

CHAPTER 7

Apprehending the Slow Violence of Nuclear Colonialism

Art and Maralinga

Jacob G. Warren

Standing in the south-eastern Western Desert, barely north of the Nullarbor Plain, at ground zero of a nuclear test, is an uncanny experience. From 1956 to 1963, seven ‘conventional’ nuclear weapons explosions and hundreds of other unconventional and dirtier experiments were carried out at the South Australian site that the British and Australian testing authorities named ‘Maralinga’ (an appropriated Garig/k word from the other side of the continent that meant ‘thunder’ or ‘place of thunder’).⁴²⁹ We stood at the spot where the weapon

⁴²⁹ Elizabeth Tynan, ‘Thunder on the Plain’, in *Black Mist Burnt Country: Testing the Bomb, Maralinga and Australian Art*, ed. Jan Dirk Mittman (Upwey: Burrinja, 2016), 21–35; Kingsley Palmer, ‘Dealing with the Legacy of the Past: Aborigines and Atomic Testing in South Australia’, *Aboriginal History* 14, no. 1 (1990): 206; HM Cooper, *Australian Aboriginal Words and Their Meanings*, second ed. (Adelaide: South Australian Museum, 1952), 16; Crawford Pasco, ‘Port Essington’, in *Australian Race: Its Origin, Languages, Customs, Place of Landing in Australia, and the Routes by Which It Spread Itself Over That Continent*, ed. Edward M Curr (Melbourne: John Ferres, Government Printer, 1886), 268–9.

How to cite this book chapter:

Warren, J. G. 2020. Apprehending the Slow Violence of Nuclear Colonialism: Art and Maralinga. In: Marczak, N. and Shields, K. (eds.) *Genocide Perspectives VI: The Process and the Personal Cost of Genocide*. Pp. 129–154. Sydney: UTS ePRESS. DOI: <https://doi.org/10.5130/aaf.h>. License: CC BY-NC-ND.

Breakaway was detonated from a 100-foot tower on 22 October 1956. There is still a large round clearing in the lightly wooded plain and lumps of Trinitite or 'bomb glaze', a green ceramic-glass created as the intense atomic heat melted the silica in the red sand, litter the surface (Figures 1 and 2).



Figure 1: Breakaway marker with tree line in background. Photo © the author.



Figure 2: The author holding Trinitite at Breakaway site. Photo © the author.

I stood there, taking notes in the furious wind, as part of a tour group composed mostly of caravaners, hoping to learn something not present in history books nor official documents.⁴³⁰ Being there, I came to appreciate the ‘sensory-disorientation produced by the phenomenon of radiation,’ what Joseph Masco has called the ‘nuclear uncanny,’ as well as the many types of ‘invisibility’ that intersect in radioactively contaminated landscapes.⁴³¹ Radiation is itself not able to be visually sensed; the colossal burial pits that contain contaminated buildings, vehicles and soil also obscure this material from view; and finally, for many decades, Maralinga and its victims have been invisible to the national historical and cultural consciousness. In a way there was nothing to see; or, more precisely, what had happened and is still happening there could not be seen: half-lives are both too slow (tens of thousands to billions of years) and too fast (nanoseconds), and contamination too small (atomic) and too large (spread across thousands of square kilometres) to be apprehended first hand as they elude and disorient the senses. What I experienced was the strange and complex material reality of an invisibly scarred and toxic region only two hours north of the much-used Eyre Highway. The radiation, the multi-millennial half-lives of trans-uranic elements, and the ecological and physiognomic impacts of these materials were all nowhere to be seen under the banality of a midday sun. At the same time these violent realities were everywhere.

The overlapping invisibilities encountered at the site illustrate the many representational issues facing cases of what Rob Nixon has termed slow violence: violence so slow (like multi-millennial half-lives) that it is invisible as a form of violence at all.⁴³² Simply put, slow violence describes the manifestation of power relations (economic, political, racial, class) in the environment: in the case of the appropriated desert site known as Maralinga, these power relations are those of a nuclear colonialism. The slow violence of nuclear colonialism constitutes an example of what genocide scholar Kjell Anderson has termed ‘cold genocide,’ a genocide that unfolds in slow-motion.⁴³³ In this essay, the sand-covered painting *Maralinga* (1992) (Figure 3) by painter Jonathan Kumintjara Brown (Pitjantjatjara, 1960–97), and the five-metre tall installation of blown-glass bush yams *Thunder Raining Poison* (2015) (Figure 4) by artist Yhonnie Scarce (Kokatha, Nukunu, 1973–) are closely analysed in order to shape an account of the slow violence of nuclear colonialism in the context of Maralinga.

⁴³⁰ Accompanying me on this trip was Hilary Thurlow, who took photos as furiously as I took notes.

⁴³¹ Joseph Masco, *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico* (Princeton: Princeton University Press, 2006), 30.

⁴³² Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, Mass.: Harvard University Press, 2011).

⁴³³ Kjell Anderson, ‘Colonialism and Cold Genocide: The Case of West Papua,’ *Genocide Studies and Prevention: An International Journal* 9, no. 2 (2015): 9.



Figure 3: Jonathan Kumintjara Brown, *Maralinga*, 1992, acrylic, sand and lizard skeleton on linen, 167 x 106 cm. Ebes Collection. Reproduced courtesy of Burrinja Cultural Centre. © artist estate.

These works of art grapple with the slow and uncanny violence of a colonially induced radiotoxicity and each, in its own way, explores the impacts of the Maralinga tests on the ecology, cultural meaning and inhabitants (human and non-human) of the desert in Australia's central south. Through these works the siting of a nuclear testing facility in the desert is argued to be an (re) iteration of colonial logics that read the continent as *terra nullius* more than two centuries ago: in fact, Brown's *Maralinga* was the first of a series entitled 'Maralinga Nullius' (1992–97). The South Australian desert, as will be shown,



Figure 4: Yhonnie Scarce, *Thunder Raining Poison*, 2015, blown glass yams, dimensions variable. Installation view ‘Tarnanthi’, AGSA. Courtesy the artist and *This is No Fantasy* (Dianne Tanzer and Nicola Stein), Melbourne.

was fashioned in the ontology of the Anglo-Australian testing authorities as a barren wasteland, a *Maralinga nullius* and, as such, was deemed an appropriate void for the high-stakes experimentation of weaponised nuclear physics. The works by Brown and Scarce not only interrogate and problematise this colonial ontology and the multi-millennial violence of radioactive contamination that it delivered, but form examples of how works of art can make the invisible reality of nuclear harm visible and apprehensible. Unpacking the ways in which they do so will form the focus of this paper.

