

CHAPTER 18

POSTCOLONIALISM

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IN the past few years there has been unprecedented scholarly interest and production in the field of postcolonial ecocriticism, including book-length studies on African, Caribbean, and South Asian literatures and the environment.¹ Some critics have interpreted this as a vital and energizing postcolonial turn in the dominant fields of American and British ecocriticism, while others have lamented a lack of ecocritical engagement with the postcolonial methodologies that these studies represent. Although there is a general call for more transnational scholarship in ecocritical studies, national formulations of literary study continue to play an important role in the construction of the field.² It remains to be seen whether postcolonial studies and US/UK ecocritical studies will continue in their established, largely separate scholarly worlds connected by an eclectic but growing body of postcolonial ecocritics, or if each respective field will be transformed by the other. The growing concern with the global scope of climate change has given a planetary dimension to both fields of study; thus, both ecocritics and postcolonialists share an interest in theorizing the planet as a whole and in examining literature's part in shaping consciousness of the globe. In this essay I'll explore some of the different mappings of the globe by ecocritics and postcolonialists, and turn to how militarization has been a constitutive part of both globalization and planetary thought, particularly in the Pacific. Moreover I will highlight how postcolonial approaches, which have long theorized the relationship between place and empire, contribute an important critique of universalist modes of globalism.

MAPPING THE GLOBE AND EMPIRE

Since there are different spatial and historical logics to postcolonial and ecocritical theories, there must be a different accounting of their intellectual genealogies. British and American ecocritics have tended to outline a history of "first-wave" and "second-wave" scholarship in which concerns about the impact of empire, race, and gender are thought

to have arisen after a primary focus on conservation and wilderness.³ Postcolonial ecocritics, while often drawing from US ecocriticism, have emphasized their genealogical origins in more rhizomatic terms, drawing from historians of empire, decolonization discourse, geography, Marxism, ecofeminism, political ecology, and environmental justice work.⁴ The analytics of place, power, knowledge, and representation are vital to postcolonial studies, which has engaged in an ongoing critique of the homogenization of global space from European colonialism to its aftermath in neoliberal globalization. As a result, postcolonial approaches to environmental thought tend to highlight alterity, difference, and rupture, which are vital methods of deconstructing the discourses of Enlightenment universalism. Some of the work of postcolonial ecocriticism includes examining the implications of foundational narratives, problematizing assumptions of a universal subject and of an essentialized nature, and examining how forms of dominance are naturalized.

This critique of universal narratives of both history and the subject has been vital to postcolonial theory. This is evident in work that examines the colonial history of mapping literal and epistemic borders that divide the normative masculine Euro-American subject from its others. The cartographies of empire and their modes of enclosure—whether mapped as colonies, nations, or first, second, third, and fourth “worlds”—have all been important terrain for postcolonial critique. Consequently, postcolonial scholarship has had a specifically spatial emphasis, even if it has not been especially attentive to nonhuman nature beyond questions of resource extraction. While attempting to parochialize European epistemologies and the universal subject of history, postcolonial studies has also been critical of how globalization discourse employs homogenizing narratives that ignore the history of empire and its ongoing legacies of violence. This helps to explain the postcolonial wariness about globalizing narratives in which ecocritical expertise emanates from a “first-world” center and is exported to the peripheries/colonies as a second wave.⁵ Such a genealogy is all too reminiscent of modernization theory of the 1960s in which the industry-based technologies of the North were exported to the global south, upholding a linear model of progress epitomized by the Green Revolution.⁶ Activists and scholars around the globe have been understandably critical about the unilateral application of northern technologies of industrial agriculture and environmental policies onto the global south in ways that do not take into account local contexts.⁷ As Rob Nixon has argued, generations of activists have fought against an “antihuman environmentalism that too often sought (under the banner of universalism) to impose green agendas dominated by rich nations and Western NGOs.”⁸

These debates have centered not only on the sovereignty of natural resources but also on access to the global commons, particularly since the Cold War. For example, the United Nations’ Convention on the Law of the Sea was catalyzed by the US territorial expansion into its coastal seas in the 1950s, which tripled US territory and led to decades of discussion and policy making about fishing and seabed mining rights, as well as the juridical definition of the global commons.⁹ A similar remapping took place at the “ends of the earth” in the 1959 Antarctic Treaty, the first nuclear arms treaty in which the southern pole was defined a demilitarized zone and the “province of mankind.”¹⁰

Other international attempts to ensure equitable access to global resources included the United Nations Conference on the Human Environment in Stockholm (1972), which sought to establish a territorial mandate for global environmental sovereignty, and the World Charter for Nature (1982), which critiqued American nuclear militarism and its global environmental impact in particular. The mapping of nationalism and globalism changed radically after World War II; the number of nations doubled and postwar international conferences and treaties reflected a powerful critique from the global south about the expansive role of the hypermilitarized technologies of the North and its regimes for managing global space.

Although ecocritics of all disciplinary backgrounds have been turning to concepts of the globe, they have not been especially attentive to these unprecedented historic events in which world space—from the Earth's oceans and outer space to Antarctica—have been radically remapped. Thus, scholars have critiqued a particular form of northern environmentalism that does not address the cartographic histories of empire and economy.¹¹ Nevertheless, some American-focused ecocritics have been self-reflexive about the limits of the field and the problems of eco-parochialism. In fact, the recent shift in Americanist circles towards “ecoglobalism” and “eco-cosmopolitanism” has opened up an important bridge to postcolonial approaches. Ecoglobalism is, in Lawrence Buell's words, “a whole-earth way of thinking and feeling about environmentality”, while Ursula Heise defines eco-cosmopolitanism as a form of theorizing “environmental world citizenship” that addresses “the challenge that deterritorialization poses for the environmental imagination”.¹² Both approaches speak to the need to think in global terms about the environment, as well as to the limitations of this framework. This is an important and welcome shift that encourages us to speak in more complex and historically layered terms about the relationship to place imagined on a global, and perhaps more comparative, scale.

Since the formulations of ecoglobalism and ecocosmopolitanism have been largely separate from postcolonial methodologies, it seems an opportune moment to raise questions about how a *global* approach to environmental literature differs from a *postcolonial* one. Moreover we must ask why, despite decades of postcolonial theorizing about the globe (and its representational limits), most US and UK ecocritics have made a “global turn” without engagement with the work of their postcolonial colleagues who often are working just down the hall. There are many possible reasons for a lack of conversation between postcolonial and mainstream ecocritical approaches to the globe which may include different kinds of disciplinary and regional training as well as varying commitments to critical theory and histories of empire. I suggest the postcolonial critique of the multicultural, humanist model of the world that arose from a specific thread of globalization studies is instructive here.

In his article on ecoglobalism, Buell positions the US as an intellectual origin, writing that “ecocriticism started as an insurgency that located itself explicitly within US literary studies [and that]... spread long since throughout the Anglophone world and beyond.”¹³ He argues that “the possibility of planetary consciousness” has been prefigured by canonical American texts such as “*Walden*, *Moby-Dick*, and *Man and Nature*,”

positioned as “harbingers of contemporary ecoglobalist imagination”.¹⁴ (His assessment contrasts with Bruce Robbins’s recent claim that no “worldly” American novels have yet been written.¹⁵) Certainly ecocritical study has never been the dominant focus for literature departments, and there is a sense that it has been marginalized. Yet as scholars, we must ask what it means to position American ecocritics as a revolutionary “insurgency” and canonical US writers as originary to planetary thought. While I agree with Buell that the recent shift in US ecocriticism has been catalyzed by a general increase in transnational literary approaches and a broadening consciousness of global climate change, we must complicate the privileging of the US and its critics as the origin of ecoglobal consciousness. Susie O’Brien has persistently raised this question about the tautologies of US ecocriticism in which mainstream critics locate the origins of global environmental thought in their own (national) field. Importantly, O’Brien draws on one of the major tenets of postcolonial studies that critiques universalist claims to knowledge by arguing that the American ecocritical desire to “change the world,” presumes that ecocriticism “might know the world”.¹⁶ This question about the transparency of the world is one I will return to shortly.

