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Building on the Strata of the Dead: The Culture of Coral Reef Ecologies

ABSTRACT This chapter considers the complex biological and cultural ecologies of coral reefs as understood by two influential postcolonial writers of the twentieth century—Australian poet and activist Judith Wright and Caribbean poet and social historian Kamau Brathwaite—in order to demonstrate how a “deep collaboration” (Nassar) between the arts and sciences might assist with the work of making coral reef “legible” (Schuster). Learning to read coral is in part a learning to read our changing human selves within a planetary history. The chapter argues for the disruptive and restorative work that an unsettling ecological poetics can do, in the main through its imaginative power to rebuild broken relationships between human and apparently nonhuman worlds—worlds that are utterly entangled and interdependent. In saving coral we save ourselves.

KEYWORDS coral reef, Judith Wright, Kamau Brathwaite, natureculture, postcolonial environmental poetics, Romantic Imagination

*This is life's promise and accomplishment—
a fraction-foothold taken.
[...]
Alive, alive, intent,
love rises on the crumbling shells it shed.
The strata of the dead
burst with the plumes and passions of the earth.
Seed falls there now, birds build, and life takes over.
(Judith Wright, “The Builders” [1949] 1994, 45)*

Published in her second volume of poetry, *Woman to Man*, in 1949, “The Builders” is founded on Judith Wright’s complex response to Lady Elliott Island, the southernmost of the Great Barrier Reef’s coral isles, on which she holidayed in 1949. In the opening chapter of *The Coral Battleground*, the

story of a valiant attempt to save the Reef from industrial sabotage—a battle that began in the mid-1960s with the Australian government’s declared intention to mine limestone from Ellison Reef for use as fertilizer in the sugar-cane industry—Wright speaks of her qualification for writing the book. This was not the qualification of expertise, of belonging, or even of familiarity; rather, it is a qualification available to everyone—the responsibility of planetary care and the obligation to voice outrage and indeed to act when that care is violated. She writes:

My qualification for writing this book is that I was privileged to be one of the people who fought the battle for the Reef itself. My own contacts with it have been few. I was ten years old when I passed through the Reef waters, in a steamer sailing north [...] I did not see it again until in 1949 I spent a few weeks on Lady Elliott Island [...] [T]he offshore reef was still beautiful [...] I fell in love with the Reef then [...] Fourteen years later, I helped to form [...] the Wild life Preservation Society of Queensland, and here my part in the Reef’s story begins. (Wright 1977, 1)

But Wright’s part in the Reef’s story of course begins much earlier. It might begin with Captain Cook’s “discovery” of Australia, his voyage through the dangerously shallow reef waters up the eastern coast (and upon which his ship ran aground in June 1770), “when the first white men stared down in awe at its crags and underwater gardens” (Wright 1977, xiii). This beauty and awe sit in contradistinction to the ugliness of invasion, war, and colonization that followed European discovery and enabled the migration and settlement of Wright’s family and the associated accumulation of wealth at great human and environmental cost. As she comments in her introduction to *The Coral Battleground*, her story “is a political story” whose complications

stretch far beyond Australia, for the Reef has its enemies, and its lovers, in many countries and in the whole complicated structure of the world, its industry, its science and its commerce [...] the *Endeavour*’s voyage brought it into the world and exposed it to all the dangers of a civilisation that lives by exploiting everything in land and sea. (xiv)

Written almost thirty years after that life-changing encounter with the Reef as a young woman, the closing lines of her introduction express the deep sadness of loss:

For many thousands of years it saw no men at all; the Aborigines were not seafarers and few if any of the Pacific Island voyagers can have been

blown so far as to see it. But the *Endeavour's* voyage brought it into the world and exposed it to all the dangers of a civilisation that lives by exploiting everything in land and sea. The Reef will never be alone again until the world ends; and then it may not be a living assemblage. It may be a dead, blackened and crumbling hedge of limestone rock, its gardens withered and its creatures decimated. (Wright 1977, xiv)

But in 1949, the war over and in love with Jack McKinney,¹ Wright is valiantly positive: seeds grow, birds build, life takes over—“love rises on the crumbling shells it shed.” In this poem, at this stage in her life, there is belief in “life’s promise” and a sense that passion and beauty—indeed, poetry—is a creative force to be reckoned with. It *will* triumph; indeed, it did. In 1965 an act of vandalism that threatened to destroy “life’s promise” as represented in this instance by the Great Barrier Reef was forestalled by a group of people who refused to be cowed by the powerful united forces of government, industry, and commerce. It was not insignificant that one of the prominent leaders of that effort was a well-established, indeed, celebrated Australian poet.

Although Wright gave up writing poetry in the last fifteen years of her life, devoting herself to the activist work she came to feel did more “real” work, her poetry did, and continues to do, the “real” work of imagination. This is the beauty of poetry whose action Shakespeare claimed, perhaps counterintuitively, was as strong as a flower.² Here material and symbolic realms are joined. In “Words, Roses, Stars,” a poem included in her last volume of poetry, *Phantom Dwelling*, Wright concludes:

If I could give a rose to you, and you,
it would be language; sight and touch and scent
join in that symbol. Yet the word is true,
plucked by a path where human vision went.
(Wright [1985] 1994, 411)

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- 1 Jack McKinney was a published Australian philosopher, essayist, and award-winning novelist. Because McKinney was unable to obtain a divorce from his wife although they were separated, Wright and McKinney lived together in what, at the time, would have been understood to be “living in sin.” They were partners from the mid-1940s until McKinney’s death in 1966. Their only child, Meredith, was born, out of wedlock, in 1950. For more information about their life/work partnership see Veronica Brady’s biography of Wright (1998).
 - 2 In Sonnet LXV Shakespeare “asks,” “How with this rage shall beauty hold a plea, / whose action is no stronger than a flower?”

When Wright speaks here of the word as “true” she acknowledges the lineage of “human vision” from which the poet’s words are drawn—she acknowledges her debt to the imaginative creative work of those who came before: poetry necessarily builds upon “the strata of the dead.” We might stretch the point to claim then that *Poem is Coral Reef*: poetry’s living beauty is built on the strata of the dead—on the poetic ground of ideas, images, form, language of our forefathers and mothers; and those ephemeral things like ideas and images are intimately bound to the material world of which we are part. Culture is utterly entangled in Nature.³ Shakespeare might again be called to mind with Ariel’s lines from *The Tempest*: “Full fathom five thy father lies; / Of his bones are coral made” (Act I, Sc. ii). It is interesting here to bear in mind the relationship between a poetic “fancy” and a scientific “reality”: being made of very similar material to human bone, coral has been used effectively as a substitute for new bone in transplant operations since the 1970s (see Demers et al. 2002). Here is “the passionate touch and intergrowth of living” of which Wright speaks in the second stanza of “The Builders,” and here too is example of the human capacity to imagine that is so central to the greater understanding of ourselves and our world, whether that understanding be advanced through the arts or sciences.