Slow violence, cold genocide and radioactive contamination

In his 2011 book *Slow Violence and the Environmentalism of the Poor*, Nixon writes in the folds of postcolonialism, environmental injustice and ecocriticism

to introduce the concept of 'slow violence'.⁴³⁴ The term seems oxymoronic as violence is commonly imagined as a burst, an instant, something fast and spectacular, such as machinegun fire or an explosion. Radioactive contamination fails this imagination however, since it is 'cumulative, measured over the course of an entire life, not in individual doses. This means that radiation sickness or cancer is temporally separated from the moment of exposure'.⁴³⁵ Nuclear harm lags, has gaps and is millennially ongoing. Nixon's observation of 'slowness' productively unearths precisely this different and often overlooked register of violence. Slow violence is, he writes:

a violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all. ... A violence that is neither spectacular nor instantaneous, but rather incremental and accretive, its calamitous repercussions playing out across a range of temporal scales.⁴³⁶

Forced child removal, mining induced erosion, heavy water and radioactive contamination are all examples of forms of violence that incrementally play out on the scale of years (decades, centuries, millennia), as well as the instant (the second, the minute, the present). This is not to say that explosions or gunshots do not have multi-generational impacts; instead, that within slow violence the moment of violence is considered as if the explosion lasted thousands of years, taking lives over a long period of time, rather than in an instant. This is violence reconsidered with a view to the massive timescales and global awareness produced by the Anthropocene and calamities like climate change. As such, Nixon's concept is one that addresses both human and environmental trauma, exploring damage done to 'peripheral' and 'disposable' ecologies as well as the politically, racially or economically (that is, neoliberally) irrelevant populations inhabiting them. All of this serves to decelerate understandings of the speed of violence so that, for example, genocides and ecocides that may not rhyme with traditional definitions can, first of all, become visible and named as such and, further, be addressed, analysed and remembered. Deceleration allows such events and situations that are so massively distributed in time and space to be considered as urgently as the 'immediate' manifestation of violence. The far-reaching and fundamentally interdisciplinary concept therefore allows for an adjustment to the spatiotemporal assumptions within the conceptualisation of forms of violence, such as genocide. Could the colonisation of Australia be considered an example of slow violence? Could colonisation that advances itself through policy, social and cultural assimilation, missionisation and so on, be

⁴³⁴ Nixon, *Slow Violence*.

⁴³⁵ Masco, *The Nuclear*, 32.

⁴³⁶ Nixon, *Slow Violence*, 2.

understood as a slow genocide, supporting evidence of massacres and other more overt forms of violence?

Although missing the link to Nixon's theorisation of slow violence, Kjell Anderson's article 'Colonialism and Cold Genocide: The Case of West Papua' looks at precisely these questions from a genocide perspective. Anderson argues that the thinking of genocide is dominated by the model of the Holocaust, stating that 'many cases of genocide are atypical in the sense that they do not conform closely to these Holocaust-based understandings of genocide.'⁴³⁷ This leads Anderson to decelerate orthodox understandings of genocide and demarcate between hot and cold genocides, wherein the latter occurs incrementally and is 'characterised by gradual destruction and limited killing' through 'systemic oppression or wilfully reckless policies ... rooted in dehumanising constructions of indigeneity.'⁴³⁸ Such constructions of indigeneity and desert ecologies were, as will be shown, instrumental to the nuclear programme at Maralinga. To modify a passage on West Papua that rings true of the context of Maralinga, the policies and practices of the nuclear programme 'may not have been intentionally directed at the destruction of [Indigenous groups], yet they were undertaken with deliberate disregard for the welfare of the [group] and knowledge of the destructive consequences.'⁴³⁹ The urge to reconstitute understandings of violence and genocide by Nixon and Anderson creates new perspectives that allow radioactive contamination, the subsequent inaccessibility of contaminated ancestral land and the intergenerational impacts to be reconsidered as violent and genocidal.

Reviewing *Slow Violence and the Environmentalism of the Poor*, Allison Carruth observes that slow violence expands on the tenets of structural violence by mixing in issues of large temporal and spatial protraction, and focussing on ways in which spatiotemporally 'invisible' traumas have been and can be represented.⁴⁴⁰ With timescales so extended that they are beyond human perception or experience, Nixon argues that instances of slow violence, such as radioactive contamination with its multitude of half-lives in excess of a human lifetime, face and present representational, narrative and practical 'challenges of visibility.'⁴⁴¹ In the particular case of radioactive contamination, the difficulty in sensing radiation produces an uncanny experience, 'for the invisibility of radiation can make any space seem otherworldly, strange, and even dangerous.'⁴⁴² How do artists therefore render the representationally difficult and uncanny violence of radioactive contamination apprehensible?

⁴³⁷ Anderson, 'Colonialism and Cold,' 9.

⁴³⁸ Ibid. Emphasis on 'indigeneity' removed.

⁴³⁹ Ibid., 13.

⁴⁴⁰ Allison Carruth, review of *Slow Violence and the Environmentalism of the Poor*, by Rob Nixon, *MFS Modern Fiction Studies* 59, no. 4 (2013): 847.

⁴⁴¹ Nixon, *Slow Violence*, 5.

⁴⁴² Masco, *The Nuclear*, 33.

Unlike the news image, which thrives on mass killings and explosions, slow violence happens too slowly and over too large an area to become a spectacular image, bringing to mind my experience at Maralinga. Applying slow violence to a media studies account of art in the Anthropocene, Jussi Parikka summarises this representational upshot of Nixon's argument, wherein there is 'the necessity to apprehend this sort of slow reality ... and to ask how to extend the cognitive and affective capacities of talking about what lies outside the first hand sensory, or even the time-span of human perception.'⁴⁴³ How, following Nixon and Parikka, can artists, filmmakers and writers 'extend the cognitive and affective capacities' of representation, narrative and practice so that catastrophes that are hard to visualise (both in the sense of represent and imagine) begin to register in our consciousness? Through the work of Brown and Scarce I will begin to answer this question, focusing on how their art explores and renders visible the slow violence of radioactive contamination in the context of nuclear colonialism in South Australia. How, I ask, is the cosmically slow and 'invisible' presence of radioactive materials in the South Australian landscape made to appear in their work? In doing so, I necessarily address their formal and conceptual strategies for overcoming the 'challenges of visibility' presented by nuclear violence. The exploration of these questions necessarily flows through and requires an unpicking of the discourse and ontology of nuclear colonialism that both artists confront in their work.

Nuclear colonialism and the wasteland desert

The link to colonialism and environmental injustice along racial or class lines is a key factor in Nixon's assessment of the localities in which slow violence is played out: the use of socially or colonially peripheral land or labour in order to outsource, and therefore distance, toxicity and risk. In order to describe one such context of outsourced risk (the nuclear complex in and around the deserts of Nevada and its mapping over First Nations territories and reserves), Ward Churchill and Winona LaDuke introduce the notion of 'radioactive colonialism'.⁴⁴⁴ Coalescing with the practice of internal colonialism, another practice based on the need to distance and 'minimise' risk, the authors used radioactive colonialism to describe the discourses and practices through which nuclear testing, storage and mining sites in Nevada (and, by extension, globally) were selected and came into existence. This radioactive or nuclear colonialism

⁴⁴³ Jussi Parikka, *A Slow, Contemporary Violence: Damaged Environments of Technological Culture* (Berlin: Sternberg Press, 2016), 15–16.