To date, Americanist concerns about global environmental issues sidestep one of the most obvious worldwide ecological threats—the reach of the US military. If, as Buell argues, these nineteenth-century authors write from the center of empire—which gives them a particular insight for critique—we must ask how *contemporary* American ecocritics might use their strategic viewpoints to engage the ongoing military imperialism. Should we privilege the US as a center for planetary environmental consciousness without at the same time addressing its contemporary threats to global sustainability, including consumption, production, and a global military empire? Interestingly, it is the work of postcolonial studies scholars like Rob Nixon that has brought these environmental issues about US imperialism to the foreground. This is not, as Nixon rightly points out, an issue of merely “disciplinary parochialism” but rather a “superpower parochialism,” defined as a “combination of American insularity and America’s power as the preeminent empire of the neoliberal age to rupture the lives and ecosystems of non-Americans”.¹⁷

There are enormous political stakes in these claims to the globe. Just as Gayatri Chakravorty Spivak and other postcolonial critics have been self-reflexive about the privileges of being located in US academia and the risks of obscuring our own complicity in the very networks of power that we seek to dismantle, a postcolonial critique of ecoglobalism would foreground the political and epistemological implications of being situated in the center of the American empire while positioning it as the origin of ecocritical thought. For instance, most ecocritical scholarship positions Rachel Carson’s 1962 *Silent Spring* as an origin or at least catalyst of modern environmentalism that led to the founding of the field of ecocriticism in the 1990s. Yet this American origin story can be complicated by more rhizomatic genealogies of planet-thought. As important as Carson was for shifting public attention towards our toxic environments, the rise of the modern concept of ecology and conservation, as Richard Grove’s *Green Imperialism* has shown, can also be attributed to the complex botanical networks

of the eighteenth-century European colonial island laboratories, particularly Tahiti, Mauritius, and St. Vincent. The enormous disciplinary system of natural knowledge production cannot be defined as simply European; it was created through the extraction of knowledge and labor from indigenous and colonial subjects. As Grove demonstrates, many of our key ideas about the environment date from these early moments of European empire in which Enlightenment taxonomies and colonial rule were forged. From the ancient Greek and Roman eras to the present, empire was not a supplement to epistemologies of ecology but rather constitutive of them.¹⁸ Thus it should not be a surprise that one of the first ecology journals published in English was the *Journal of the Society for the Preservation of the Wild Fauna of the Empire*, established in 1903 for the benefit of British colonial hunters and published until the end of imperial rule in the 1950s.

Postcolonial ecocritics have argued that colonialism is not a history relegated to the periphery of Europe and the United States, but rather a process that also occurred within and that radically changed the metropolitan center. This is in keeping with scholarship that demonstrates that modernity was not exported to the colonies but rather produced by them in a constitutive relationship to the metropole.¹⁹ A refusal to see the interdependent histories of metropole and colony implicitly relegates postcolonial ecocriticism to the margins of Euro-American discourse. Historians have been more attentive in this regard than literary critics, demonstrating that European Enlightenment knowledge, natural history, conservation policy, and the language of nature—the very sciences and systems of logic that we draw from today to speak of conservation and sustainability—result from a long history of the colonial exploitation of nature, as well as the assimilation of indigenous knowledges from all over the globe. Thus Mary Louise Pratt has pointed out how the Enlightenment taxonomies of appropriated colonial nature could be configured, through the work of Linnaeus and countless plant collectors, into an eighteenth-century “planetary consciousness” that homogenized the world of nature into a binomial taxonomy. At the same time natural “kingdoms” were being inscribed in the language of empire and used to naturalize a racialized and gendered hierarchy of species.²⁰

So while Buell has argued that “the ‘oldest form of globalization’ is environmental rather than economic or political” because species migrate,²¹ we need to consider the ways in which claims to a naturalized history of globalization can sidestep the more thorny political formulations, including military ones. While certainly we want to uphold nature’s own agency in producing a nonhuman form of globalization, an “environmental” model of globalization, on its own, would be unable to account for the enormous impact of other moments of globalization that include: the first circumnavigation of the earth which in the sixteenth century brought the Pacific under European domain; the eighteenth- and nineteenth-century forcible trade of people and plants across the globe by western European empires; the centralization of British (Greenwich) space/time at the International Meridian Conference (1884) that, according to Denis Cosgrove, “inscribed Eurocentric assumptions into a hegemonic global image”; and the laying of nineteenth-century cable and other communication technologies instigated first by

the British empire and then by what Cosgrove calls "the competitive reach of commercial, industrial, and finance capital".²² These are only a few examples of any number of events that might be claimed to usher in the moment of globalization. In short, one cannot pinpoint an *original* moment of globalization or a people especially imbued with "ecoglobalist affects," and we might even question, following Bruno Latour, whether we have ever really been global. Perhaps the turn to globalism is way of touching on different historical nodal points in order to better understand our own contemporary entanglements.

REPRESENTATIONS: WORLD(ING) AND PLANETARITY

Postcolonial approaches to the environment have emphasized the mediating role of representation in order to destabilize the universal subject, ranging from debates on the construction of the "native informant" to whether the "subaltern can speak."²³ In troubling transparent representations of the human, postcolonialists have traced out how the colonial process naturalized a hierarchy of species and codified myths of biological and climactic determinism.²⁴ In its deconstruction of the normative masculine human subject, the field has largely been concerned with highlighting alterity and the limits of representation. As "ecomaterialists" who share much with a previous generation of social ecologists,²⁵ postcolonial ecocritics have on the one hand highlighted the contingency of the representation of the human subject while on the other firmly placing the human *in* nature, as distinct from the body of ecocritical work that upholds a nature/culture divide by seeking to protect the purity of wilderness areas. As Ramachandra Guha pointed out over twenty years ago, the Deep Ecology and US environmental movement harnessed universal discourses of nature conservation that, in certain instances, displaced humans in the global south in the name of wilderness conservation. Guha also pointed out the ecological threats of both global militarism and overconsumption by the industrialized elite, both at home and abroad.²⁶ Likewise Deane Curtin has challenged the universal claims of some strains of western ethics, calling attention to their reliance on an unmarked individualism and upon narratives of progress and development.²⁷ In the flurry of postcolonial ecocriticism to follow, scholars have emphasized that empire is constitutive to knowledge of place and its representation, and that the histories of empire have contributed to the hybridization and creolization of plants, peoples, and place in ways that profoundly denaturalize absolute ontological claims, particularly in places of settler colonialism. Postcolonial ecocriticism has brought forward critiques of capitalism, consumption, technology, neoliberalism, modernization and biopiracy in the former British colonies and beyond.²⁸