What difference might it make to “saving the Reef” if we understand that we *are* coral, that Reef is us—that in acting to save coral we are saving ourselves?

In an impassioned opinion piece, posted in April 2017, Ian McCalman, then co-director of the Sydney Environment Institute, reminded readers of the historic moment that staved off destruction of the Reef, if only temporarily. He asks readers to remember “the poet, the painter and the forester” (the poet Judith Wright, the painter John Busst, and Len Webb, a forestry scientist) who, in the mid-1960s,

campaigned themselves into the ground: they lobbied politicians of every stripe, as well as unionists, scientists, students, schools, workers, Indigenous custodians and business people; they wrote countless letters to newspapers; they spoke at scores of meetings, visited schools, wrote

3 Rather than using inverted commas for nature and culture to indicate the dubious distinction between the two, I have elected to capitalize each term to lend them a more abstract character, i.e. these terms carry an historical and ideological weight; they represent a particular way of thinking about the world and our place in it as determined by a variety of factors. Representing abstract ideas, the terms should therefore be understood to be not only larger than our vernacular understanding of “nature” and “culture” but also unstable and contingent.

books, poems, and stories [...]. If these three ordinary, caring citizens could help to save the reef once, we are asking you to do something about it. (McCalman 2017)

These caring citizens were hardly ordinary, but their purported ordinariness serves the needs of rhetoric that must move and marshal the necessary support of the demos fifty years on. McCalman's piece was a response to the Australian Federal Government's promise to provide a billion-dollar loan to build a railway line from the proposed Adani Mine, west of Rockhampton, to a port north of Bowen in the Whitsunday region of Queensland: the Reef was again under threat. He writes:

the [Australian] Federal Government is providing the billion dollar loan to build a railway line to carry tonnes of coal from the Adani Mine to load the 80,000 container ships a year that will travel along the narrow, shallow, fragile Reef channel, which will, as a result, need constant dredging and be extremely vulnerable to oil-spilling accidents. That sum of money could instead have been used to try to save the greatest marine ecosystem in the world, or even to offset the plight of the 75,000 people who work in the tourist industry and generate seven billion dollars a year in revenue for Australia.

[...] WE CAN SAVE THE REEF: there is just time to do it, but the window of possibility is closing fast, and we absolutely must act now. Everyone of us, every citizen of this country who cares can do something needs to lobby the politicians, even if you live a long way from the Reef. All Australians will be diminished and diminished forever if it dies. (McCalman 2017)

Some two years later (May 2019), a conservative government was re-elected by the Australian people to serve another three years. The election was won in part on the promise of jobs and prosperity that the Adani Mine would bring to North Queenslanders. But government endorsement of the project was given without the consent of the Wangan and Jagalingou people, without undertaking appropriate consultation with the Juru, Jaanga, and Birri people, and at the risk of destroying a vast marine park—its natural and cultural heritage, its history, and its future.⁴ When, in the 1970s,

4 In August 2019 the Queensland State Government extinguished native title over 1,385 hectares of Wangan and Jagalingou country. "Under the native title system First Nations people can only obtain royalties or compensation for their land if they sign a land-use agreement with the proponent. If an agreement is not reached the native title tribunal then makes a decision and rarely rejects mining leases. In the case of Adani's Carmichael mine, seven of 12 native title applicants endorsed a land-use agreement with the company. Five native title

Wright excluded the possibility of relationship between the Reef and the Australian Aboriginal or Pacific Island peoples, she wrote in ignorance of a long history of relationship that has more recently been “discovered” by non-Aboriginal people.

The Indigenous peoples of Australia have recorded and retained the history of relationship with the Reef and Sea Country in song and story, passed down through generations over thousands of years. In reciprocal relation, to quote the Indigenous (Kanaka) Hawaiian scholar, Karin Ingersoll, “human memories [are] stored over centuries in the reef [...] memories that act as adherent forces bringing together people and places, arranging these historical memories into contemporary contexts” (2016, 43). In accord with Ingersoll’s notion of “oceanic literacy” (44), Australian Aboriginal memory/knowledge of Reef flux, as the sea has covered and uncovered this vast living structure over thousands of years, has recently been corroborated by scientific method with the extraction of fossil cores that can be read like ice cores or tree rings. Dateable calcium carbonate density bands in coral cores enable the reconstruction of climate conditions from past epochs: in other words, they enable us to read the history of the Earth’s changing environment over the long *durée*.

The work of extracting and interpreting coral cores employs the language and practice of science. But where J. E. N. Vernon speaks of corals as structures capable of sending us “messages from deep time” (Vernon 2009, 16), marine climate scientists Janice Lough and Timothy Cooper speak of the bands in coral cores as “page[s] in an environmental archive” (Lough and Cooper 2011). Messages, pages, archives: this is a language drawn from culture. Science and Art, Nature and Culture are understood—by Ingersoll, Vernon, Lough, and Cooper—in relation to each other. Knowledge gleaned of and through our extensive and complex human interaction with non-human worlds across space and time is archived in multiple material and nonmaterial, concrete and ephemeral structures to which we need be more open, more attentive, more willing to learn to read sameness and difference. Coral not only speaks of a history of which we are part, we might understand ourselves within that history *as* coral, or at least, not as dissimilar to coral as we might have thought. So learning to read coral is in part a learning to read our changing human selves within a planetary history that is more intimate than the notion of “the planetary” might suggest.

applicants opposed any deal, and unsuccessfully fought against it in the courts” (Smee 2020, n.p.).

For updates on campaigns to halt the Adani Carmichael Mine see #StopAdani (https://www.stopadani.com/campaign_updates).

The Natureculture of Coral Reef Ecology⁵

The most recent science suggests that the Great Barrier Reef was laid down about 500,000 years ago, the current living reef having begun growth on the old platform 20,000 years ago. Corals are marine invertebrates that typically live in colonies of many identical individual polyps. The polyps are 1–3 mm in diameter and connected to one another via a thin layer of tissue. Beneath the soft bodies of stony corals, polyps secrete a calcium carbonate skeleton that becomes the foundation of coral reef ecosystems. While all stony corals deposit calcium carbonate skeletons, not all grow large enough to build reef structures. Tropical reef-building corals are able to grow and secrete their calcium carbonate skeleton with the aid of *zooxanthellae*, a group of single-celled dinoflagellates that live in the tissue of corals. But reef building is slow, branching species of coral only growing 10–20 mm per year while massive species grow 1 mm per year or less.