⁴⁴⁴ Ward Churchill and Winona LaDuke, 'Native North America: The Political Economy of Radioactive Colonialism,' in *The State of Native America: Genocide, Colonization, and Resistance*, ed. M. Annette Jaimes (Boston: South End Press, 1992), 241–66.

can be described as the system of imperial, governmental or corporate power that actively and disproportionately claims the lands and labour of subjugated groups of people in the name of nuclear development and production, subsequently concentrating radioactive toxicity in these regions and populations.⁴⁴⁵ Summarised in connection with the idea of violence, Valerie Kuletz writes that:

nuclear colonialism in the United States constitutes a peculiar sort of environmental violence deriving from its manifestation in vast desert areas, its association with the military, its execution in areas primarily occupied and used by indigenous groups and some marginalised non-indigenes, and its deployment of transuranic materials, which have complex and unique characteristics.⁴⁴⁶

Clearly, as Danielle Endres argues, nuclear colonialism is an instance of environmental injustice, the understanding ‘that toxic waste and pollution are disproportionately linked to marginalised communities—people of colour and the poor.’⁴⁴⁷ Slow violence is similarly tied to environmental injustice and the observation that waste sites and other toxic industry are often concentrated in economically, racially or politically subjugated communities and landscapes.⁴⁴⁸

⁴⁴⁵ Churchill and LaDuke, ‘Native North’, 241–66; Valerie L Kuletz, *The Tainted Desert: Environmental Ruin in the American West* (New York: Routledge, 1998), 3–18; Danielle Endres, ‘The Rhetoric of Nuclear Colonialism: Rhetorical Exclusion of American Indian Arguments in the Yucca Mountain Nuclear Waste Siting Decision’, *Communication and Critical/Cultural Studies* 6, no. 1 (2009): 39–60; Elizabeth DeLoughrey, ‘Radiation Ecologies and the Wars of Light’, *MFS Modern Fiction Studies* 55, no. 3 (2009): 468–95; Robert Jacobs, ‘Nuclear Conquistadors: Military Colonialism in Nuclear Test Site Selection During the Cold War’, *Asian Journal of Peacebuilding* 1, no. 2 (2013): 157–77.

⁴⁴⁶ Valerie Kuletz, ‘Invisible Spaces, Violent Places: Cold War Nuclear and Militarized Landscapes’, in *Violent Environments*, eds. Nancy Lee Peluso and Michael Watts (Ithaca: Cornell University Press, 2001), 243.

⁴⁴⁷ Endres, ‘The Rhetoric’, 54; see also Robert D Bullard and Benjamin Chavis, Jr., eds., *Confronting Environmental Racism: Voices from the Grassroots* (Boston: South End Press, 1993); Richard Hofrichter, ed., *Toxic Struggles: The Theory and Practice of Environmental Justice* (Salt Lake City: University of Utah Press, 2002).

⁴⁴⁸ The context of downwind Mormon communities in Utah should be acknowledged also, since the American government justified testing near these communities based on their pro-government and patriotic attitudes. This is a case where vehemently supportive, rather than subjugated communities, were exposed to risk because of a strong trust in the government. Since being affected by cancers and stillbirths however, this situation has

What Churchill and LaDuke point out, is that the Cold War nuclear arms race was a mid-twentieth century extension of old (or saw the creation of new) colonial projects. These were colonial projects of environmental injustice supported in turn by certain discourses and ontologies, certain imaginations of land and people, which allowed for the quick and careless production of the 'long dying' danger of radioactive contamination.⁴⁴⁹

In analysing the impacts of nuclear modernity in the United States upon First Nations, Kuletz has formatively linked nuclear colonialism with the West's 'wasteland discourse' of the desert.⁴⁵⁰ For Kuletz, radioactive colonialism is supported by this lingering Anglo-European imagination of the desert as a barren wasteland—a convenient rhetoric for those seeking to distance risk and for those seeking to use and extract land that is already inhabited by others, who are rhetorically and literally made to disappear. The danger (known and potential) of atomic testing and radioactive materials required distant, 'empty' spaces outside and away from the dominant publics' view and imagination, spaces often found in desert landscapes.⁴⁵¹ Academic Robert Jacobs has argued that the inhabitants of these landscapes form a 'virtual nation' of victims rendered invisible by nuclear colonialism: 'their value to their colonial occupiers or national governments is that they could be dismissed as though their lives and health did not matter, without political consequence.'⁴⁵² Furthering an understanding of this dismissal of indigenous groups, Anderson, in linking colonialism and cold genocide, writes that 'colonialism seeks to exert total power over the environment of which indigenous peoples are [seen to be] a

been reversed. For an in-depth study of the Utah downwinders see Sarah Elisabeth Fox, *Downwind: A People's History of the Nuclear West* (Lincoln: University of Nebraska Press, 2014).

⁴⁴⁹ Nixon, *Slow Violence*, 232.

⁴⁵⁰ Kuletz, 'Invisible Spaces,' 13.

⁴⁵¹ A list of global test sites may be illuminating: the Los Alamos National Laboratory (LANL) and Jornada del Muerto desert site on Pueblo First Nations land in New Mexico; the Nevada Proving Grounds (or Nevada National Security Site) in the Shoshone First Nations deserts of Nevada; the Semipalatinsk nuclear testing site in the steppes of what is now Kazakhstan, Russia's former colony; the numerous Pacific Islands, used by the United States, France and Britain, in the blue desert of the Pacific Ocean; the Reggane region of the French colonised Algerian Sahara Desert; the corporately colonised uranium mines throughout sub-Saharan Africa; the Pokhran site in the Thar Desert of 'provincial' western India; the dried salt lake plain of Lop Nur in the north western deserts of China; the Montebello Islands off the arid coast of northern Western Australia; and the sites of Emu Field and Maralinga on Anangu land in the lower reaches of the Western desert of South Australia.

⁴⁵² Jacobs, 'Nuclear Conquistadors,' 174.

part. ... Total possession is only possible if the indigenous inhabitants are a non-entity, either destroyed or invisible.⁴⁵³

Within the wasteland discourse of nuclear colonialism, the desert is not only a physical site, but an uninhabited void empty of the possibility of life, let alone of anything actually living. In 1962, Ivan Southall captured such an imagination while musing on the landscape of the Woomera Long-Range Missile Base to which Maralinga was attached:

It was the country in which they gave a man nine hours to live if he ran out of water and couldn't find shade. ... It was the country in which the sky was immense and glaring. ... It was silent country, and vast, and apparently empty, country in which only the gods could live in comfort. ... To the eyes of the stranger it was a cruel country, and worthless, baking in a blistering shimmer, with heat so intense that a man could scarcely breathe. ... It was dead country, or so it seemed. Its spirit had expired. Man had arrived too late. ... [It was] sterile land. ... It was a weird land, arid, alarming, blistered.⁴⁵⁴

Empty, cruel, worthless, dead, sterile, weird, masculine: Southall here emphatically combines the 'wasteland discourse' with what Roslynn D Haynes calls 'the wilderness image', an imagery that 'presents the desert as harsh, infertile and punitive'.⁴⁵⁵ In *Wasteland: A History*, Vittoria di Palma contends that wasteland is a concept defined by absence and lack (of food, water and life) and writes that 'although wasteland may *be* many things, what it *does* is provide a space that figures as the antithesis, the absolute Other, of civilisation'.⁴⁵⁶ Michael Marder, like di Palma, points out that in these dominant imaginings 'desert' is a doing word, it is 'an *invention*, a *creation* of emptiness in the plenitude of existence, an *introduction* of barrenness into the fecundity of being'.⁴⁵⁷ In other words, the cultural imagination that arid landscapes are wild wastelands drives the active creation of actually uninhabitable spaces in this very image: mines, dumps, nuclear testing facilities, oil fields, toxic ecologies. 'Here it was', Southall writes again, indicatively of the instrumentalising logic of nuclear colonialism, 'one of the greatest stretches of uninhabited wasteland on earth, created by God

⁴⁵³ Anderson, 'Colonialism and Cold', 13.