Until the late 20th century the sun never set on the British empire, so for all its critiques of universalism and globalism, postcolonial scholarship continues to engage an

enormous geographic expanse, examining national, regional, and global literary studies. This has generated a productive tension in the field, in which representation has been deeply entangled with these questions of the globe, the world, and the worlding process. These questions about the ecocritical claim to the globe have been raised by O'Brien's early essays as well as by Graham Huggan. The latter turns to Spivak's theory of "worlding" the Third World, in which she examines how colonies such as India were thought to enter the world only via the universalizing discourse of empire which simultaneously alienated the colonial subject in his or her home. Thus the violence of "worlding" is waged in material and ontological terms. Huggan reminds us of the critic's implication in this process, reiterating Ania Loomba's concern that postcolonial studies is "overworlding" the Third World by situating it as a "locus of anti-imperialist resistance, the overpowering rhetoric of which risks silencing the very masses on whose behalf it claims to speak."²⁹ As such, both postcolonial and ecocritical scholarship are implicated in this critique. As is clear, there is a history of resistance to the ways in which environmental narratives emanating from the metropole become universalized, as much as there has been a critique of the "overworlding" of postcolonial difference. Both have implications for our acts of reading the environment. This is not to suggest that scholars and environmentalists in the global south are not also complicit or implicated in these complex relations. As Anna Lowenhaupt Tsing has pointed out, postcolonial subjects may use a "strategic universalism" when engaging the discourse of northern environmental movements.³⁰

There are multiple ways of theorizing the world in postcolonial studies. Vandana Shiva has argued for an "earth democracy," which is not derived from moments of crisis but rather the every day, arguing that "we [must] base our globalization on ecological processes and bonds of compassion and solidarity, not the movement of capital."³¹ As George Handley and I have argued, Édouard Glissant's work has been vital to thinking alternative modes of globalization. In an effort to maintain diversity in the globalizing wake of sameness, Glissant proposes a theory of "tout-monde," or "worldness."³² He describes an "aesthetics of the earth," an "ecology" that criticizes homogenizing modes of globalization, monolingualism, consumption, "exclusiveness," and "territorial thought". In making an argument against discourses of universalism he poses an "aesthetics of disruption and intrusion" into sacred claims to legitimacy and into the homogenizing market of consumption itself.³³ Building upon this work, O'Brien observes that, being "wary, with good historical reason, of the ideological and material implications of globalizing impulses, postcolonialism admits the force of the global in a way that explicitly prohibits its recuperation into a formula that confirms the place of the individual in a universal order, either of nature or culture. The global and the local come together, not by way of simple synecdoche, or the relationship between macrocosm and microcosm, but in a way such that each interrupts and distorts the other."³⁴ As such, these theories of the globe are often marked, productively I think, by the tensions between alterity, totality, and representation.

In writing against the homogenizing and universalizing thrust of globalization, Spivak offers the term "planetarity" as a useful way of theorizing a process in which if we

“imagine ourselves as planetary subjects rather than global agents, planetary creatures rather than global entities, alterity remains underived from us.” In her view, “to think of it is already to transgress” because it recognizes that our metaphors of “outer and inner space,” or human and nonhuman, are neither “continuous with us” nor “specifically discontinuous”. Her argument addresses Loomba’s critique in that planet-thought, a mode of reading, refuses to “authorize itself over against a self-consolidating other”;³⁵ foregrounding an ecological model of thinking of the planet as “a species of alterity”. In *Death of a Discipline*, Spivak claims that planet-thought “opens up to embrace an inexhaustible taxonomy” of alterity often read in terms such as “mother, nation, God, nature”.³⁶ For Spivak and Glissant, opacity, alterity, and *not knowing* are vital methods of thinking the planet. Both are careful to pose a model of planet-thought that attempts to avoid the epistemological and ontological violence of colonization, militarization, and the structural adjustments of neoliberalism. Yet the turn to these impossibly articulated modes of thinking the planet has also drawn criticism. As Djelal Kadir warns, Spivak’s validation of the planetary potential of comparative literature overlooks a “planet whose every inch is already plotted on universal global positioning systems, whose interplanetary space is thoroughly weaponized, and whose planetarity, rather than ‘undivided “natural” space’... is already naturalized into martial containment.”³⁷ It is this relationship between worlding and militarism that I take up in this next section.

MILITARISM AND THE ENVIRONMENT

Most mainstream genealogies of ecocriticism trace founding moments of environmental thought to the publication of Rachel Carson’s *Silent Spring* (1962), the first Earth Day in 1970,³⁸ and the *Apollo* space mission images (1968–69) which are thought to be key to catalyzing global consciousness. In fact, Buell observes that “the whole earth image taken from the moon a third of a century ago has long since become a logo, a cultural cliché”.³⁹ While it’s true that most ecocritics invoke the *Apollo* images, none to my knowledge have tied them to a particular kind of global consciousness derived from American militarism in the Cold War. Denis Cosgrove has explained that the global view grew out of the aerial perspective of military aircraft and that “the idea that *vision* in the form of a mastering view across space and time was uniquely available to an aviator disengaged from ... earthbound mortals became a recurrent feature of geopolitical discourse at mid-century”.⁴⁰ While the *Apollo* space mission photos were certainly influential, they were part of a context in which *National Geographic* and other popular magazines utilized wartime cartography in ways that naturalized nationalism, militarism, and American empire under the guise of a unifying gaze of the globe. As Tim Ingold has observed in his discussion of how classroom globes map territory, “the image of the world as a globe is ... a colonial one”. Aerial military technologies in turn catalyzed American initiatives to expand their commercial aviation reach, evident in air space treaties and a rise in concepts of global connectivity, epitomized as Cosgrove

points out in the branding of airlines like “Trans World Airways” (TWA). Thus “global thinking was explicitly connected to air travel”, which began with the airplane and culminated in the astronaut’s gaze. The 1969 *Apollo* picture represents “an American image of the globe that has come to dominate late twentieth-century Western culture”, and is not necessarily a *global* image but an American image of the globe.⁴¹ Here I’d like to bring together two parallel discourses about the *temporal* depth of global ecological thought on the one hand, and the globalizing *spatial* compression created by American militarism since WW2.

While it has been the norm for ecocritical publications to gesture towards a universal environmental crisis that threatens human existence on earth, the claim for the protection of a global ecology has not been tied directly to the globalizing reach of US militarism and its environmental consequences. There are a number of explanations for this silence. The first is a dearth of critical scholarship on militarization itself, despite an enormous American military build-up in the past decade with vast environmental consequences.⁴² As Cynthia Enloe reminds us, US militarization is so ubiquitous that it becomes hidden in plain sight and deeply naturalized.⁴³ Second, a particular thread of globalization studies has perpetuated a largely historical approach to cosmopolitanism in ways that understate the ongoing power of the state and implicitly deflect attention away from forms of state violence such as colonialism and militarism. Yet war, which has largely been neglected by globalization studies, is constitutive of the globalization process. Tarak Barkawi observes, “in focusing on global flows held to be corrosive of territorially defined entities, globalization studies lost sight of war. Implicitly, war here is misconceived as a breakdown of communication and interchange, rather than as an occasion for circulation.”⁴⁴ Finally, the majority of ecocritical scholarship focuses on national and bioregional concerns like energy and natural resource use, consumption, foodways, state conservation, and population, and has not, with a few exceptions, engaged forms of militarism.