Both temperature and salinity affect calcification, restricting tropical coral reefs to waters between 23–29°C and in a salinity range of 32–40 percent, thus most reef-building corals occur in less than twenty-five metres of seawater—a depth that is particularly sensitive to temperature increase and pollution. High sedimentation rates can also bury or smother them; and turbidity (like that produced by hurricane/cyclone activity) reduces light penetration, which restricts coral growth. Corals derive their pigmentation from *zooxanthellae*. Because tropical corals live at the uppermost boundary of their temperature tolerance, even a 1°C increase in sea surface temperature can stress *zooxanthellae* and thereby cause coral “bleaching.”⁶ In addition to the effects of temperature on reef health, increasing carbon dioxide concentrations in the atmosphere, and subsequently the ocean, lowers the pH—a process referred to as ocean acidification. While the net impact of lower pH on coral reefs continues to be studied, data to

5 The term “natureculture” points to the indivisibility, or at least, the utter entanglement, of “nature” and “culture,” in this case as apparent in the history of human relationship with coral. Referencing Donna Haraway (2003) and Agustín Fuentes (2010), Nicholas Malone and Kathryn Ovenden define “natureculture” as “a synthesis of nature and culture that recognizes their inseparability in ecological relationships that are both biophysically and socially formed” (Malone and Ovenden 2017).

6 While bleaching can be fatal to corals, especially when bleaching occurs over a large portion of the coral colony, some corals can recover by obtaining new *zooxanthellae* from the water column. As Joshua Schuster notes of a bleaching event: “The coral is not dead yet, but in a highly stressed condition. While some corals are able to recover, many succumb to disease or lack of nutrients” (Schuster 2019, 5–6).

date indicates that decreases in pH can reduce the calcification rates of corals and other calcifying organisms, in some cases ultimately resulting in reef death.⁷

There is no question that the climate crisis of the Anthropocene is having a destructive impact on coral reef systems across the globe. With increased ocean warming, increased ocean acidity and pollution, increased frequency and magnitude of cyclones, and increased traffic (industrial and tourist) in shallow reef waters, many coral reefs are in danger of extinction. Although there are estimated to have been five prior “extinction events” from which the Great Barrier Reef has recovered, many scientists fear current conditions may undermine the possibility of recovery. As Joshua Schuster has recently remarked, “[t]he recent dire depictions of reefs across the planet indicate the need to make coral legible for coral’s own sake as well as for the sake of human existence” (2019). How might coral be “made legible”? Although some fear it is already too late to save the world’s tropical coral reefs, in this essay I want to consider the value of what philosopher Dalia Nassar describes as “deep collaboration.”

Drawing on Arne Naess’s influential distinction between shallow and deep ecology (1973), Nassar argues that the work of deep collaboration between the arts and sciences is one that “recognises not only the power of art to touch us emotionally, but also its ability to transform the ways we see and think about the world—in other words, its ability to enhance our cognitive capacities” (Nassar 2021b).⁸ To this I would add the need for a kind of art that questions, and encourages us to question, assumptions, deeply held beliefs, and set patterns of thinking and being. Making coral legible requires the tools of translation that we might more easily recognize similarity and better appreciate difference. In his *Defence of Poetry*, written in 1821, Romantic poet Percy Bysshe Shelley believed that poetry had the capacity to:

purge from our inward sight the film of familiarity which obscures from us the wonder of our being. It compels us to feel that which we perceive, and to imagine that which we know. It creates anew the universe, after it has

7 I have used a wide variety of sources for the information included here on coral reef growth and death. These include Birkeland (2015), Bowen (2015), De’ath et al. (2012), Gardner et al. (2003), Henkel (2010), Lough and Cooper (2011), and Vernon (2009).

8 The 2021 Iain McCalman Lecture, “Shallow and Deep Collaboration: Art, Ecology and Alexander von Humboldt,” delivered by Dalia Nassar on February 3, 2021, can be viewed online (Nassar 2021b).

been annihilated in our minds by the recurrence of impressions blunted by reiteration. (Shelley [1840] 2002)

Following in Romantic tradition—a tradition based on the revolutionary idea that poetry was capable of re-establishing the intimate co-dependency of social and natural cultures—this essay argues for the disruptive and the restorative work that an unsettling ecological poetics can do, in the main through its imaginative power to build, indeed rebuild, broken relationships between human and apparently nonhuman worlds.

A Postcolonial Environmental Poetics

Building on recent comparative research into the relationship between English-language poetry and hurricanes/cyclones in the Caribbean and Australia,⁹ I want to consider the complex biological and cultural ecologies of coral reefs as understood by two influential postcolonial poets of the twentieth century—Judith Wright (1915–2000), with whose work I began, and Barbadian poet and social historian Kamau Brathwaite (1933–2020). I want to consider an entanglement of postcolonial environmental and social activism and the act and art of poetic word craft in order to demonstrate how poetry might assist in the work of “making legible.”

You might ask what a white woman born into the privilege of the Australian squattocracy¹⁰ and a black man born out of the dark history of plantation slavery in the Caribbean have in common. Separated by 18,000 kilometres of salt water (as the albatross flies), they are bound into a shared inheritance of European “discovery” and British colonization of “the New World.” Wright situates the “golden spike”¹¹ in 1770 with Captain Cook’s

9 See for example the collection of essays I edited with Russell McDougall and Sue Thomas, *Tracking the Literature of Tropical Weather: Typhoon, Hurricanes, and Cyclones* (2017).

10 Historically “the squattocracy” referred to those who illegally occupied large tracts of Australian “crown land,” primarily used to graze livestock. In this case, the illegality refers to the lack of authorization by the crown, but it should be noted that this was land that had never been ceded by the Aboriginal population. Acknowledging the play on “aristocracy,” the term has come to refer to the families of wealthy land owners (particularly graziers) who wield social and political power in Australia.