⁴⁵⁴ Ivan Southall, *Woomera* (Sydney: Angus and Robertson, 1962), 1–2.

⁴⁵⁵ Kuletz, 'Invisible Spaces', 13; Roslynn D Haynes, *Seeking the Centre: The Australian Desert in Literature, Art and Film* (Cambridge: Cambridge University Press, 1998), 26.

⁴⁵⁶ Vittoria di Palma, *Wasteland: A History* (New Haven: Yale University Press, 2014), 3–4.

⁴⁵⁷ Michael Marder, 'The Desert Is a State of Mind Cast over the Earth', *Cabinet: A Quarterly of Art and Culture* 63 (2017): 51. Emphasis added.

specifically for rockets, a magnitude of emptiness.⁴⁵⁸ The introduction of slowly blossoming dangers and toxicities into these Othered, disposable landscapes demonstrates the performative nature of the wasteland discourse and the nuclear colonial ontology. It constitutes an example of ‘perpetrator self-justification’ wherein ‘groups holding such ideological constructions may inculcate a self-fulfilling prophecy.’⁴⁵⁹ As Brown’s *Maralinga* evidences, the concept of wasteland was a discursive mirage, an ontological concession that allowed the British and Australian testing authorities to plunge the landscape of Maralinga into the multi-millennial rhythms of slow violence while maintaining claims of safety.

Against the mirage of the desert as wasteland

Maralinga by Stolen Generations artist Jonathan Kumintjara Brown is just under two metres tall and over a metre wide, and was the first sand-covered work in what became the ‘Maralinga Nullius’ series (1992–97). In this work the majority of a dot-style painting is covered over by a light caramel body of sand adhered to the surface, and in the near centre of the work is affixed the skeleton of a lizard.⁴⁶⁰ Forcibly removed from his birth parents while only weeks old, Brown returned in 1984 to the diasporic mission of Yalata where he was born, a mission 200 km south of Maralinga that began as a refugee camp in 1952 after the Ooldea Mission 40 km away from the future test site was closed.⁴⁶¹ Having been introduced into the community over a number of months and years, Brown was taken out to visit his ancestral land, his grandfather’s Country: the region that the British had named Maralinga. For the sand covering in *Maralinga*, Brown used the potentially contaminated and ancestrally charged sand of this land as a material for the first time, bringing the material reality of

⁴⁵⁸ Southall, *Woomera*, 3.

⁴⁵⁹ Anderson, ‘Colonialism and Cold’, 11; *Ibid.*, 18.

⁴⁶⁰ This gesture of obscuring the dotted painting is unlike the formal innovation in some Aboriginal communities of painting over sacred designs, a solution devised for the problem of putting down and communicating, but also protecting, secret knowledge. As such, it is a unique visual technique within the idiom of Western Desert painting.

⁴⁶¹ Helen Chryssides, ‘Earthly Treasures: Paintings Has Brought Jonathan Kumintjara Brown Back to His People, His Culture and His Ancestral Land’, *Bulletin*, May 7, 1996, 74–75; Maggie Brady and Kingsley Palmer, ‘Dependency and Assertiveness: Three Waves of Christianity Among Pitjantjatjara People at Ooldea and Yalata’, in *Aboriginal Australians and Christian Missions: Ethnographic and Historical Studies*, eds. Tony Swain and Deborah Bird Rose (Bedford Park: Australian Association for the Study of Religions, 1988), 236–49.

the ecological and spiritual ‘poison’ of slowly decaying radionuclides into his paintings. The skeleton of the lizard attached to the painting’s surface was also possibly collected on Anangu (Pitjantjatjara) Country and perhaps even from around Maralinga itself.⁴⁶²

The coarsely textured surface of the painting conceals the majority of a dotted landscape that depicts culturally and spiritually significant sites of water, food and paths of ancestral beings on Brown’s Country. The exposed concentric roundels that represent these sites and map the ‘geospiritual’ cartography of the region sit in a sea of sand in the middle of each perimeter, and in the corners and centre of the painting.⁴⁶³ The partial and implied presence of lines that connect each of these roundels, as well as concentric patterns inside this grid, is suggested by an additional area of uncovered painting in the top right. Brown shows just enough of this painting beneath the sand to suggest that a vast majority of it has been obscured: to render visible the fact that something has been made invisible. By effacing the dotted painting as such, Brown produces a vision of environmental and cultural damage. He figures the abstract and non-spectacular violence of a radioactively contaminated space: something that is hard to experience even if standing at ground zero. The slow violence of radioactive contamination, it may be argued, is also presented in *Maralinga* in such a way that mirrors Brown’s personal distancing from this land and culture by the assimilationist policy of forcible child removal. What Brown’s covering technique achieves is the figuring of the shared experience of nuclear colonialism’s diasporic virtual nation: the contamination of land, its inaccessibility, the invisibility of inhabitant populations, the increase in strange and unsure medical diagnoses and cultural denial (both the denial of culture and a bureaucratic culture of denial).

To reinforce the experience of a geospiritual catastrophe in the painting, Brown has attached the skeleton of a lizard to the lower right of the central roundel. The fragile skeleton, like the sand, operates as a material metaphor for the ecological violence of radioactive contamination, standing in for all animal life in this desert ecology that has been killed, maimed or genetically impacted. Lizards are a common sight in the region and in addition to providing a food source, the diversity of lizard species—from thorny devils and bicycle lizards to goannas and blue tongues—also feature as ancestral figures in major *tjukurpa*

⁴⁶² Possible lizards common to the area that fit this skeletal model are members of the *Ctenophorus* genus, specifically the Bicycle Lizard (*Ctenophorus Cristatus*); however, the remains are inconclusive and appear closer to the *Draco* genus of flying lizards (hence the very long rib bones) endemic to South East Asia. Brown may have come across this skeleton while working in Melbourne.

⁴⁶³ The term geospiritual wonderfully captures the way in which ecology, geology, culture and spirituality intertwine in indigenous cosmologies. See Masco, *The Nuclear*, 108.

(stories, lore) for the south-eastern Pitjantjatjara. Examples include *Miniri*, the thorny devil (that Brown painted regularly as it relates to his grandfather's Country and to male initiation), and *Nintaka* and *Ninjuri*, a perentie lizard and black goanna respectively, whom are central to a major *tjukurpa* significant to the majority of Western desert groups, not only southern Anangu.⁴⁶⁴ *Maralinga's* skeleton, in chorus with the sand, renders the biological, ecological and cultural violence of nuclear contamination palpable, providing a haptic sense of the physical reality of the tests' impacts on this region that overcomes the challenges of visibility facing this context of colonial violence. A reading of slow violence enters here since, on the one hand, the object-painting figures the physical contamination and danger of the area's radioactive legacy and, on the other hand, *Maralinga* also figures the cultural poisoning of this land. In other words, this is violence wrought on both material and spiritual ecologies where the slow death of animal food sources hinders physical inhabitation of these spaces, and where these deaths likewise disturb the land's cultural and spiritual health, aligning with the push of missionaries at Ooldea and then Yalata to nix the "satanic" influences of Aboriginal religion.⁴⁶⁵

If the lizard bones reference the region's reptiles in general, then they may be understood as pointing to the important role the animals play in the diet of those humans and predatory animals living in such an ecology. The figured death of the lizard in *Maralinga* therefore underscores the slow violence of an interruption to food sources vital for Aboriginal people and other larger predators in the ecology, such as birds of prey or game marsupials. Thinking through this ecological violence also prompts a consideration of the multi-generational mutations and genetic damage that the reptiles and other animals of the contaminated landscape face. Most animals have faster generations than humans, speeding up the appearance of the mutagenic effects of radioactive exposure. Brown's lizard skeleton is therefore not just death now or in the past, but signals a slower, mutagenic violence that plays out on the scales of the cell and the gene. It suggests the denial of a food source at the time of the tests, at the time of Brown's painting and also into the future.