Huggan and Tiffin’s book *Postcolonial Ecocriticism* has been one of the few to position the United States as a global ecological threat, “a country that has actively and aggressively contributed to what many now acknowledge to be the chronic endangerment of the contemporary late-capitalist world.”⁴⁵ Although they do not develop this point specifically in relation to militarism, their work continues an important postcolonial critique of structural adjustment policies in an extended discussion of concepts of development.⁴⁶ Anthony Carrigan has usefully examined the ways in which “militourism,” to borrow a term from Teresia Teaiwa about the suturing of the military to tourist spaces, has been constitutive to representations of the environment in postcolonial literature. Rob Nixon’s *Slow Violence and the Environmentalism of the Poor* (2011) is perhaps the most extended discussion in ecocriticism as to the complex issues posed by what he terms “slow violence,” which he defines as damage that “occurs gradually and out of sight . . . dispersed across time and space.” He highlights Carson’s concern with “the complicity of the military-industrial complex in disguising toxicity” and, following in her wake, is one of the few ecocritics who turns to US militarization, examining the “fatal environmental imprecision” created by American so-called precision warfare

in the Gulf and its appalling legacy of poisonous depleted uranium, with a radioactive half-life of over 4 billion years. The 1991 Gulf War was, according to one scientist, "the most toxic war in Western military history."⁴⁷

The legacy of the Cold War has not, strangely enough, been a major concern to US ecocritics but it certainly has played a vital part in contemporary understandings of both ecology and environmentalism itself. Donald Worster has written that "the Age of Ecology began on the desert outside Alamogordo, New Mexico on July 16, 1945, with a dazzling fireball of light and a swelling mushroom cloud of radioactive gases."⁴⁸ He has suggested that nuclear militarism catalyzed public consciousness about the invisible pollution of the global environment, a new understanding of interconnected geographies that helped Carson redirect widespread fears of radioactive fallout towards contamination by pesticides.⁴⁹ Although it is not often noted, Carson's concern with the chemical fallout of industrial agriculture had built upon a decade of global protest against the material, social, and political fallout of American militarism. Thus, while Carson represents a vital turning point in thinking about the global environment, her work, rhetorically speaking, was deeply tied to the anti-nuclear, "one world or none" movement.⁵⁰ In this way the globe became connected discursively, as Heise points out, as "a world at risk."⁵¹

As I have written elsewhere, the historical connection between ecological thought and radioactive militarism is not as distant as it might seem. Ecosystem ecology, as it was organized by Eugene Odum, the field's "founding father", was in part facilitated by the rapid expansion of nuclear testing in the Pacific Islands and the subsequent radiological contamination of the planet.⁵² The field of radiation ecology began in the Pacific with Odum's study of the Marshall Islands, and as a result, AEC-funded research laboratories and programs in radioecology were organized in universities and nuclear power sites all over the United States, catalyzing the institutional development of ecosystem ecology.⁵³ This was in response to a global public outcry about the dangers of nuclear fallout and a worldwide movement against US militarism, which created some of the first modern conceptions of a globalism linked by the internalization of militarized radiation (fallout)—as well as the threat of nuclear apocalypse. So while there is much to say about the contributions the US has made to ecological thought, the role of American militarism has not factored enough in these discussions, whether we speak in terms of how the AEC helped establish the field of ecology, or the role of US imperialism, past and present.

PACIFIC WARS OF LIGHT

Discourses of alterity and difference have been at the forefront of postcolonial ecocriticism, which has done much to call attention to the material histories of nature and their representational affects and aesthetics.⁵⁴ This concern with alterity has been an important methodology for addressing the history of colonialism and its neoliberal and neo-colonial legacies. In the indigenous literature of the Pacific Islands, representations of

globalization, planetarity, and *te ao marama*, the world of light (in Maori), have been tied closely to the militarization of the region. One might locate the region's globalization in the history of ancient voyaging traditions, as does Epeli Hau'ofa, as well as in the long history of European and US colonialism in the region. While the earliest Pacific literary texts engaged the cultural and political legacy of World War II such as Florence Johnny Frisbie's autobiography *Miss Ulysses from Puka-Puka* (1948) and Vincent Eri's novel *The Crocodile* (1971), the region's literature did not specifically connect militarism and the environment until the United States, the United Kingdom, and France began using the region as a nuclear testing zone, exposing the Pacific Islands to threatening levels of nuclear fallout. The global implications of atmospheric weapons testing became especially severe with the 1954 *Bravo* test, which covered the surrounding islands and a Japanese fishing vessel with radioactive strontium, cesium, and iodine, killing Japanese sailors and exposing hundreds of Marshall Islanders to nuclear fallout, which resulted in miscarriages, leukemia, thyroid cancers, genetic defects, and death. Designed to maximize the spread of fallout and estimated at 1,000 times the force of the bombs dropped on Hiroshima and Nagasaki, *Bravo* has been called the worst radiological disaster in history; fallout was detected in the rain over Japan, in the lubricating oil of Indian aircraft, in winds over Australia, and in the sky over the United States and Europe.⁵⁵ *Bravo* and the subsequent 2,000 or so nuclear tests on this planet, Eileen Welsome observes, "split the world into 'preatomic' and 'postatomic' species."⁵⁶ Radioactive elements produced by these weapons were spread through the atmosphere, deposited into water supplies and soils, absorbed by plants and subsequently absorbed into the bone tissue of humans all over the globe. The body of every human on the planet is now thought to contain strontium-90, a man-made byproduct of nuclear detonations.⁵⁷ Indeed, forensic scientists use the traces of militarized radioactive carbon in our teeth to date human remains.

Due to the decades of nuclear testing in the region, Pacific sovereignty discourse and literature has a profound relationship to what Paul Virilio calls the "wars of light,"⁵⁸ demarcating them from the ways in which other postcolonial regions have engaged militarization and colonial violence. The Pacific literary response to the militarized radiation has been substantive, beginning with Maori poet Hone Tuwhare's well-known poem "No Ordinary Sun," written after the *Bravo* test and an elegy to the globalizing impact of the Cold War and its scorching implications for life on earth. Tuwhare was stationed in Japan in 1946 and witnessed firsthand the impact of atomic devastation on Hiroshima.⁵⁹ In this five-stanza poem, he repeatedly negates the natural metaphors accorded to the nuclear bomb by the AEC that liken weaponry to the sun. Elsewhere I have written of the heliographic focus of anti-nuclear literature in the Pacific and the ways in which authors like Tuwhare have turned to allegories of the sun and light to deconstruct the Cold War naturalization of militarized radiation.⁶⁰ The poem's allegorical mode has turned "No Ordinary Sun" into a rallying point for the peace movement across the Pacific. It has been reproduced in stone in the Wellington Peace Flame Garden, has been set to music, and has been adapted in a series of anti-nuclear paintings by New Zealand's well-known visual artist, Ralph Hotere.⁶¹ Part of the poem's effectiveness is its refusal to visualize the spectacular effects of nuclear detonations and their

apocalyptic impact. Thus the poem ends: "O tree/in the shadowless mountains/the white plains and/the drab sea floor/your end at last is written." In concluding with a "drab" landscape, Tuwhare avoids the apocalyptic temporality of "the end is near" and substitutes it with the authorial claim to representation: "the end at last is written."

