ledge. There I'll stop.

*

Hazy with snow and sleet. Saw an Island of Ice to the west.
Who could have imagined such a vast body, all formed together?

*

Rope slack, I face the rock, soft with lichen. Heart's Tongue fern
is nodding in the cracks. "Don't look round." The chasm's full
of sound – water hurtles from the surface, echoing

and splashing down on long shafts of sunlight. All streams are
in a hurry here; the very air is resonant.
"Come," they say. My guide is right behind me now. "Let's go."

*

Sails and rigging hang with icicles; I asked all the tailors
to extend the sailors' sleeves, to make them caps for keeping out the cold.

*

Deep under earth, in passages and caves, the gods are
gathering; stalagmites begin to breathe. Clotho spins
from air the thread of human life and suspends it like

a spider's silk at dawn. Her pale sister Lachesis,
reaching up, draws the gossamer between long fingers
and measures it for Atropos, who will, hard faced,

inflexible, cut it short with sharp indifferent shears. The Fates –
three children of Erebus - tease and twist, measure and
cut, and we, lost like Theseus, seek a silver thread

to find our way. On subterranean streams where the
charts are incomplete, three grand-daughters of Chaos launch
their airy ships; these three women spin the filaments

of sound into filigree to make the alphabet,
clipping and curving letters to give us this gift: the
means to make material of insubstantial speech.

*

Saw an Ice Island in the form of a square castle, with ruined walls
and a gothic arch. No architect could have shaped it truer.

Now across M. Bouvet's track to the eastward of Cape Circumcision.
High seas and steady swell. Expect to find land hourly.

*

Deep underground, a cavern and a pool. My guide prepares
the ropes for our ascent into a higher passage
whilst I am waiting by the water. I hear a voice –

my guide, "Now switch off your torch so you can see the dark."
So. I feel it closing in, as though the air has stopped
my lips like water. Nothing visible; I'm breathing black.

*

Hoisted out a boat. Mr Forster shot a penguin and a petrel
of dark grey plumage. Took a sounding and found no bottom.

*

I'm falling without motion, with hands and knees and feet
in contact with the rock to keep me safe. And then, from
somewhere in the pool, a light, a voice. I see a man.

*

Ice in loose fields rotten and honeycombed into such shapes
that every kind of animal can be seen floating on the water.

*

I see a man, looking up

at Erebus. Its summit seems to hang in air,
ethereal. A plume of yellow smoke
is stretching into blue.

*

Last year I tried to climb Mt Erebus but could not do it alone because the weather closed in – and I had neither time nor equipment to wait it out.

*

He dreams of lunar landscapes,
slopes where ice has split its thick white skin,
and fumeroles vent the mountain's breath.

As if on flesh he feels their crystals fall.
Haphazard chimneys grow like termite mounds
with ice for earth. Carved by the wind's knife,

seracs lurch and lean, precipitous.

He knows its distant moods, its gloom;
its anger uplit red on cloud;
its summer gold and winter phosphorescence;

he wants to feel the crater lip beneath his feet.

*

I tried to reach the summit with two other climbers who had years of experience. One became exhausted at 10,000ft (he was a smoker, of course). The other gave up at 11,000 ft so I continued alone. But I couldn't carry on, not leaving someone in difficulty, with the weather closing in. Not to mention the fact we had broken every rule in mountaineering by setting out in secret.

*

Enter cumulus on rafts of air;
the yellow plume has disappeared;
the summit's spell is broken.

He must turn back.

*

I could have wept for disappointment.

*

At his feet the wind lifts and scatters crystals,
sends them streaming blindly down
toward two wooden huts below.
It seems that men from expeditions past are waiting,
cocoa steaming on the stove,
that Shackleton himself might say,
"Come in
– and don't forget to close the door."

Erebus has vanished,
the solid world is on the move, a whirl of white confusion
broken up, and he alone is stupefied by cold,
his breath compressed by 50 knots of wind,
his body just a heap of clumsy bones.

He stumbles,
staggers,
slides,

not knowing up from down,
following the slope by footfall not by sight,
whiteness streaming underfoot.