Spiritually as well as physically, *Maralinga* suggests that this land was also poisoned. As Maralinga tour guide Robin Matthews, the husband of an Anangu traditional owner, recounted to our tour group, Anangu avoid the site. Today's Anangu know that the spirits of missing people, having not been laid to rest in the correct manner, wander the former Prohibited Area, a sighting of one of these spectres bringing terrible misfortune. Materially and spiritually haunted, this land has also been poisoned by decades of forced ritual neglect. In other words, having been relocated 200 kilometres south and being barred access to their land and important sites, Anangu were largely blocked from carrying out

⁴⁶⁴ Charles P Mountford, *Nomads of the Australian Desert* (Adelaide: Rigby Limited, 1976), 484–506, 269–309.

⁴⁶⁵ Brady and Palmer, 'Dependency and Assertiveness', 238.

maintenance or performing site-specific rituals.⁴⁶⁶ In this way, the disconnection of the roundels (sites) in *Maralinga*, as well as the obscuring of the tapestry of their networked inter-relation, communicates the poisoning and interruption of this geospiritual ecology. Like assimilationist policies, the poisoning of certain areas and the denial of access worked to slowly obscure some connections to land. The presence of the roundels does, however, imply that regeneration and reconnection are possible (perhaps always-already happening). Yet the focus of *Maralinga* is to highlight these forms of violence and make the impacts of nuclear colonialism both palpable and visible. In addition, Brown also brings to the surface the underlying ontology of nuclear colonialism that mirrors the doctrine of *terra nullius* used by the British to claim Australia: that deserts are wastelands and, as such, are barren, empty and useless.

Maralinga nullius

Brown's *Maralinga* operates against the wasteland discourse that informs the Anglo-European ontology of desert landscapes. As philosopher Elizabeth A. Povinelli argues, 'the Desert', ontologically, 'is the space where life was, is not now, but could be if knowledges, techniques, and resources were properly managed'.⁴⁶⁷ But rather than try to make the barren landscape productive, it was instrumentalised precisely for its ontological emptiness of life and being. *Maralinga* counters the discursive and figural trope of the 'dead' heart of Australia—fuelled by the imagination of deserts as lifeless, uninhabited and useless—while interrogating the implications that such discourse has for understandings of the people who do inhabit them. Brown's compositional gestures insist that the desert was in fact alive and that it was spiritually and ecologically abundant. What Brown's effacing gesture performs then is the colonial opening of a void in 'the fecundity of being', made possible by the wasteland discourse and its ontological blindness to desert life.⁴⁶⁸ Emphatically underscoring how entrenched this logic was at the time is the fact that only one person, a native

⁴⁶⁶ Brady and Palmer, however, have respectively demonstrated that ritual and ceremony did not cease completely and that work-arounds for the spatial restraints were devised. These new practices were not developed for all ceremonies and rituals, some being site-specific. See Palmer, 'Dealing with', 197–207; Maggie Brady, 'The Politics of Space and Mobility: Controlling the Ooldea/Yalata Aborigines, 1952–1982', *Aboriginal History* 23 (1999): 1–14; Maggie Brady, 'Leaving the Spinifex: The Impact of Rations, Missions, and the Atomic Tests on the Southern Pitjantjatjara', *Records of the South Australian Museum* 20 (1987): 35–45.

⁴⁶⁷ Elizabeth A. Povinelli, *Geontologies: A Requiem to Late Liberalism* (Durham: Duke University Press, 2016), 16.

⁴⁶⁸ Marder, 'The Desert', 51.

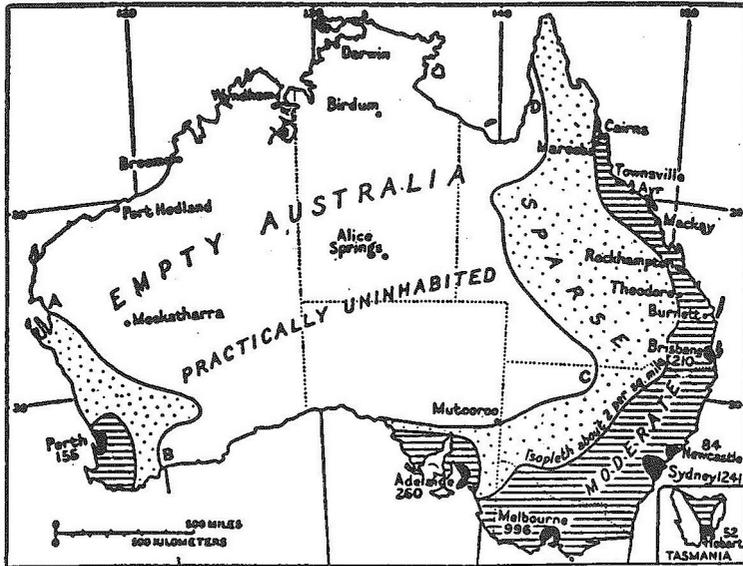


Figure 5: Griffith Taylor's 1946 depiction of 'Empty Australia'. Drawn from Lesley Head, 'Zones and Strata, or How Aborigines Became Living Fossils', in *Second Nature: The History and Implications of Australia as Aboriginal Landscape* (Syracuse, NY: Syracuse University Press, 2000), 47.

patrol officer named Walter MacDougall, was employed to patrol the hundreds of thousands of square kilometres around the base to locate, notify and deter (or relocate) Aboriginal groups.⁴⁶⁹ The task was impossible and the position a token one, illustrating an assumption that hardly any resources needed to be dedicated to it because the desert was empty (Figure 5).

When MacDougall reported to testing authorities about the dangers to Aboriginal people in the area and the impossibility of his task, he was reprimanded for 'apparently placing the affairs of a handful of natives above those of the British Commonwealth of Nations'.⁴⁷⁰ As oral histories (most recently captured by Lynette Wallworth and Nyarri Nyarri Morgan's *Collisions* (2016)) and evidence given to the *Royal Commission into British Nuclear Tests in Australia* (1984–85) demonstrate, 'throughout the time Maralinga was operational, Aboriginal

⁴⁶⁹ For many other examples that confirm this same point, see Frank Walker, *Maralinga: The Chilling Exposé of Our Secret Nuclear Shame and Betrayal of Our Troops and Country* (Sydney: Hachette, 2014), 148–63.