The poem concludes, not with the visual destruction of the globe, but with its opposite: its total illumination in a "shadowless" landscape. If, like Spivak and Glissant, we define globalization by its will to homogenize and to know the planet, we can see in Tuwhare's poem how he critiques the way military globalization erases alterity and shadow. Tuwhare visualizes how the violence of heliocentric modernity illuminates the ends of the Earth—mountains, sea floors, shadows—without allowing the space for alterity or the space for *not knowing*, not seeing. He offers a vital counter to colonial and militarist mappings of the Pacific, particularly by highlighting those spaces that are understood as beyond human habitation—the mountains, deserts, and sea floors fully illuminated by this "monstrous sun." Hence, in this poem the shift to universalism (at the cosmic level) suggests a "drab" place without difference, something that should not be desired or normative, even if it is "not ordinary."⁶²

Tuwhare's shift from the landscape of trees and birds to those spaces of planetary otherness to suggest extraterrestrial difference on our own planet has also been shared by Maori author James George in his novel about the impact of the Cold War, *Ocean Roads*. This remarkable text maps the globalizing process of Cold War militarism in a way that, to borrow from Barkawi, "theorize[s] war as a pervasive and historically significant form of international interconnectedness, as a *globalizing force*."⁶³ Thus the protagonist Isaac Simeon, a British physicist employed by the Manhattan Project who helped design the first plutonium weapon, travels from Los Alamos Laboratories and the Trinity site to Nagasaki to witness the aftermath of the atomic attack, while his New Zealand photographer-wife travels throughout Vietnam during the war and then to military memorial sites such as the Trinity and Pearl Harbor monuments. Yet the space given textual prominence for this couple is Antarctica, a place where Isaac has a mental breakdown that leads to his institutionalization in 1959. In militarized Antarctica, where "the only green for a couple of thousand miles is that of military fatigues", he observes, "I spent a decade there without even knowing it. Every empty mile, every breath of graveyard wind had my name on it. A name like mine, arrogance like mine. I just never realized it until I stood on it, set my foot with my flesh instead of my mind, my imagination". In wandering in the Antarctic desert he finds "phantom footprints" and total silence, replicating his experience in post-atomic Nagasaki. It's curious that of all the military landscapes he has mapped, George turns to Antarctica to set the scene for his protagonist's realization of his complicity in nuclear violence, an awareness that renders him speechless for a decade. But Antarctica, like Tuwhare's "sea floor," represents the limits of human habitation on earth, and a space of the planet's alterity. It is a place of "endless twilight", a desert where there has been no rain in a million years, where "even the ash from burned human excrement lasts forever". Antarctica, Isaac determines, is extraterrestrial: "I might as well have been on Mars."⁶⁴ Thus it is, like planetarity, an uncanny place, of our earth home and also a place of not knowing, of not belonging, a profound

lack of embedded or place-based consciousness. Isaac is not the only one to interpellate the poles as extraterrestrial—NASA used the Antarctic Dry Valleys (the same ones inscribed in the novel) as testing areas for their Mars space probes.⁶⁵ As such, the climatic ends of the Earth provide an imaginary locus for thinking through earthly and extraterrestrial globalism.

As befitting someone inhabiting a space of alterity, Isaac becomes lost in the landscape, “reciting mathematical conundrums in his mind”, his own way of ordering the world. In a panic “he begins to run, knowing that his tiny figure is covering in seconds what the glacier covers in a century,” and he then sleeps, dreaming of houses “far below, like a Lilliput landscape”. It’s significant that George attributes an aerial view to his protagonist in his moment of crisis; Isaac becomes detached from his own human scale, imagining himself from above even as he becomes subject to the immensity and alterity of Antarctica. There he dreams of the lights of a city below and of himself as the plutonium-239 “implosion bomb” that he created, the “Fat Man” dropped on Hiroshima in 1945. Interestingly, it is the anthropomorphism of these first weapons of mass destruction (the bomb dropped on Hiroshima was termed “Little Boy”) that allows Isaac to merge with the other that he has created, to set “foot with (his) flesh instead of (his) mind.” Hence he describes a dream in which the B-52 bomber’s doors open and he “slip(s) away,” his head and body “encased in their metal sarcophagus,” which represent “two separate nuclear weapons”. It is in this fusion process, he explains, that “I have begun.” But even in the increasing heat, pressure and process of becoming an exploding plutonium weapon dropping on an unaware city, Isaac imagines a second, larger aerial gaze: “someone shadowing my flight might glimpse my skin buckling, cracking, the first rip sending searing light into the last picoseconds of blue sky”. The merger with that weapon of alterity (in that its destructive power cannot be fully comprehended), is not in Isaac’s dream a merger with the environment but rather an always Apollonian view of detachment. Thus while a nuclear weapon at detonation will violently merge with its environment even as it destroys it, Isaac does not imagine this merger and he maintains his alterity and his aerial vision. He descends to Nagasaki and his dream concludes: “beneath me, skin peels, eyeballs melt, bones become liquid”. As someone who refers to himself elsewhere as a “disciple... of light”, Isaac believes himself to be “more a child of the sun than the earth” and thus a sign of both global nuclear militarization (its homogenization) and planetarity (its alterity).⁶⁶

Cosgrove has argued that in on our global vision, the arctic poles “represent the final ends of the earth, global destinations of ultimate inaccessibility. Their ‘conquest’ offered individuals and nations a competitive sense of global mastery comparable only to circumnavigation by sea or air or the ascent of high mountains”.⁶⁷ So while Isaac might have experienced the realization of his own complicity in the violence of global militarism in the aftermath of visits to Trinity and Nagasaki, George deliberately locates his breakdown in Antarctica, a depopulated “end of the earth” which in its continual illumination throughout the austral summer, its lack of green flora and normative models of time tied to our perception of the setting sun, becomes the figure for a post-apocalyptic planetarity (difference) that renders human time and, given Isaac’s breakdown, even articulation impossible.

While postcolonial ecocritics have focused on the populated regions of the Earth, Cosgrove reminds us that the colonizing reach of military globalization also entails "the Enlightenment vision of global encirclement", which becomes possible through the conquest of the poles. Consequently the "cold war was aptly named" because of the militarization and nuclearization of the Arctic and Antarctic: "The militarization of the North Pole redirected competitive research toward Antarctica ... and American detonation of hydrogen bombs to examine auroral effects. There is a direct line of descent from this work to the discovery of the Antarctic ozone deficit and fears of global climatic catastrophe". As such, contemporary fears of "the end of the Earth" created by rapid climate change can be traced back to an earlier discourse of the nuclear annihilation of the planet. Importantly Isaac's institutionalization occurs in February 1959, shortly after his trip to Antarctica where it seems he was a scientific researcher for the International Geophysical Year (IGY), a global research project that Cosgrove calls "a defining moment for twentieth-century globalism". The IGY included extensive research in Antarctica and resulted in the USSR and US launching the first artificial satellites, *Sputnik* (1957) and *Explorer* (1958).⁶⁸ George's decision to place Isaac's breakdown in Antarctica amidst the IGY raises important questions about how Cold War science produced at the literal "end of the Earth" was made possible by our planet's own polar spaces of alterity, transforming what were understood to be spatial limits of the earth into temporal ones.