The wind around his ice axe moans,
the fabric of his anorak flaps,
and with an ice axe for a walking stick
and rigid wind upon his back,
he might make it down the glacier
where time's slow slip of polished ice
has torn crevasses into icy throats.
.
No time now to think of climbers who have fallen,
had their clothes and skin stripped off.
No time to think.

Keep solid pressed to solid
and every sense alert;
and he might make it down the glacier to the wooden hut
at Royds where men from expeditions past are waiting,
cocoa steaming on the stove,
and Shackleton himself might say,
"Come in
– and don't forget to close the door."

*

I have told you all this…

Thousands of feet below,
the Emperor penguins turn their backs
and wait.

*

…because I want to try to convey my feelings about doing things my way, why I am, as you say, sometimes pigheaded.

*

He was a crumpled curve when the wind cracked him,
hurled him down and rolled him into a ridge of snow.
After the wind's screeching and the flapping of his hood,
to fall into a cocoon of silence felt like warmth.
He lay, slipping into stillness,
with his ice-axe in his right hand,
curled like a baby drifting into sleep.

Why should he move?

He must stand up
pull an extra layer from his rucksack,
galvanise himself,
resist his body's melting into ease.

But the wind has other ideas;
invisible in worrying flakes,
an iron press upon his head,
it pushes him back down.

He sits, gripping his rucksack between his knees,
and shakes his ice-axe at the wind,
sets it in snow as the wind laughs
and sends it sliding.

He grabs its handle, digs the blade into the ice,
and now his rucksack scurries off
without his knees to hold it still.

He watches its escape,
as if loosed from a burden.

He could sleep.

Slip away.

*

my very survival depended on that rucksack[466]

*

Lunging forwards,
he catches it in his fall,
hugs it to himself,
defying gusts of wind to steal it back,
then sits
hunched like a boulder in the obscuring snow,

and inches off his glove
to free his fingers.

Instantly,

[466] A.G. Lewis 'Frozen Reminder' Published in NZ Weekly News July 6th 1966

the wind whips it away
and he thinks,

a glove without a hand to keep it warm will freeze to death.[467]

He does not plan to die.

With feet as hands to anchor kit,
he tangles clothing, snow and cords
to pull another jumper on at last.

An extra layer.
A spare glove.

And armed against the cold,
his position quite unknown,
he makes a calculation:

coast north-west, the wind south-west;
with the wind at his back and to the left,
he could stagger down the glacier,
put his feet upon the sea ice;

could find the headland,
and, east or west of Royds, a walk each way
would surely find the huts.

Let the wind make of this man an arrow
cracked and bent, but aimed at home;
let it harden him not make him numb,
and let the snow which clogs his sight
soften his descent and lead him to the hut
where men from expeditions past are waiting,
cocoa steaming on the stove,
and Shackleton himself might say,
"Come in
– and don't forget to close the door."
.
Interminable hours limp forwards, ice to ice;
no visible landmarks match the map within his mind
for there are none to see.

Lurching, stumbling blind, at last he reaches
the corrugations of a solid sea.

Still nothing manifest and nothing still,

[467] A.G. Lewis 'Frozen Reminder' Published in NZ Weekly News July 6th 1966

and foot after foot
falls forwards
on and on.

Solidity gathers darker grey ahead;
below its mass
the snow blurs black:
the tide crack.

A way back.

Whilst his body fumbles frostbitten
up a steep slope of soft volcanic ash,
he sees himself approach a hut,
a door,
a stove,
hot cocoa;
falls inside and locks the howling blizzard out

sinks into a sleeping bag

sinks into a sleeping bag
and silence.

*

Deep underground, a stone head opens its eyes, heavy
with sleep. Tilted on a nest, in a cleft in the wall,
where it rests, one cold ear lifted, and one half hidden

in a litter of horse hair and jaw bones. Now its lips
have parted. Listen. Slow notes are sounding, like feathers
in the dark. The air is stirring. Something is coming.

*

Winter came and went. One hundred and nineteen days of darkness.[468]

*

Erebus. Exhaling clouds by day and firing them
red at night. A mountain named after a ship. Double-
hulled, oak-braced and copper-keeled, she sailed south

[468] A .G. Lewis 'Frozen Reminder' Published in NZ Weekly News July 6th 1966

along a narrow lead, wind-powered, tiny, pitched against
the pack. Here, east as far as the eye could see and west,
high cliffs of aching ice, a barrier of solid

water inching forwards - the Ross Ice Shelf. Places first seen
by human eyes were charted and named – Victoria Land,
McMurdo Sound, The Admiralty Range, Ross Island...