11 In environmental scholarship, “the golden spike” refers to the historical marker that signifies the beginning of a new geological age, recognized by scientists as the Anthropocene—the age of human impact on the earth. The term is derived from the ceremonial golden spike (also known as “The Last Spike”) which was

voyage up the east coast of Australia—a voyage that ultimately gave rise to invasion, colonization and large-scale violence done to Indigenous peoples and the natural environment. Brathwaite nominates Columbus’ “discovery” of the Americas in 1442 as the moment that precipitated the collapse of Indigenous cultures and the destructive impact of a plantation economy, enabled by the enslavement and transportation of African peoples to this “New World.” The wealth generated by plantation economies in Australia was also enabled by the capture and forced labour of Indigenous peoples from within Australia and throughout the South Pacific (known as “blackbirding”).¹² So, although differentiated by size (7.69 million square kilometres to 430 square kilometres), both Australia and Barbados are island nations for whom the ocean is a harbinger of change: both could be said to be shaped, at least in part, by salt water epistemes. In addition, the warm shallow waters of the Coral Sea off the northeast coast of Australia and the Caribbean Sea off the western coast of Barbados share the geological and oceanic conditions in which tropical corals thrive, enabling the growth of extensive coral reef. Over time the corals fragment, sand accumulates, shells and rubble break down—all adding to the gradually evolving calcium carbonate structure. In effect, new life builds on “the strata of the dead.”

“The Builders”—the poem by Wright with which this essay began, is a poem “about” coral reef: “Alive, alive, intent, / love rises on the crumbling shells it shed. / The strata of the dead.” But it is also a poem about social and cultural reconstruction in Australia post-World War II, and a poem that might reflect the very personal battle that Wright was waging against the restraints of a conservative society and family when she made the decision to live “in sin” with a married man: “Only those men survive / who dare to hold their love against the world.” But more: this is a poem that again reminds us of a cycle of life that necessarily builds upon the dead. As a daughter “born of the conquerors,”¹³ Wright, as the poem “N...’s Leap,

driven into the earth in May 1869 to join the rails that connected the Central Pacific Railroad and the Union Pacific Railroad of the United States, thereby creating the First Transcontinental Railroad. The railroad facilitated the vastly increased speed and volume of goods and people across the continent but also had devastating impact on indigenous peoples, forests and native animals like the buffalo.

12 “Blackbirding” is a term used to refer to the nineteenth- and early-twentieth-century capture and enslavement of South Pacific islanders (referred to collectively as Kanakas), forced to work on cotton and sugar plantations in Queensland (Australia), Fiji, and Samoa.

13 The phrase is drawn from Wright’s poem, “Two Dreamtimes” [*Alive*, 1973], *Collected Poems* (1994), 317. See also the line, “I’m a stranger, come of a conquering people” in “At Cooloolah” [*The Two Fires*, 1955], *Collected Poems*, 140.

New England”¹⁴ makes clear, was acutely aware of the dead upon whom modern “Australia” was built. In this poem, included in her first volume of poetry (*The Moving Image*, 1946), Wright sheds light on the darkness at the heart of Australian “settlement” with the story of Indigenous peoples herded to their deaths over a cliff by her forefathers:

The eastward spurs tip backward from the sun.
 Night runs an obscure tide round cape and bay
 and beats with boats of cloud up from the sea
 against this sheer and limelit granite head.
 Swallow the spine of range; be dark, O lonely air.
 Make a cold quilt across the bone and skull
 that screamed falling in flesh from the lipped cliff
 and then were silent, waiting for the flies.
 [...]
 Did we not know their blood channeled our rivers,
 and the black dust our crops ate was their dust?
 O all men are one man at last.
 [...]
 Night floods us suddenly as history
 that has sunk many islands in its good time.
 (Wright [1946] 1994, 15–16)

In its act of bearing witness and indeed for its refusal of racial discrimination—“O all men are one man at last”—this poem is important not only for Wright personally, but for Australia. Significantly, the poem insists upon recognition of “the strata of the dead” upon which modern Australia has been built, and the reality of our planetary life cycle in which the separation of human and nonhuman is dissolved: dust to dust, ashes to ashes *is* the reality. We are Earth, Earth is us. But more, landform is given human-form—the rock of the cliff itself retains the memory of human action—a kind of thinking that recalls Karen Ingersoll’s claim that human memory is stored in coral reef over centuries, over millennia. Wright’s poem also reminds us that no matter how deep or wide the ocean, time and tide

14 Given the deeply offensive nature of the racist “N” word, I have elected to remove it from Wright’s title. But I think it important to keep in mind the relationship between title and poem, i.e. that the poem itself “calls out” the racism of the attitude and actions taken toward Indigenous Australians by the invader population as identified by relationship between the “local/settler” racist renaming of the geographical feature and the horrendous violence associated with it. As such, within the context of the poem and Wright’s work, the title is a reminder of that ignominy.

inevitably uncover the skeletons: the bones of the disappeared ones—the Indigenous peoples, the indentured and enslaved peoples—are flung back onto the shores into the light of day; the voices of the dead return to haunt us. We might understand those shores to be literal: graves are uncovered on the excavated ground of modern building sites; skull and thigh, finger and hip are revealed when rising sea levels undercut and wash away apparently stable land. But these skeletons are also uncovered by the archival work of historians and laid bare in the shore lines of poetry, or speak through a kind of poetic ventriloquism. Some turn a deaf ear to the whispering of ghosts; and a blind eye to the altered forms of eroded remains that *might* be something else if we just wish hard enough; but Judith Wright and Kamau Brathwaite insist on remembrance and recognition of the ground upon which our present and our possible futures might be built.

In his Preface to *Mother Poem* Brathwaite writes:

This poem is about porous limestone: my mother, Barbados: most English of the West Indian islands, but at the same time nearest, as the slaves fly, to Africa. Hence the protestant pentecostalism of its language, interleaved with Catholic bells and kumina. The poem is also about slavery (which brought us here) and its effect upon the manscape. So we find my mother having to define her home as plot of ground—the little she can win and own—and the precious seedling children planted for the future. But that plot and plan is limited and constantly threatened or destroyed by the plantation. (Brathwaite 1977, n.p.)

Published in 1977, after the success of *The Arrivants* (a “new world trilogy” that sang the history of the poet’s African forebears’ capture, enslavement, and dispersal throughout the “new world” over hundreds of years), *Mother Poem* is a volume of poetry that charts the history of the poet’s “mother,” Barbados—the island of his birth and birthright / rite. Although the island and island peoples bear the deep and painful scars of violent conquest and colonization, the poet offers the Barbadian mother and her children a life beyond plantation through word art. In *Mother Poem* the poet becomes “my mother”; s/he is the porous limestone of the coral island and the history of its making—mineral, vegetable, animal. The poet’s imagination is the water that runs through the coral limestone, seeking out things hidden, giving new life to the dead and a future to the living—the stony coral itself is imagined as leaf, as embryo. This *Mother Poem* is the stream that gathers all things into itself. In the poem “Driftword,” the poet “reassembles” his broken black mother—gathering the remnants, the evidence, of cultural and environmental destruction into a work of art: this is poetry as “driftword” and poem as a collage of found objects. Poetry is an act of re-making.