On one hand we might interpret Isaac's incorporation of the omniscient eye into his dream ("someone shadowing") as yet another visual logic in a novel whose form has been constituted by its engagement with such technologies of light as such as nuclear and medical radiation, fire and napalm, as well as photography and film.⁶⁹ On the other hand, George's decision to locate this dream and transformation of his character in Antarctica suggests his invocation of the ways in which Cold War militarization created another spatial logic for understanding the planet. The "scramble for the seas" that constituted much of the 1950s was also tied to a "scramble for outer space" as the Soviet Union and United States rushed to produce both artificial satellites and intercontinental ballistic missiles (ICBM). The 1954 *Bravo* test in fact demonstrated the general portability of hydrogen weapons and thus the US Department of Defense gave top priority to developing the significantly named *Atlas* ICBM series. Moreover their experiments at the southern pole, where the earth's magnetic field is the lowest, led to a short but controversial nuclearization of the ionosphere, in which they detonated a number of high altitude weapons, so-called rainbow bombs, that created a broader distribution of radiation and involved the deliberate disruption, sometimes for weeks, of radio and radar communications.⁷⁰

Cosgrove observes that the poles "remain eschatological ends of the earth, whence ozone depletion or ice-sheet meltdown threatens life across the globe".⁷¹ It is significant that George positions one of major climax points of the novel here, one that far exceeds the momentary appearance in the novel of the *Apollo* space mission to the moon, which produced our iconic photographs.⁷² While Etta witnesses the televised moon landing from her hotel in Saigon and remarks on the differences in experiences of distance

from the earth, the personally transformative moment in the novel is associated with Antarctica. Elsewhere I've argued that George's novel represents the alterity of the planet through metaphors of light and radiation.⁷³ Fittingly, that experience of the total light of nuclearization, while it cannot be experienced without the death of the subject, is displaced onto Antarctica, a place—during the austral summer—of total light which is not disconnected from the homogenizing reach of global militarism. Thus it is, like Spivak's theory of planetarity, an uncanny place of our earth home and also a place of not knowing, of not belonging, a profound lack of embedded or place-based consciousness.⁷⁴

Noël Sturgeon has commented that the end of the Cold War in the 1980s was simultaneous with the rise of global environmentalism, the discursive and political implications of which have not been fully explored. While ecocriticism is largely concerned with terrestrial matter, such as the trees and soil that are thought to "root" human relationships to the land, it has not engaged enough with the ways in which our images of the Earth arise from Cold War militarism as well as with how modes of imagining the Earth might contribute to the naturalization of the military surveillance that has expanded since the era of *Sputnik* and justified first by the war against communism and later by a war against that ubiquitous enemy, "terror." If the concept of the literary hero has military roots, as Catharine Savage Brosman argues, we might better examine the ways in which literary forms might naturalize military violence.⁷⁵ Moreover, American ecocritics might engage the present history of US militarism to better theorize an ecoglobalism without universalism, an acknowledgment of the violence of American empire as much as its necessary parochialization. This is one vital method of planet-thought, in which militarism and environmentalism are paradoxically continuous and discontinuous. Moreover, this approach to planet-thought would recognize our own attempts, as academics, to dismantle the homogenizing networks of power in which we are enmeshed.

Cosgrove suggests the ends of the Earth, whether imagined as Antarctica or outer space, reflect the closure of open space, and the end of a frontier.⁷⁶ Postcolonial approaches to ecocriticism insist on examining the shifting concept of the frontier, in both material and disciplinary terms. The newness of ecoglobal models provide a welcome opportunity to create a vital dialogue between postcolonial and ecocritical thought, but claims to the globe might be tempered by critiques of totality and universalism. Moreover, the frontiers of literary study are not necessarily outside of the legacies of colonial violence or the ongoing reach of US militarism. These are some of the thorny entanglements to consider as we witness the expansion of US-based ecocriticism and its recent shift into the environmental humanities.

NOTES

1. The most recent works include: Graham Huggan and Helen Tiffin, eds., "Special issue: Green Postcolonialism," *Interventions: International Journal of Postcolonial Studies*, 9 (2007); Helen Tiffin, ed., *Five Emus to the King of Siam*. (Amsterdam, New York: Rodopi, 2007); Special issues of *ISLE: Interdisciplinary Studies of Literature and the Environment* 14 (Winter

- 2007); and *Modern Fiction Studies* 55 (2009); Bonnie Roos and Alex Hunt, eds. *Postcolonial Green: Environmental Politics & World Narratives* (Charlottesville: University of Virginia Press, 2010); Graham Huggan and Helen Tiffin, *Postcolonial Ecocriticism: Literature, Animals, Environment* (New York: Routledge, 2010); Upamanyu Mukherjee, *Postcolonial Environments: Nature, Culture & Contemporary Indian Novel in English* (London: Palgrave Macmillan, 2010); Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011); Anthony Carrigan, *Postcolonial Tourism* (New York: Routledge, 2011); and Elizabeth DeLoughrey and George B. Handley, eds. *Postcolonial Ecologies: Literature of the Environment* (New York: Oxford University Press, 2011).
2. See Lawrence Buell, "Ecocriticism: Emerging Trends" in *Qui Parle* 19 (Spring/Summer 2011), 87–115 on ecoglobalism and Ursula Heise, *Sense of Place and Sense of Planet* (Oxford: Oxford University Press, 2008) on eco-cosmopolitanism.
 3. Critics have generally agreed that mainstream formulations of ecocriticism have largely been concerned with tropes of wilderness conservation, pastoralism, the individual's relationship to non-human nature, the sublime, pollution, and apocalypse. See Jonathan Bate, *Song of the Earth* (Cambridge: Harvard University Press, 2002); Buell *The Future of Environmental Criticism: Environmental Crisis and Literary Imagination* (Malden: Blackwell Publishing, 2005); and Greg Garrard, *Ecocriticism* (New York: Routledge 2011) for a representative few.
 4. Compare Buell "Ecocriticism: Emerging Trends" to DeLoughrey and Handley's "Introduction" *Postcolonial Ecologies* (2010). The "wave" narrative often erases the important contributions of ecofeminists and environmental justice scholars who were publishing in the earliest issues of the foundational journal ISLE. Examples of some earlier ecofeminist and environmental justice literary approaches include Joni Adamson, Mei Mei Evans and Rachel Stein (eds) *The Environmental Justice Reader: Politics, Poetics, and Pedagogy*. Tucson: The University of Arizona Press, 2002; Joni Adamson *American Indian Literature, Environmental Justice, and Ecocriticism: The Middle Place*. Tucson: The University of Arizona Press, 2001; Stacy Alaimo *Undomesticated Ground: Recasting Nature as Feminist Space*, Cornell University Press, 2000; Gaard, Greta & Murphy, Patrick *Ecofeminist Literary Criticism: Theory, Interpretation, Pedagogy* University of Illinois Press 1998; and Gaard, Greta. Ed. *Ecofeminism: Women, Animals, Nature*. Philadelphia: Temple University Press, 1993.
 5. See critiques in Ramachandra Guha, "Radical American Environmentalism and Wilderness Preservation: A Third World Critique," *Environmental Ethics* 11 (1989); Rob Nixon, "Postcolonialism and Environmentalism," in *Postcolonialism and Beyond*, ed. Ania Loomba et al. (Durham, NC: Duke University Press, 2005); and Susie O'Brien, "Articulating a World of Difference: Ecocriticism, Postcolonialism and Globalization." *Canadian Literature* 170–171 (Autumn/Winter 2001).
 6. See Vandana Shiva, *The Violence of the Green Revolution: Third World Agriculture, Ecology and Politics*. (New York: Zed Books Ltd., 2001) and Huggan and Tiffin, "Development" (2010).
 7. This is apparent in critiques of a Green Revolution that was deliberately intended, according to USAID director William Gaud, to displace and delegitimize the "red revolution" arising from recently decolonized nations. William S. Gaud, "The Green Revolution: Accomplishments and Apprehensions," *AgBioWorld*. March 8, 1968. <http://www.agbioworld.org/biotech-info/topics/borlaug/borlaug-green.html>