*

After numerous unsuccessful and albeit often surreptitious attempts on Erebus, both solo and accompanied, I now knew here on base was someone with whom I could reach the summit.

*

Two men in a rising eddy of white flakes,
a vortex of sound,
and a diminishing helicopter.

Every sense is heightened,
every detail of the landscape frozen,
and each man sees himself and his companion
as tiny marks on a vast and textured white.

Time: 12:00hrs
Date: 8th Feb. 1964

Movement:
depot equipment cached –
80lb of transceiver sledge set,
primus stove,
a tent and sleeping bag –

ready.

With them on the journey:
rope and ice axes,
down jackets and crampons
to get a grip on snow surfaces –

ready.

Cumulus gathers
more speculative than threatening,
small clouds, but no storm yet.

Excitement crackles like static

in the slow crunch of snow
slopes become steeper
slippier
sheer.
They shine,
admit no grip
but the claw of crampons
ice axe teeth.

8,000ft.
(How many hours?)
It begins to snow,
and visibility is less than 30 feet ahead.

One man says:
'Do you think it's too hazardous –
in view of the weather –
only altocumulus –
we might climb through – '

The other replies:
'Whilst the ground slopes up we are not at the top.'

Boundless relief.
They drop their packs
take up the risk
and carry on.

Distance now in sound:
feet in snow,
metal on ice,
a rhythmic pound
of feet.

Bodies
burning
calories
stamping
upwards
crawling
falling
rising
rhythmic
wordless.

atmosphere thinning
harder to breathe
snow/

ice
squeaks
foot after foot

upwards.

11,000ft (more than half a day)
and the snow is orderly,
neat flakes of it fall;

cirrus on the move
wisps of it show blue

and two men climb
above the cumulus
above the stratus

into a world
where sunshine touches
distant peaks with gold.

The wind has changed.

The wind has changed
and carries with it
sulphur fumes.

70 degrees of frost
a 30 knot wind
and sulphur fumes.

It's hard to breathe.

Tearing breaths
from icy air
lungs chilled
and gasping;

they stumble and freeze.

*

Dropped the boats to gather blocks of ice for melting in the coppers. Spotted a brown bird above our ship, the size of a large crow.

*

Hour after hour
foot after foot

unspeaking

*

Slowly the cold froze our face muscles into an ash grey mask.[469]

*

Saw an island of ice at 9am. By noon were doubtful whether it were ice or land. Several penguins and also petrels.

*

hour after hour
foot after foot
until there was no more mountain
left to climb

and these two men
whose feet can feel
the press of steel
chill through mukluks
onto flesh,
can feel the crater lip
beneath their feet.

The mountain speaks, a hiss of steam,
and on the crater lip these two men stand
their icy faces rimed with frost
obscured in cloud and yellow smoke.
No need for words, or flags;
they know.

*

Today the sun was circumscribed by a magnificent halo, and on either side were rainbow fragments. Steered a course SE.

*

Snow and vapour cloud the pool and vanish you from sight.
It is a woman's face I see, and she no sibyl.
My guide appears. "Dive in," he says. I stand and kneel.

[469] A.G. Lewis 'Frozen Reminder' Published in NZ Weekly News July 6th 1966

*

Now the wind has spotted them
and summons clouds to make attack
to chivvy as they gather rocks –
their pumice, felspar, sulphur samples –
to buffet as they turn their backs.
The weather now is closing in
and one is overcome by fumes
and time is running out.

*

And will you look at me now, straight in the eye so that
I can see you through the sulphur fumes and dark waters
of this pool, and tell me how you feel? That you're afraid.

I am. Such a steep drop liquefies my bones; solid
stone turns treacherous, and I am unsteady searching.
Still no word from you, or glance (if I touch the surface

you will disappear). I think you have no time for fear.
You will not die until you're dead, your body's fighting
back. Against the wind, your flesh; against his sickness, strength.