Perhaps Mother Poem is the female creature of Frankenstein's nightmare,¹⁵ who will revenge the violence done her:

But my mother [...]
[...] stifles a dream as the whip raids her
and she calls on glint, echo of shell
the protein burning in her dead sea eyes

on those who will say no to distortions
who will pick up the broken stones

sloping them with chip and mallet out of the concave quarries

who will sharpen them to blocks, to bricks [...]

for her history is long and will not always bleed on other people's edges:
shards, shreds, broken tools, cast off political clothing, spittle of monkey
parsing

so she dreams of michael who will bring a sword
(Brathwaite 1977, 112)

But although Brathwaite, like Wright, warns that these crimes against humanity, crimes committed against the planetary mother who has given us nurture and sustenance, will not go unpunished—there will be judgment and retribution—this is not his (or her) role. Rather, theirs is one of revelation. They are poets of Shelley's ilk who work to remove that film of familiarity from our inward sight, a familiarity that might be labelled complacency. Like the Romantic poets they share a humanitarian impulse that moves them to assist in the building of more equitable societies; a belief in the responsibility of the poet to remind us of our debt to our forefathers and mothers; a recognition of the imperative to care for the planet that supports all life; an awareness of the vulnerability of beauty and the strength of love and truth; and finally, they share the Romantics' faith in the power of the imagination to reveal us to ourselves that we might change our ways before it is too late.

15 In Mary Shelley's great Romantic novel, *Frankenstein*, the scientist Frankenstein accedes to his creature's request to create a female that he might not be alone in his outcast state of difference, but part way through the creative process, with growing concerns that he may be thereby creating a race of monsters who would wreak havoc on mankind, Frankenstein destroys the female creature (see Vol. 3, Chapter 3, Shelley [1818] 1996, 114–5).

In an earlier poem, "Coral," published in *Islands* (1969), Brathwaite dreams the history of the Caribbean through a kind of poetic coral time-travel in which the limestone of human bone and coral intermingle with the detritus of nonhuman and human lives to become the fertile ground on which new life grows and a creative revolution of imagination is nurtured:

Even when I was a slave here
I could hear the polyp's thunder
crack of the brain's armour
the ducts and factories sucking
the rivers out, engineering
their courses, as if the stone
were a secret leaf, or a fist curled
in embryo slowly uncurling [...]

Here now are canoes, huts, yellowing corn husks, cassava,
hard harpoon heads, broken pots on the headland;
broken by time, by neglect, the tough boots
of Columbus, of pirate, the red boots of flame;
cracked soles of Africa, broken by whip,
bit of pain between teeth; broken by rain,
the new shoots of the green-dollar cane.

But the coral builds
quarries, explosions,
limestone walls,
bougainvillea churches, plantation halls
[...]

the narrow dead of the islands
chalk chalk
bone burning to limestone,
hills, porous tears, showers;

rain unhooks flowers,
green stars
of soil stare up from the stalks,
the sky glints in the wet mud
streaked with trees,
hedges, darker
ponds. I hear the boom
of the mango bursting its sweetness, spectacular
cloud riders through the tall
pouis: [...]

And slowly slowly
uncurling embryo
leaf's courses sucking grain's armour,
my yellow pain swims into the polyp's eye.
(Brathwaite 1973, 232–4)

The fist uncurls and opens itself up to pain that it might be released of the hurt. It is not the boom of canon or gun that Brathwaite's poetry releases but the boom of mango exploding with sweetness—mango tree watered by the underground stream that meanders to the sea and thereby reconnects Caribbean Island people with their African past (cultural and natural), drawing into its life-force the lost ones of the Middle Passage:¹⁶

so she lies
mutter of echoes, folded to silence
surrounded by the multiple deaths of her children
surrendered to their ancient histories

their hopes walking like rain across the distant water
[...]
you will slowly restore her silent gutters of word-fall
[...]
linking linking the ridges: the matchbox wood houses
past the glimmering downward of gully and pebble and fountain

the ancient watercourses

trickling slowly into the coral
travelling inwards under the limestone

widening outwards into the sunlight
towards the breaking of her flesh with foam
(Brathwaite, "Driftword," 1977, 114–7)

16 The "Middle Passage" refers to the middle section—across the Atlantic Ocean from West Africa to the Americas, including the Caribbean—of the Atlantic Slave Trade. The route between Europe, Africa, and the Americas was known as the triangular trade. The Middle Passage however connotes much more than a section of a route. The phrase is a reminder of trauma, death and suffering endured on that passage, but also recognizes the unburied or "undead"—the ghosts of the African captives who lost their lives on that Middle Passage, estimated to be something in the order of two million.

These are the concluding lines of *Mother Poem* where the poet listens, hears, and speaks the poetry of coral. This is a poetry that does not distinguish between human and nonhuman histories because they are embedded in each other. Here the poet brings that hidden history to light, reanimates the dead, and makes coral legible.

But no matter the healing undertaken through a cultural rejuvenation of the kind envisaged and enacted by Brathwaite, the Barbadian people and their island home are today threatened by coral death and the impact of rising sea levels.¹⁷ Climate change itself might be understood to be the direct result of colonial greed and a plantation economy,¹⁸ founded not so much on cheap labour but on what Jason Moore has called “Cheap Nature” (2015, 5). According to Moore and his co-author, Raj Patel, the abstraction “Nature” is a “hidden form of violence,” an “undetoned word” that reflects “the interests of the powerful.” They explain how “capitalism’s cheap nature strategy [...] turned the work of human and nonhuman alike into cheap things. But there’s nothing like an ecological crisis to remind civilization that nature is never cheap” ([2017] 2018, 44). The poetry of these postcolonial poets does likewise but does it have the power to do more than warn? Does it have the power to bring about the urgent and necessary change in our understanding of our relationship with the planet and, accordingly, our actions? Can poetry save us? Not of itself, but perhaps in

17 The 2010 UN Climate Conference released a report outlining the likely devastating economic impact of global warming and attendant rising sea levels on Caribbean island nations: “Rising sea levels caused by climate change are set to cause damage of billions of dollars to the islands states of the Caribbean by the middle of the century, including wiping out more than 300 premium tourist resorts, a remarkable new report suggested yesterday. Airports, power plants, roads, and agricultural land in low-lying areas, as well as prime tourist locations on islands from Bermuda to Barbados, and from St Kitts and Nevis to St Vincent and the Grenadines, will be all be lost or severely damaged, with dire implications for national economies and for the welfare of hundreds of thousands, perhaps millions, of people, according to the report” (McCarthy 2010, n.p.).