⁴⁷⁰ William Alan Stewart Butement quoted in JR McClelland, Jill Fitch, and William Jonas, *The Report of the Royal Commission into British Nuclear Tests in Australia* (Canberra: Australian Government Publishing Service, 1985), 1: 308–309, section 8.4.38.

people still traversed the lands.⁴⁷¹ Brown's *Maralinga* brings attention to the invisibility that Aboriginal people and their forms of life faced under this nuclear colonialism. The gesture of covering and the lizard skeleton highlights that the wasteland discourse operated to justify and secure the desert black hole within which nuclear experiments could be conducted with no consequence and, as Prime Minister Robert Menzies assured the public at the time, with 'no conceivable injury to life, limb or property'.⁴⁷²

In *Maralinga* the slow ecological and cultural violence of nuclear colonialism at Maralinga is rendered through a process of obscuring, a material and processual allegory of the invisibility of radioactive contamination and Aboriginal life within the desert site. The painting attests to the enduring presence of life at and around the nuclear outpost since even though the majority of the canvas is covered, not all is lost. Ecological, cultural and human life, the painting suggests, continues to persevere, although in a damaged, injured form. Rather than Mad Max-esque post-apocalyptic representations of his damaged desert Country, Brown figures the material (and spiritual) reality of a landscape upon and within which the signs of slow violence have begun and will continue to appear.

From ground zero to downwind

In Yhonnie Scarce's *Thunder Raining Poison* (2015) the slow and uncanny violence of radiation is explored through Maralinga's legacy of loosely mitigated and largely unmonitored fallout. The large-scale installation is a five metre tall 'cloud' composed of 2000 hand-blown glass bush yams that are suspended from the ceiling. It points to the scale and impacts of the fallout from the tests in South Australia (nine in total, including two at Emu Field in 1953), and explores the uncanny reality of living downwind, in the path of this fallout. I argue that Scarce employs 'fallout' as a vector of nuclear colonialism and the disregard testing authorities had for the safety of downwind, predominantly Aboriginal communities. The two thousand vitreous yams that make up *Thunder Raining Poison* are modelled off the long yam found in Scarce's Kokatha Country, land only a few hundred kilometres downwind of Maralinga that was exposed to fallout on numerous occasions. The glass yams, and the overall installation they shape, have been used by Scarce to surmount the representational hurdles that the slow and uncanny violence of radioactive colonialism presents.

Lit from above, *Thunder Raining Poison* glistens and shines radiantly, the contours and shapes of the glass tubers catching the light and throwing dramatic

⁴⁷¹ Tynan, 'Thunder on', 27.

⁴⁷² Robert Menzies in Question Time, Hansard, House of Representatives, October 21, 1953.

shadows on surrounding surfaces.⁴⁷³ In producing the multitude glass forms for the installation, Scarce worked with glass-blowing assistants from Adelaide's Jam Factory. Each one of the 2,000 hand-blown glass yams is therefore unique, but all share a roughly conical shape based on the top-heavy organic forms that the root vegetable takes as it burrows through sandy and rocky soil. In the work, the thicker end of each yam faces the ceiling that it is suspended from by nylon thread, while the thinner, pointed tip faces the ground, giving the overall installation a sense of both rising and falling movement. Does it resemble an atomic dust cloud rising up and expanding into the atmosphere above? Or, as the downward facing tips of the yams sculpturally suggest, is it the start of a contaminated rain falling to the ground below? The work allows, if not welcomes, both readings, since the rising and falling of radioactive debris (ash, dust, rain, bomb fragments and particulate matter) into and out of the atmosphere as clouds and rain, were both atmospheric realities through which radioactive particles spread across Australia, 'infecting' yam systems, land and water downwind.

The overall form of *Thunder Raining Poison*, despite being five metres tall and comprising 2,000 suspended objects (and 2,000 lengths of unconcealed supportive nylon), is nonetheless punctuated by gaps and space that contribute to a sense of expansive volume. The atmospheric quality created by the illusive emptiness of the work is supported by the many clear glass yams throughout its height that allow sight to pass through to the other side. While there are some dense clusters of yams, suggestive of cancer clusters that appeared in downwind communities in the months and years following the nuclear testing, *Thunder Raining Poison* is nonetheless almost transparent and is deceptively wispy like. The illusion of empty expanse created by the installation serves to highlight both the massive extent of fallout from the South Australian tests (Emu Field and Maralinga both being in the path of a prevailing westerly that carried fallout thousands of kilometres away), and the simultaneous everywhere-nowhere, that is, the 'nonlocalisable' and 'invisible' reality of radiation.⁴⁷⁴ It too is unseen and expansive.

Thunder Raining Poison's title came to Scarce while standing at ground zero of an explosion whose fallout was particularly widespread, the same ground zero described at the beginning of this essay. Breakaway was the fourth round of Operation Buffalo, a series of tests that alternately violated safe firing conditions or exceeded radiation levels deemed to be safe even at the time, when safe levels were far higher than what they are today. The test (like the first round, One Tree) was a tower blast and was therefore 'expected to have a higher level

⁴⁷³ The work was produced for the inaugural 'Tarnanthi' exhibition at the Art Gallery of South Australia in 2015, and has since appeared in 'Defying Empire: 3rd National Indigenous Art Triennial' at the National Gallery of Victoria in 2017.

⁴⁷⁴ Masco, *The Nuclear*, 31.

of fallout' than the other two tests in the series.⁴⁷⁵ This prediction was indeed the case as the dispersed cloud eventually stretched all the way from Darwin, in the country's north, to Newcastle, on the south-east coast, with radioactive rain being recorded at Oodnadatta (Kokatha Country), and Brisbane, in Queensland, days after the detonation.⁴⁷⁶ The cloud's path also overlapped with those of previous tests, contravening a 'no overlap condition for firing' aimed at limiting the region's radioactive exposure.⁴⁷⁷ The thunderous nuclear tests were raining poison, literally, across Australia (Figure 6).

Writing on how the British and Australian testing authorities approached fallout, Heather Goodall (who also played a role in the 1985 *Royal Commission into British Nuclear Tests in Australia*) has concluded that 'the early tests [Montebello Islands and Emu Field] were marked by a refusal to investigate, survey and monitor, whether in relation to human health or the spread of toxic fallout and residues, and later [at Maralinga] monitoring was more for publicity purposes than for any real safety effect.'⁴⁷⁸ Goodall's (and the Royal Commission's) conclusion of negligence was not, however, the first time serious doubts about the safety of the test were raised. At the time of the tests an independent fallout monitoring programme conducted by The Commonwealth Scientific and Industrial Research Organisation (CSIRO) scientist Hedley Marston, who collected sheep thyroids from farmers all over Australia to test for radioactive isotopes of Iodine, and also collected air samples from Adelaide, reached similar conclusions. Both of Marston's studies produced results that dramatically undermined the information the testing authorities were sharing with the Australian government, let alone providing to the media.⁴⁷⁹

In repeating the yam form to build the nuclear weather of *Thunder Raining Poison*, Scarce maps the uncertain and winding passage of radioactive toxicity from ground zero (the yam), into the atmosphere (the cloud), back to the ground (through rain), into plants (the yam again), animals and water and, finally—we might deduce—into human bodies, blood streams and genetic code through ingestion. The multiple and ambiguous forms employed in *Thunder Raining Poison* (cloud, rain, yam) contribute to a gallery experience of the flow of irradiating materials between the fission weapons, the contaminated landscape, fallout atmospheres and the human body. In mapping these material

⁴⁷⁵ McClelland, Fitch, and Jonas, *The Report*, 1: 294, section 8.3.21.