8. Rob Nixon, *Slow Violence*, p.5.
9. In 1945 President Truman violated the freedom of the seas doctrine with his proclamation that the fisheries and maritime mineral resources contiguous to the US coasts were national territory, greatly extending the littoral (coastal) state to 200 miles out to sea. Two years later Truman violated international law by annexing Micronesia, a "sea of islands" as large as the north Atlantic Ocean, an acquisition that more than doubled US territory. When we factor in the 3.9 billion acres of submarine land and resources, 1.7 times the size of onshore territory, Truman tripled the territorial size of the United States. See Elizabeth DeLoughrey, *Routes and Roots: Navigating Caribbean and Pacific Island Literatures* (Honolulu: University of Hawai'i Press), pp.31–37.
10. Seyom Brown, Nina Cornell, Larry Fabian and Edith Weiss, *Regimes for the Ocean, Outer Space, and Weather; Resource Management at the International Level: The Case of the North Pacific*, (Washington, D.C.: Brookings Institution, 1977), p.128.
11. See Shiva, Violence, and Richard Peet and Michael Watts, eds., *Liberation Ecologies* (London; New York: Routledge, 1996).
12. Buell, 'Ecoglobalist Affects: The Emergence of U.S. Environmental Imagination on a Planetary Scale,' in Wai-Chee Dimock and Lawrence Buell, eds. *Shades of the Planet: American Literature as World Literature* (London: Princeton University Press, 2007), pp.227–248 (p.227); Heise, p.10. See also Timothy Morton, *The Ecological Thought* (Cambridge; London: Harvard University Press, 2010): "Small is beautiful... The local is better than the global. These are some of the slogans of environmental movement since the late 1960s. I'll be proposing the exact opposite... In my formulation, the best environmental thinking is thinking big—as big as possible, and maybe even bigger than that, bigger than we can conceive." (20).
13. Buell, p.228. O'Brien argues that Cheryll Glotfelty's introduction to the *Ecocriticism Reader* makes a similar claim for extending US ecocriticism to the world in Susie O'Brien, "Back to the World: Reading Ecocriticism in a Postcolonial Context," in *Five Emus to the King of Siam*, ed. Helen Tiffin. (Amsterdam, New York: Rodopi, 2007), pp.177–199.
14. *Ibid.*, 242.
15. Robbins, Bruce. "The Worlding of the American Novel," in *The Cambridge History of the American Novel*, ed. Leonard Cassuto. (Cambridge: Cambridge UP, 2011), pp.1096–1106.
16. O'Brien, 'Back to the World,' p.181.
17. Nixon, *Slow Violence*, p.34.
18. See Antonello Gerbi, *The Dispute of the New World* (Pittsburgh: Pittsburgh University Press, 1973) and *Nature in the New World* (Pittsburgh: Pittsburgh University Press, 1985); Richard Grove, *Green Imperialism* (Cambridge: Cambridge University Press, 1995); Richard Drayton, *Nature's Government* (New Haven: Yale University Press, 2000); Nancy Stepan, *Picturing Tropical Nature* (Ithaca: Cornell University Press, 2001); Donald Moore, Jake Kosek, and Anand Pandian, eds., *Race, Nature, and the Politics of Difference* (Durham: Duke University Press, 2003); William Beinart and Lotte Hughes, *Environment and Empire* (Oxford: Oxford University Press, 2007); Elizabeth DeLoughrey, Renée Gosson and George Handley, eds., *Caribbean Literature and the Environment* (Charlottesville: University of Virginia Press, 2005); and DeLoughrey and Handley, eds., *Postcolonial Ecologies* (Oxford: Oxford University Press, 2011).
19. Sidney Mintz, *Sweetness and Power* (New York: Penguin Books, 1985).
20. Mary Louise Pratt, *Imperial Eyes* (London, New York: Routledge, 1992), p.15.
21. Buell, 'Eco-globalist Affects,' p.227.

22. Denis Cosgrove, *Apollo's Eye: A Cartographic Genealogy of the Earth in the Western Imagination* (Baltimore, MD: Johns Hopkins University Press, 2001), p.221.
23. The literature on this is enormous, but good starting points are Gayatri Chakravorty Spivak, "Can the Subaltern Speak?" in *Wedge*, 7/8 (Winter/Spring 1985); and Graham Huggan, *The Postcolonial Exotic* (New York: Routledge, 2001).
24. See DeLoughrey, Gosson, and Handley, *Caribbean Literature*. In Una Chaudhuri, "There Must Be a Lot of Fish in That Lake: Towards an Ecological Theatre," *Theatre* 25 (1995), 23–31, Chaudhuri argues, "Along with other discourses born of the age of industrialization, nineteenth-century humanism located its shaky foundations on the growing gap between the social and natural worlds, constructing a fragile edifice that could sustain itself only at the cost of actively ignoring the claims of the nonhuman."
25. See Mukherjee, *Postcolonial Environments*; and Carrigan, *Postcolonial Tourism*.
26. Guha, 'Radical American Environmentalism.' He contended that deep ecology demonstrated a "lack of concern with inequalities *within* human society," dehistoricized nature (72), and overlooked more pressing environmental issues such as global militarization and the growing "overconsumption by industrial nations and by urban elites in the Third World" (74).
27. Deane Curtin, *Chinnagounder's Challenge: The Question of Ecological Citizenship* (Bloomington, IN: Indiana University Press), 1999. On individualism and universalism, see also Noël Sturgeon, *Ecofeminist Natures* (New York, London: Routledge, 2007) and O'Brien, "Back to the World".
28. See Vandana Shiva, *Earth Democracy* (Boston: Boston South End Press, 2005); Carolyn Merchant, *Death of Nature* (San Francisco: Harper Collins, 1983); Elizabeth DeLoughrey, Renée Gosson and George Handley, *Caribbean Literature and the Environment: Between Nature and Culture* (Charlottesville, University Press of Virginia, 2005).
29. Graham Huggan, "Greening' Postcolonialism: Ecocritical Perspectives," *Modern Fiction Studies* 50:3 (2004), 701–733 (p.704). See Ania Loomba, "Overworlding the Third World," in *Colonial Discourse and Post-Colonial Theory: A Reader*, ed. Patrick Williams and Laura Chrisman (New York: Columbia University Press, 1994), pp.305–323. Also Gayatri Chakravorty Spivak, "The Rani of Sirmur," *History and Theory* 24:3 (1985), 247–272; and Bill Ashcroft, Gareth Griffiths and Helen Tiffin, *Postcolonial Studies: The Key Concepts* (New York, London: Routledge, 2000).
30. Anna Lowenhaupt Tsing, *Friction: An Ethnography of Global Connection* (Princeton, NJ: Princeton University Press, 2011).
31. Shiva, *Earth Democracy*, 4.
32. Handley and DeLoughrey, *Postcolonial Ecologies*. Édouard Glissant, "The Unforeseeable Diversity of the World," trans. Haun Saussy, in *Beyond Dichotomies: Histories, Identities, Cultures, and the Challenge of Globalization*, ed. Elisabeth Mudimbe-Boyi (Albany: State University of New York Press, 2002), pp.287–295.
33. Édouard Glissant, *The Poetics of Relation*, trans. Betsy Wing (Ann Arbor, MI: University of Michigan Press, 1997), 146, 151.
34. O'Brien 2001, p.143. See also Susie O'Brien, "The garden and the world: Jamaica Kincaid and the cultural borders of ecocriticism," *Mosaic: a Journal for the Interdisciplinary Study of Literature* 35.2 (2002): 167–185; and Rajagopalan Radhakrishnan, "Worlding, by Any Other Name," in *History, the Human, and the World Between* (Durham, NC: Duke University Press, 2008), pp.183–248.