18 The term “Plantationocene” has relevance here, as Donna Haraway notes in her 2015 commentary, “Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin,” published in *Environmental Humanities*: “In a recorded conversation for Ethnos at the University of Aarhus in October, 2014, the participants collectively generated the name Plantationocene for the devastating transformation of diverse kind of human-tended farms, pastures, and forests into extractive and enclosed plantations, relying on slave labor and other forms of exploited, alienated, and usually spatially transported labor [...]. Scholars have long understood that the slave plantation system was the model and motor for the carbon-greedy machine-based factory system that is often cited as an inflection point for the Anthropocene” (Haraway 2015, note 5, 162).

accord with the connections it both reveals and makes between human and nonhuman history; and the affective power it harnesses to act in accord with the knowledge we gain.

Further Connections

When Wright engaged in battle with the Queensland government over mining coral limestone, she was informed that the reef was “dead.” Perhaps to the inexperienced eye, much of the reef appeared to be made up of dead matter, and of course this was a convenient lie that would assure concerned citizens that nothing untoward was happening. But Wright had done her scientific homework: she informs her readers that

all coral reefs contain within their growth cycle much “dead coral,” broken by weather into coral rubble, lying on the reef surfaces as [...] broken coral branches and sand. Such “dead coral” is an integral part of Reef life and forms breeding areas not only for algae and small marine organisms, but for fish themselves. Like the dead leaves under trees in the forest, it has an important part to play in replenishing Reef life; it is not an expendable “dead” product, but teems with life of many kinds. (Wright 1977, 9)

The protestors convinced a number of amateur and professional divers to volunteer for a specimen count. The dive identified eighty-eight species of live coral, sixty species of mollusc and 190 species of fish living in the so-called “dead” reef: the reef was undeniably “live.” But the results of such investigation would not be so affirmative today. Coral and human beings are remarkably resilient, but climate change, global warming, increasingly high levels of carbon dioxide in our atmosphere and dissolved in our seas are pushing us to a tipping point. In 2003 Gardner et al. reported that: “Although there are about 500 marine reserves in the wider Caribbean, this area has lost 80 % of its living coral cover during the same period that the Great Barrier Reef lost over 50 %” (Gardner et al. 2003). In 2012 De’ath et al. observed that local strategies can “only be successful if climatic conditions are stabilized, as losses due to bleachings and cyclones will otherwise increase” (De’ath et al. 2012). Writing about coral reefs in the Anthropocene in 2015, Charles Birkeland warns:

In the past, corals have typically recovered promptly after large-scale mortality from outbreaks of crown-of-thorns, hurricanes, lava flows, and other events. The drop in coral community resilience may be based on

a lack of replenishment more than coral mortality [...]. In corals, fecundity decreases as the colony is stressed [...] [I]ncreases in CO2 may be chronically stressing corals and thereby reducing fecundity. (Birkeland 2015, 11)

In conclusion to *The Coral Reef Era: From Discovery to Decline: A History of Scientific Investigation from 1600 to the Anthropocene Epoch*, where James Bowen calls for the “collective energy of every nation and government” to prioritize the problem of climate change, he claims the value of historical record lies in “its contribution to an extensive fund of data” that can provide “a reliable context within which political decisions and socially consensual Judgements can be made” (Bowen 2015, 180). But although important, this material does not of itself provide the catalyst that will transform potential to kinetic energy—it will not of itself become action. More is needed. Where McCalman asked us to remember “the poet, the painter and the forester” who, in the mid-1960s, “campaign[ed] themselves into the ground,” he might have placed more emphasis on their artistic activities—the “books, poems, and stories” (McCalman 2017)—that I believe ultimately did the big lifting work of *moving* a society to act—“to do something.”

When Nassar speaks of a “crisis in knowledge”—that we “know” and yet “don’t *really* know” and that “our knowledge doesn’t *move* us” (2021b)—I am reminded of the Creature’s plea to his scientist creator Frankenstein, “how can I *move* thee?”¹⁹ To “move” is to shift an entrenched position, but to do so through feeling. “How can I move thee?” is a plea for action—a change of direction—motivated by empathy. This is the capacity for feeling that the Romantics understood to be enabled by Imagination. As Schuster points out, “[o]ne way [...] to think the entanglements of Anthropocene, extinction, and capital, involves thinking with and as coral” (2019), but how is this thinking to be achieved? It’s not easy to think with and as coral but story, literature, poetry encourages this kind of thinking—a kind of thinking that is also feeling. It demands the state of Wordsworth’s “wise passiveness,”²⁰ described by fellow Romantic poet John Keats as “negative

19 In Volume 2, Chapter 2 the creature implores Frankenstein, his creator, to love him as a mother/father should—to acknowledge and act upon his parental responsibilities. He pleads with Frankenstein, “Oh, Frankenstein, be not equitable to every other, and trample upon me alone, to whom thy justice, and even thy clemency and affection, is most due. Remember, that I am thy creature [...] How can I move thee? Will no entreaties cause thee to turn a favourable eye upon thy creature, who implores thy goodness and compassion?” (Shelley [1818] 1996, 66).

20 The phrase is used by William Wordsworth in the poem “Expostulation and Reply,” included in *Lyrical Ballads* of 1798. See Wordsworth 1965, 106.

capability”²¹—a state of mind/heart/being that enables an openness to difference. Poetry, and Art, exercises the muscles of the empathic imagination, allows us, if we let it, to try out and to practise seeing, feeling and being different, and to recognize similarity where before we only saw difference: coral is not human bone but it is very like—the difference is important but so too is the similarity. Poetry encourages the recognition of relationship—it makes connections. Shelley observed in the early nineteenth century that we had a plenitude of scientific knowledge but that what we now required was the “creative faculty to imagine that which we know” and “the generous impulse to act that which we imagine” (2002 [1840]). In the third decade of the twenty-first century when Delia Nassar speaks of a “crisis of knowledge”—we “know” and yet we don’t act (2021b)—she calls for a “deep collaboration” between the arts and sciences to enable the kind of “knowing” that moves us to act to save ourselves and others in this time of precarity, or indeed crisis.

Judith Wright’s and Kamau Brathwaite’s poetics are integral to a life of political activism, and entangled in an intimate relationship with coral (this, despite Wright having spent very little time on, in, and with the Reef). My reading of their poetry “about” coral is testament to the power of imagination when combined with a political purpose that recognizes the deep entanglement of human and nonhuman life—of “culture” and “nature”—and the need to develop and retain meaningful relationship between thing and word, between knowledge, belief, being, and doing. Wright and Brathwaite lived and promoted an unsettling ecological poetics—a “strata of the dead” upon which we might build.