⁴⁷⁶ *Ibid.*, 1: 297, section 8.3.26, section 8.3.27.

⁴⁷⁷ *Ibid.*, 1: 297, section 8.3.25.

⁴⁷⁸ Heather Goodall, 'Colonialism and Catastrophe: Contested Memories of Nuclear Testing and Measles Epidemics at Ernabella', in *Memory and History in Twentieth-Century Australia*, eds. Kate Darian-Smith and Paula Hamilton (Melbourne: Oxford University Press, 1994), 59.

⁴⁷⁹ For a full account of the Hedley Marston saga and his reports, see Roger Cross, *Fallout: Hedley Marston and the British Bomb Tests in Australia* (Kent Town: Wakefield Press, 2001).

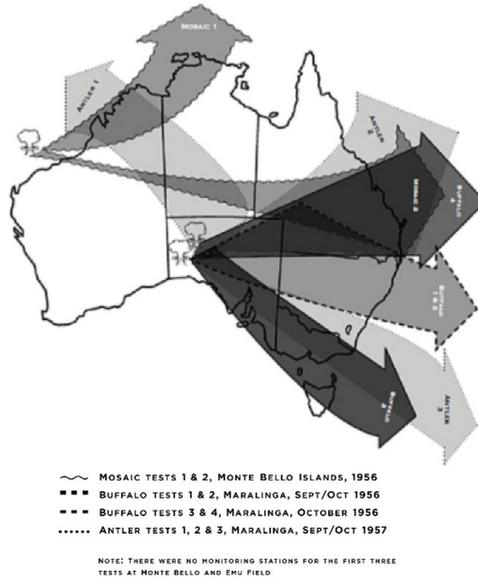


Figure 6: Direction of Fallout reproduced from Frank Walker, *Maralinga: The Chilling Exposé of Our Secret Nuclear Shame and Betrayal of Our Troops and Country* (Sydney, NSW: Hachette, 2014). © Frank Walker and Hachette.

flows, the suspended installation brings attention to the violent realities produced by the testing authorities' lack of any sense of consequence, highlighting the extent to which this colonised wasteland was exploited and remade as such. In doing so, it also charts the nuclear uncanny, since it renders tactile and visible the fact that 'radiation traverses space in ways that can make the air, earth, and water seem suspect, even dangerous, though no sensory evidence is at hand'.⁴⁸⁰ This lack of sensory evidence recalls the challenges of visibility facing instances of slow violence: how can we know that eating a yam, for example, is dangerous or not if there is no sensory evidence, where instead, evidence may be cancer, still births, mutations or other non-instantaneous manifestations. The installation as a whole, and Scarce's yams in particular, are representations of these slippery dangers and as such become forms of material evidence that experientially mark the impacts and danger of the violent nuclear weather from Maralinga on the land and people of South Australia, and Australia more broadly. Like Brown's sand and lizard skeleton, the yam, the cloud and the rain are non-human witnesses of the slow and ambiguous spread of contaminating, mutating and potentially deadly radiation. By activating these forms and figuring fallout as a harbinger of colonial, even genocidal, violence, the installation

⁴⁸⁰ Masco, *The Nuclear*, 32.

succeeds in representing radioactive contamination and making the nuclear colonisation of South Australia palpable and apprehensible. Scarce, further, achieves this powerful figuring in another way.

The bush yam

In *Thunder Raining Poison* (as in Scarce's practice more broadly), bush foods are used as vessels of meaning, referring to her Country and cultural heritage (the custodial knowledge of the bush yam belonging to her maternal grandfather) and at other times, standing in for Aboriginal bodies. They are important in a work such as *Thunder Raining Poison* because as a culturally significant plant and food source the yams not only suggest the slow and silent irradiation of the ecosystem and of human bodies that interacted with it, but also signal the colonial violence towards Aboriginal practices and forms of life. Each of the few thousand yams is unique, individualised, and as such generates a soft anthropomorphism wherein the yams became stand ins for individuals affected by the cell-altering dangers of radiation. Perhaps to the reading of the installation's form as a cloud or rain could be added the argument that these are the rising ghosts of the deceased victims (Aboriginal and non-Aboriginal) of Maralinga's radiotoxicity. As Marston's independent fallout data indicated, the nuclear tests were resulting in the large-scale introduction of irradiated debris into the atmosphere and environment (including crop growing and farming land). Especially on Kokatha Country, this unknown and uncertain irradiation of the ground would have compromised exposed food sources such as the yam and other bush foods like the bush banana or quandong. The vitreous surrogates of these quietly toxic yams in *Thunder Raining Poison* therefore serve as material and forensic evidence against the official mandates of the nuclear programme and its stubborn insistence that the tests were being conducted safely and with no prospect of harm. The slow, multigenerational and cumulative violence that produces nuclear harm is notoriously difficult to prove (as those ex-servicemen and downwinders who have attempted to gain compensation have discovered), so Scarce's cultural-ecological narrative, told through glass yams and the wisp-like mass they produce, serves as evidence against the culture of denial of 'any harm whatsoever' that still persists today. The installation of a cloud of these yams becomes an affective negation of the Safety Committee's self-defined task 'to ensure that the activity which does reach the ground outside the specified danger areas shall be at a level so low that it will not harm people exposed to it, or have any economic effect on plant and animal life'.⁴⁸¹

Deepening our understanding of the use of the yam form in *Thunder Raining Poison* is an examination of the rhetoric and parameters of safety at the time of

⁴⁸¹ McClelland, Fitch, and Jonas, *The Report*, 1: 281, section 8.3.3.

the tests. One of the many criticisms levelled against the Atomic Weapons Tests Safety Committee (AWTSC), which was 'responsible for monitoring the British testing programme to ensure that the safety of the Australian environment and population were not jeopardised', was that they did not take into consideration exposure to internal radiation and simply focussed on external radiation, which is orders of magnitudes less dangerous, as a measure of fallout.⁴⁸² In their definitional blindness to Aboriginal agricultural practices the Safety Committee conveniently ignored the dangers of 'living close to the earth, hunting local animals, eating plants growing wild and walking barefoot'.⁴⁸³ As Marston reported at the time:

The grave danger of intensive internal irradiation resulting from the accumulation of long-lived isotope within certain tissues of the bodies of individuals subsisting on foodstuffs produced on the contaminated area *cannot be dispelled*. ... The situation is not one that may be pushed aside by denials of 'any danger whatsoever'.⁴⁸⁴

The continuing on in the face of this knowledge constituted an act of deliberately negligent and slow violence that would play out over decades and centuries to come, not only for those 'individuals subsisting on foodstuffs produced on the contaminated area' such as Aboriginal communities, but the broader population of Australia as well.