35. Gayatri Chakravorty Spivak, "World Systems and the Creole," *Narrative* 14.1 (2006): 102–112 (pp.107–8, 107).
36. Gayatri Chakravorty Spivak, *Death of a Discipline* (New York: Columbia University Press), p.72, 73.
37. Kadir Djelal, "Comparative Literature in an Age of Terrorism," *Comparative Literature in and Age of Globalization*, ed. Haun Saussy (Baltimore: Johns Hopkins University Press, 2006), pp.68–77 (p.72).
38. See Heise, Garrard and Mukherjee.
39. Buell, 'Eco-globalist Affects', p.227. Wolfgang Sachs, *Planet Dialectics: Explorations in Environment and Development* (London: Zed Books, 1999); Denis Cosgrove, *Apollo's Eye: A Cartographic Genealogy of the Earth in the Western Imagination* (Baltimore: Johns Hopkins University Press, 2001); and Heise have all demonstrated how new technologies from the internet to satellites have provided new ways of imaging the earth.
40. Cosgrove, p.242.
41. See Tim Ingold, "Globes and Spheres: The Topology of Environmentalism," in *Environmentalism: The View from Anthropology*, ed. K. Milton (London: Routledge, 1993), pp.31–42 (p.38).
42. For an account of the US military's holdings and operations in forty-six countries and territories, see "The Department of Defense Base Structure Report: Fiscal Year 2011 Baseline Report," <http://www.acq.osd.mil/ie/download/bsr/bsr2011baseline.pdf>. There have been many articles documenting the US military's impact in Vietnam, Bikini and Enewetak Atolls, Okinawa, Hawai'i, and Guam in particular—too many to list here. Interestingly, recent articles have turned to the military's excessive contribution to carbon emissions, such as work by University of Nebraska's Adam J. Liska and Richard K. Perrin's "Securing Foreign Oil: A Case for Including Military Operations in the Climate Change Impact of Fuels," *Environment Magazine* (July/August 2010), <http://www.environmentmagazine.org/Archives/Back%20Issues/July-August%202010/securing-foreign-oil-full.html>
43. Enloe, Cynthia. *Bananas, Beaches and Bases*, UC Press, 2001.
44. Barkawi, Tarak. "Connection and Constitution: Locating War and Culture in Globalization Studies." *Globalizations* 1.2 (2004): 155–170. (p.155).
45. Huggan and Tiffin, p.1.
46. See also Gustavo Esteva, "Development," in *The Development Dictionary: A Guide to Knowledge as Power* (London: Zed Books, 2010), pp.1–23.
47. Nixon, p.xi, 201, 204.
48. Donald Worster, *Nature's Economy: A History of Ecological Ideas*, 2nd edn. (Cambridge: Cambridge University Press, 1994), p.342.
49. See also Ralph H. Lutts, "Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout, and the Environmental Movement" in *No Birds Sing: Rhetorical Analyses of Rachel Carson's Silent Spring*, ed. Craig Wadell (Carbondale: Southern Illinois University Press, 2000), pp.17–42.
50. For more on the "one world or none" see Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (Chapel Hill and London: University of North Carolina Press, 1994).
51. Heise, p.27.
52. Joel Bartholomew Hagen, *An Entangled Bank: The Origins of Ecosystem Ecology* (Piscataway, NJ: Rutgers University Press, 1992), p.101.

53. Hagen, p.112. Discussed in Elizabeth DeLoughrey, "Heliotropes: Solar Ecologies and Pacific Radiations" in *Postcolonial Ecologies: Literatures of the Environment*, eds. DeLoughrey and George Handley (Oxford: Oxford University Press, 2011), pp.235–253.
54. On domination, Max Horkheimer and Theodor Adorno, *Dialectic of Enlightenment* (New York: Herder & Herder, 1972) has been foundational. See Carolyn Merchant, *Ecology: Key Concepts in Critical Theory* (New York: Humanity Books, 1999); Val Plumwood, *Feminism and the Mastery of Nature* (New York and London: Routledge, 1993), Karen J. Warren, *Ecofeminist Philosophy: A Western Perspective on What It Is and Why It Matters* (New York: Rowman and Littlefield Publishers, Inc., 2000), and DeLoughrey and Handley, *Postcolonial Ecologies*. As O'Brien has argued in 'Articulating a World of Difference', postcolonial ecocritical literature 'reject(s) hierarchies of colonialism and nationalism,' and 'reimagines identity as the product of an ongoing engagement with the alterity of the world' (147).
55. Jungk, Robert. *Brighter than a Thousand Suns: A Personal History of the Atomic Scientists* (New York, NY: Harcourt Brace, 1958), p.310.
56. Welsome, Eileen. *The Plutonium Files: America's Secret Medical Experiments in the Cold War* (New York, NY: Dial Press, 1999), p.30.
57. Caufield, Catherine. *Multiple Exposures: Chronicles of the Radiation Age* (Toronto, CA: Stoddard Publishing Co., 1988), p.132.
58. Virilio, Paul. *War and Cinema: the Logistics of Perception* (London: Verso, 1989), p.68.
59. Hunt, Janet. *Hone Tuwhare: A biography*. Auckland: Godwit Press, 1998, p.49.
60. DeLoughrey, "Heliotropes".
61. A bibliography of written and musical works on Tuwhare can be found here: <<http://www.library.auckland.ac.nz/subjects/nzp/nzlit2/tuwhare.htm>>
62. Hone Tuwhare, "No Ordinary Sun" <<http://honetuwhare.org.nz/more-poems/>> [Accessed 22 December 2013].
63. Barkawi, p.156.
64. George, James. *Ocean Roads* (Wellington, NZ: Huia Publishers, 2006), p.65, 342, 66, 336, 66, 336, 336.
65. May, John. *Greenpeace Book of Antarctica: A New View of the Seventh Continent*. (London: Dorling Kindersley, 1988), p.51.
66. George, p.338, 338, 339, 340, 340, 61, 340.
67. Cosgrove, p.217.
68. Cosgrove, p.220, 220, 219.
69. See Elizabeth DeLoughrey, "Radiation Ecologies and the Wars of Light" in *Modern Fiction Studies* 55 (2009), 468–495.
70. *Nukes in Space: The Rainbow Bomb*. Film. Dir. Peter Kuran (CMV Laservision, 1999).
71. Cosgrove, p.220.
72. George's chapter "Astronaut's Eyes" in *Ocean Roads* is a reference to the ways in which the New Zealand protagonist Troy Henare, a sharp-shooter in the Vietnam War, has a gaze that "always inhabited a different orbit, a distant orbit" (112). His mother Etta realizes this as she watches the 1969 *Apollo* moon landing in her Saigon hotel room, allowing her for the first time to articulate the distance in her son's gaze as "astronaut's eyes" (111). As a war photographer, Etta makes the connection between militarization of space and of Vietnam, calling attention to the ways in which their shared technologies and media produce different public responses. Thus when a few days later she sees on the television a parachute landing with a "large cocoon" that looked like "the shape of a Vietnamese peasant's hat" she

is surprised to see none of the helicopters "shot at it" (89). Instead they are provided "the softness of a life raft" and she recognizes the three faces of the astronauts (89). Later she ponders the situation of the third astronaut, who never landed on the moon "to have his tourist photos taken among the craters and deserts like the others," (89) to participate in this form of "militourism."

73. DeLoughrey, "Radiation Ecologies."
74. One could also be more critical of the representation of Isaac's experience. Cosgrove writes, "Devoid of disturbing human presence, [the poles] were silent stages for the performance of white manhood" (217).
75. Catharine Savage Brosman, "The Functions of War Literature," *South Central Review* 9.1 (1992): 85-98.
76. Cosgrove, p.221.