But it is not just poetry that has the power to move us: it is art in its many forms. In interview with Anthony King in 2017, Danish-Icelandic artist Olafur Eliasson talks about his collaborative work with Greenlandic geologist Minik Rosing,²² and art’s affective capacity to make our climate challenges tangible:

Art can offer people direct experiences of phenomena, which can be more effective than just reading an explanation of something or looking at charts, graphs and data. A perfect example is *Ice Watch*. By bringing blocks of Greenlandic glacial ice to a public space, giving people the opportunity to

21 John Keats used the phrase “negative capability” in a letter to his brothers George and Tom, written in 1817. See Keats 1969, 308.

22 This collaboration resulted in *Ice Watch*, created in City Hall Square, Copenhagen in 2014 and at the Place du Panthéon in Paris for the UN Climate Summit of 2015 (see <https://olafureliasson.net/archive/artwork/WEK109190/ice-watch> and <https://news.artnet.com/art-world/ice-watch-olafur-eliasson-climate-summit-384704>).

see, feel and experience the effects of climate change first hand, Minik and I were able to reach people in a way that reports, graphs and data cannot. I feel that this is an important step towards motivating people not just to know something but also to respond to it, to feel the urgency of it and to take action. (Eliasson 2020)

In closing then, I want to move away from poetry to the visual arts and leave you with a story of climate change activism and “deep collaboration” between artists and scientists at the University of Wollongong, Australia. Their aim was in part to bring about a change in the public’s understanding and perception of coral reef—primarily through the power of affect. In a paper published in *Leonardo* in August 2021, the author-creators, textile artists Jo Law and Agnieszka Golda and scientists Helen McGregor and Speidar Syyar, speak about an art/science collaboration that incorporated “innovative materials such as, conductive graphene and low-energy electronic devices, slow textiles techniques, and climate data into original artworks.” Inspired by McGregor’s climate work with coral fossils, they hoped to “engage art’s affective capacities to convey not only the urgency of current environmental challenges, but more importantly, the hopes art, science and technologies can inspire” and to “communicate the stories of our changing climate” so as to “inspire meaningful actions” (Law et al. 2019).

The artists used Japanese metallic-thread embroidery techniques to incorporate new materials such as graphene and intelligent polymer to embed micro-electronic circuitry into the fabric, thereby creating programmable sound, light, and movement that respond to a visitor’s presence through sensors in the museum space. *Spinning World*, a multi-sensory artwork that explored the relationship between art, emerging technologies, and ecology, was exhibited at Sydney’s Powerhouse Museum from July 2018 through January 2019. It included a magnificent electronic textile wall hanging, a more diminutive but very beautiful second (animated) wall hanging, and two lengths of touch-sensitive screen-printed graphene.

Of the large interactive textile installation (see Fig. 1) the authors explain: the idea of coral fossils as bio-archives is visualized in the hanging in which “colonies of coral polyps thrive in a fantastical environment. When triggered by a viewer’s presence in the museum space, hand-embroidered speakers within this coral-scape played an underwater sound recording of the Great Barrier Reef (made by XL Catlin Seaview Survey).” The second textile hanging was animated by hand-fashioned electro-magnets and the third textile work used magnified light microscope images of coral polyps from McGregor’s research which lit up when touched. Here coral is experienced as response—it lights up to our touch. Here coral is communicative—it



FIG 1. *Spinning World*, 9.2 m × 3.3 m, Agnieszka Golda, Martin Johnson, and Jo Law, 2018. Ink, silver wire, magnets, proximity sensor, and microcontrollers on cotton canvas. Installation at the Sydney Museum of Applied Arts & Sciences, Powerhouse Museum, July 7, 2018–January 6, 2019.

speaks. It lives in a vital sensory world like us, with us. This is a different kind of communication between coral and human than that engaged in by coral scientist Les Kaufman—a practice he refers to as “coral whispering.”²³ But for those of us who are not scientists and those of us who do not have ready access to the real world of corals, this kind of interactive collaboration between scientists and artists provides an imaginative means of establishing human relationship with coral that we might not only “conserve” coral but move toward what Irus Braverman describes as “a more relational, or ‘coralated,’ world” (Braverman 2018, 3).

Across the duration of the *Spinning World* exhibition, over 26,000 visitors experienced the world of coral. Here science and art were brought into an affective relationship. This was exemplary of a deep collaboration that enabled people to inhabit the magical world of coral reef ecologies through an embodied, imaginative experience—an experience that increased appreciation for the beauty and vitality of this bio-archive of which we are part, and to better understand the gravity of its demise and ours.

23 In an interview with Irus Braverman in 2017, Les Kaufman observes that “[t]he point of [coral whispering] is to diagnose problems with corals before they’re actually dead because once they’re dead, it’s not helpful. So we’re listening to the corals, this is how they talk [...]. Coral whisperer means I’m whispering to the corals. But the coral is whispering back” (Braverman 2018, 1).