*

Stagger down the mountainside on heavy feet
and stop, decide, when sheering off below
the slope of névé snow reveals the quickest way,
a slide, glissade
with ice axe for a grip.

So one man takes the other on his back
and as the ice axe bites
the hard névé
they gather speed
and slide right down
in showers of ice
and stop.

They stop
and look around.
They've outpaced clouds, for now,
and eight miles to the south
and in full view
is Royds.

*

We have sighted land – high mountains and sheer cliffs of ice. In the bay,
we heard a noise like cannon fire and knew the ice had fallen.

I landed in three different places, displayed our colours,
and took possession of this country in his majesty's name.

*

Nothing was left for us but an easy walk across ice and scoria to warmth, cocoa, and a sleeping bag.[470]

*

This is a desolate place: no trees or shrubs, not even enough for a tooth pick;
No rivers, only eternal ice and snow.

*

Disquiet.
He said he knew the way
could not get lost
and yet
and yet he knows
they're wandering
cannot see the headland
might lose their way.

*

Lost 'Adventure' in the fog. We fired a gun and listened for some reply.
Now the ice is breaking up, it cracks like musket shots.

Land masses appear and turn to fog; we name the solid rocks thus:
Possession Bay, Cape Saunders, Bay of Isles, Cape Disappointment.

*

I heard it first, the splash, shatters of it in the dark
before the cold slipped in to find my skin and mark it.
But I did not fall because the water held me up.

*

[470] A.G. Lewis 'Frozen Reminder' Published in NZ Weekly News July 6th 1966

And then he sees it, just below,
a blackened hand is struggling from a clasp of ice,
and pointing through the snow.

His glove,
his own name stitched inside,
was waiting here
to show the way.

*

My guide holds out his hand to help me from the pool; light
from his headlamp floats on my eyes after he has turned
to climb. He throws me a rope; I clip it on my belt

and, half scrambling, half pulled, reach the higher level fast,
the path of an old stream. "Are you ready for the next
challenge?" he asks. I nod and watch as he slips himself

into a wide mouth of stone stretched flat and wide - a tight
bedding plane squeeze through a horizontal crack. His boots
are there then gone. I concentrate on getting through, not
.
what will happen if the earth gives way. A flat slither
with cheek to rock smoothed by other cavers passing. Then
my hard hat locks me sideways. I push out with my feet.

*

Provisions running low. Still have hopes of a southern continent,
but do not feel its discovery will be of much use to man:

a Country doomed by Nature never once to feel the warmth of the Sun's rays,
but to lie for ever buried under snow and ice.

*

They found the hut.

*

Perhaps tomorrow the blizzard will have gone and Shackleton will invite us in for cocoa after all. I hope so; there is so much to ask him.[471]

*

[471] A.G. Lewis 'Frozen Reminder' Published in NZ Weekly News July 6th 1966

23½ hrs of non-stop march
then warmth

then warmth and sleep.

*

We're heading along a watercourse of hollowed rock.
To the right and just above, an older passage curves
into the dark. My headtorch illuminates a shape:

a stalagtite formation. So many centuries
of dripping water, rain on limestone, seeping slowly
from the land above, make this equation: CO_2

+ H_2O + $CaCO_3$ = (look)
calcium bicarbonate: an epiglottis in the rock.
Here I find the silent dead; rings of shells embedded in the walls;

stone scollops shaped by water spirals; ghosts of rivers
past. There are echoes in my fingertips and water
underfoot. Ahead the stream runs into light, between

the rocks and through the grass and underneath the sky.
I lie with outstretched arms, watching a drift of clouds like
trilobites, and breathe in the scent of wild thyme rising.

*

No more. I dread the scurvy laying hold of the men
at a time when we have nothing left to remove it.
We are turning back.

*

I must finish now. I am on nightwatch and have a huge backlog of work to catch up on after this 'expedition' up Erebus.

God bless then and, as always, lots of love.

"…They took their thwarts,
and the ship went leaping toward the stream of Ocean
first under the oars, then with a following wind."[472]
Homer *The Odyssey Bk 11*

[472] Homer (1963) *The Odyssey.* (R. Fitzgerald, Trans.). London: Collins Harvill. p.217