Bibliography

- Birkeland, Charles.** 2015. "Coral Reefs in the Anthropocene." In *Coral Reefs in the Anthropocene*, edited by Charles Birkeland, 1–15. Dordrecht: Springer.
- Bowen, James.** 2015. *The Coral Reef Era: From Discovery to Decline: A History of Scientific Investigation from 1600 to the Anthropocene Epoch*. Dordrecht: Springer.
- Brady, Veronica.** 1998. *South of My Days: A Biography of Judith Wright*. Sydney: Angus & Robertson.
- Brathwaite, Kamau.** 1973. *The Arrivants: A New World Trilogy*. Oxford: Oxford University Press.
- Brathwaite, Kamau.** 1977. *Mother Poem*. Oxford: Oxford University Press.
- Braverman, Irus.** 2018. *Coral Whisperers: Scientists on the Brink*. Berkeley: University of California Press.
- Collett, Anne, Russell McDougall, and Sue Thomas, eds.** 2017. *Tracking the Literature of Tropical Weather: Typhoons, Hurricanes, and Cyclones*. Cham: Palgrave Macmillan.
- De'ath, Glen, Katharina E. Fabricius, Hugh Sweatman, and Marji Puotinen.** 2012. "The 27-year decline of coral cover on the Great Barrier Reef and its causes." *PNAS* (October 30) 109 (40): 17995–9.
- Demers, Caroline, C. Reggie Hamdy, Karin Corsi, Fatiha Chellat, Maryam Tabrizian, and L'Hocine Yahia.** 2002. "Natural coral exoskeleton as a bone graft substitute: A review." *Bio-Medical Materials and Engineering* 12: 15–35.
- Eliasson, Olafur.** n.d. "Ice Watch." Accessed January 19, 2022: <https://olafureliasson.net/archive/artwork/WEK109190/ice-watch>.
- Eliasson, Olafur.** 2017. "Art, Science and Environmental Consciousness. Interview with Olafur Eliasson." By Anthony King, June 27, 2017. In "Art and Science." Special Issue, *Euro Scientist*, June 2017. <https://www.euroscientist.com/artist-olafur-eliasson-art-science-environmental-consciousness/>
- Fuentes, Agustin.** 2010. "Naturalcultural Encounters in Bali: Monkeys, Temples, Tourists, and Ethnoprimateology." *Cultural Anthropology* 25: 600–24.
- Gardner, Toby, Isabelle M. Côté, Jennifer A. Gill, Alastair Grant, and Andrew R. Watkinson.** 2003. "Long-Term Region-wide Declines in Caribbean Corals." *Science* 301 (5635) (August): 958–60. <https://doi.org/10.1126/science.1086050>.
- Haraway, Donna.** 2003. *The Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago: Prickly Paradigm Press.
- Haraway, Donna.** 2015. "Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin." *Environmental Humanities* 6: 159–65.
- Henkel, Timothy P.** 2010. "Coral Reefs." *Nature Education Knowledge* 3 (10): 12. Accessed January 25, 2021. <https://www.nature.com/scitable/knowledge/library/coral-reefs-15786954/>
- Ingersoll, Karin Amimoto.** 2016. *Waves of Knowing: A Seascape Epistemology*. Durham, NC: Duke University Press.
- Keats, John** 1969. *Selected Poetry and Letters*. Edited by Richard Hater Fogle. New York: Holt, Rinehart & Winston.
- Law, Jo, Agnieszka Golda, Helen V. McGregor, and Sepidar Sayyar,** 2019. "Material Science, Slow Textiles & Ecological Futures: An Art-Science Research Collaboration

- in Response to Global Challenges.” *Leonardo: Art Science and Technology Online First*. July 4. https://www.researchgate.net/publication/334234322_Material_Science_Slow_Textiles_Ecological_Futures_an_art-science_research_collaboration_in_response_to_global_challenges.
- Lough, Janice, and Timothy Cooper.** 2011. “New insights from coral growth band studies in an era of rapid environmental change.” *Earth-Science Reviews* 108 (3–4) (October): 170–84.
- McCalman, Iain.** 2013. *The Reef: A Passionate History*. New York: Scientific American/Farrar, Straus & Giroux.
- McCalman, Iain.** 2017. “We can save the Great Barrier Reef because we did it once before.” Opinion Piece, Sydney Environment Institute, April 2017. Accessed May 27, 2019. <http://sydney.edu.au/environment-institute/blog/we-can-save-the-great-barrier-reef-because-we-did-it-once-before/>.
- McCarthy, Michael.** 2010. “Rising sea level threatens ‘hundreds’ of Caribbean resorts, says UN report.” *Independent*, December 1, 2010. Accessed March 1, 2021: <https://www.independent.co.uk/environment/climate-change/rising-sea-level-threatens-hundreds-of-caribbean-resorts-says-un-report-2148034.html>.
- Malone, Nicholas, and Kathryn Ovenden.** 2017. “Natureculture.” In *The International Encyclopedia of Primatology*, edited by Agustín Fuentes. John Wiley & Sons. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781119179313.wbpri.m0135>.
- Moore, Jason.** 2015. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. London: Verso Books.
- Moore, Jason, and Raj Patel.** (2017) 2018. *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*. Melbourne: Schwartz Publishing.
- Naess, Arne.** 1973. “The shallow and the deep, long-range ecology movement. A summary.” *Inquiry* 16 (1–4): 95–100.
- Nassar, Dalia.** 2021. “Shallow and Deep Collaboration: Art, Ecology and Alexander von Humboldt.” 2021 Iain McCalman Lecture, Sydney Environment Institute. Accessed January 25, 2021. <https://www.sydney.edu.au/sydney-environment-institute/news/2021/02/25/shallow-and-deep-collaboration-art-ecology-and-alexander-von-h.html>.
- Palmer, Lauren.** 2015. “Olafur Eliasson Responds to Paris Summit with a Domsday Clock Made of Glacial Ice.” *Artnet – News*, December 3. Accessed January 19, 2022. <https://news.artnet.com/art-world/ice-watch-olafur-eliasson-climate-summit-384704>.
- Schuster, Joshua.** 2019. “Coral Cultures in the Anthropocene.” *Cultural Studies Review* 25 (1) (July). Accessed January 25, 2021. <https://epress.lib.uts.edu.au/journals/index.php/csrj/article/view/6405/7240>.
- Shelley, Mary.** (1818) 1996. *Frankenstein*. New York/London: W. W. Norton.
- Shelley, Percy Bysshe.** (1840) 2002. *A Defence of Poetry*. Accessed March 1, 2021. https://www.gutenberg.org/files/5428/5428-h/5428-h.htm#link2H_4_0010.
- Shakespeare, William.** (1609) 1964. *The Sonnets*. Edited by William Burto. New York: Signet Classic.

- Shakespeare, William. (1623) 1976.** *The Tempest*. Edited by Frank Kermode. London: Methuen (Arden).
- Smee, Ben. 2020.** "Access to Adani's Carmichael coalmine in Queensland blocked by traditional owners." *The Guardian*, August 24, 2020. Accessed August 18, 2022. <https://www.theguardian.com/environment/2020/aug/24/adanis-carmichael-coalmine-in-queensland-blocked-by-traditional-owners>.
- #StopAdani. n.d.** https://www.stopadani.com/campaign_updates.
- Vernon, J. E. N. 2009.** *A Reef in Time: The Great Barrier Reef from Beginning to End*. Cambridge, MA: Harvard University Press.
- Wikipedia. 2021.** "Carmichael coal mine." Accessed January 19, 2021. https://en.wikipedia.org/wiki/Carmichael_coal_mine.
- Wordsworth, William, 1965.** *Selected Poems and Prefaces*. Edited by Jack Stillinger. Boston: Houghton Mifflin.
- Wright, Judith. 1977.** *The Coral Battleground*. Melbourne: Thomas Nelson.
- Wright, Judith. 1994.** *Collected Poems 1942–1985*. Sydney: Angus & Robertson.