To visually emphasise the dangers that fallout posed to downwind communities, a portion of *Thunder Raining Poison's* glass yams have been coloured in combinations of a sickly green and an opaque black that in more diluted areas appears purple. Metaphorically, each colour activates associations of sickness, contamination, burns, bruising and death. Materially, the colours reference Trinitite, the green (Maralinga) and black (Emu Field) atomic glass that is usually created at sandy nuclear test sites, as well as referencing the 'black mist', a fallout event that coated the small, predominantly Aboriginal community of Wallatina with a black, metallic smelling and oily mixture of radioactive debris.⁴⁸⁵ In their colouration, the yams of *Thunder Raining Poison* become silent records of nuclear damage wrought by fallout events. Their shapes still resemble unaffected tubers, however the differing inflections of green, black

⁴⁸² PN Grabosky, *Wayward Governance: Illegality and Its Control in the Public Sector* (Canberra: Australian Institute of Criminology, 1989), 242.

⁴⁸³ Tynan, 'Thunder on', 24.

⁴⁸⁴ Hedley Marston cited in Roger Cross, *Fallout: Hedley Marston and the British Bomb Tests in Australia* (Kent Town: Wakefield Press, 2001), 103.

⁴⁸⁵ The colour of Trinitite is determined by the mineral composition of the earth and sand at a given test site. Trinitite produced by the weapons at Emu Field is black because of a high iron content. It is, however, predominantly green.

and occasionally purple tones communicate that downwind yams bear the mark of irradiation. While being shaped and blown, the almost-molten glass is dipped and rolled in glass pigments, which melt into the form. Their colouring in this way creates a non-uniform finish, often appearing as if the sickly tones are flowing inside or as if they are in the process of swallowing the glass yam. With this method the glass yams visually capture the slow process of radiotoxic becoming. Nuclear contamination, mutation and danger are figured as processes of time and remain in process, happening now (still) at the genetic level of the colonially contaminated ecology.

‘The colonisation of the future’

In their formal and metaphorical activation of this narrative of contamination, Scarce’s glass yams visualise what Joseph Masco has called a ‘mutant ecology’.⁴⁸⁶ Mutation, as Masco defines it, describes changes, ‘whether through improvement, injury or genetic noise’ at ‘biosocial, political, and ethnographic’ levels.⁴⁸⁷ The biosocial, political and ethnographic mutations brought about by the nuclear colonisation of Maralinga (and, in fact, any site involved in the nuclear process), saw ‘the production of nuclear natures’.⁴⁸⁸ Masco argues that nuclear natures and mutant ecologies are not only environmental, but since ‘nuclear science has transformed human culture at the cellular level ... producing new kinds of ecologies, bodies, and social orders’, then they represent a locality, body or society that has, is, will or may undergo social, ecological and physical mutation because of the presence of nuclear material.⁴⁸⁹ Atomic diaspora, mysterious unseasonal clouds, the cancers and stillbirths that plagued Aboriginal and non-Aboriginal families alike, and the defamiliarisation of Country: these were the new uncanny facts of life in the mutant ecology borne out of atomic testing in South Australia. What Scarce’s yams tune into is the uncanny reality of South Australia’s nuclear nature, a colonised landscape wherein the ‘dangerous vulnerability of the human sensorium to an uncertain and uncertainly haunted universe’ is revealed.⁴⁹⁰ Scarce’s vitreous bush food forms demonstrate a subtle and serious notion of nuclear violence and danger. Simply collecting foodstuffs, a once normal part of life in these arid ecologies, becomes a potentially dangerous and risky practice haunted by the invisible force of radiation. Scarce’s contaminated yams capture the subtlety of experiences of radioactively contaminated spaces as food and water sources silently and without warning became irradiated, with daily practice going on,

⁴⁸⁶ Masco, *The Nuclear*, 298.

⁴⁸⁷ *Ibid.*, 301, 326.

⁴⁸⁸ *Ibid.*, 293.

⁴⁸⁹ *Ibid.*, 301, 306.

⁴⁹⁰ *Ibid.*, 29.

unknowingly, as usual. The violence signalled by the yams of *Thunder Raining Poison* is slow, subtle and everyday. While the installation's ambiguous cloud form does partially vibrate on the register of the spectacular because of an association with the image of the mushroom cloud, other, far slower and more widespread considerations of violence are also (perhaps more strongly) signalled.

In Masco's unpacking of the concept of mutation, he describes its temporal dimension: it 'implies ... a complex coding of time (both past and future); it assumes change, but it does not from the outset judge either the temporal scale or the type of change that will take place. It also marks a transformation that is reproduced generationally, making mutation a specific kind of break with the past that reinvents the future.'⁴⁹¹ In *Thunder Raining Poison*, Scarce plots the coordinates of the new nuclear nature imposed upon those living within contaminated and slowly violent landscapes. The nuclear colonisation of Maralinga is therefore not simply an historical event, but an unfolding moment whose temporal scales reach into the billions of years. Masco has gracefully described this situation as a 'multimillennial colonisation of the future', the biological, cultural and ecological ramifications of which are still playing out and will continue to do so.⁴⁹² Radioactively contaminated ecologies, Masco urges, therefore require 'a different temporal analytic', and as I have made clear through the work of Brown and Scarce, these ecologies also prompt one to consider different registers of violence and to reconsider the manifestation of colonialism and genocide in Australia.⁴⁹³ The nuclear colonisation of Maralinga and the subsequent contamination of land and people must therefore be recognised—as this essay has done—through the 'different temporal analytics' of slow violence and cold genocide. Until these other, decelerated impacts of colonisation in Australia are more widely recognised and acknowledged, the violence will continue, slowly and silently.

Conclusion

Jonathan Kumintjara Brown's *Maralinga* and Yhonnie Scarce's *Thunder Raining Poison* both explore and make visible the slow and subtle violence of a colonially delivered radioactive contamination, whether at ground zero or downwind. Both works emphasise ecological, cultural and biological damage, and in doing so invite further reflection on the spatiotemporal scales of nuclear violence in the arid lands of South Australia. They particularly figure the impacts that nuclear contamination and the irradiation of land have had on Aboriginal

⁴⁹¹ Masco, *The Nuclear*, 301.

⁴⁹² *Ibid.*

⁴⁹³ *Ibid.*

people and their connection to these now toxic ecologies. Brown's sand, as a material, brings the ancestrally and radioactively charged reality of the landscape into the gallery, with the effacing gesture supporting a vision of a poisoned geospiritual region. The skeleton was likewise examined as expanding our consideration to the broader cultural-ecological impacts of the tests. In harmony, the vitreous yam objects of *Thunder Raining Poison* were thoroughly argued to present material evidence against claims of safety and 'no harm whatsoever' arising from the tests. Both works of art demonstrate conceptual and formal innovations that 'expand our affective and narrative capacities' for apprehending and representing the 'invisible' and slow traumas that nuclear testing delivers into bodies and landscapes.⁴⁹⁴ The racist blindness towards Aboriginal people in this ontologically uninhabited region were also explored, demonstrating that in the mid-twentieth century Australia's 'empty' arid areas were colonised anew under the guise of nuclear weapons development. The land and lives of Aboriginal people and the lives of servicemen and contracted civilians who worked at Maralinga, as well Australians more broadly, were sacrificed to the slow rhythms of nuclear matter.⁴⁹⁵ The slow violence of radioactive contamination presents, in Masco's words, a colonisation of the future, a colonisation whose genocidal violence Brown and Scarce have rendered visible through their work.

⁴⁹⁴ Parikka, *A Slow*, 16.

⁴⁹⁵ It must be noted that the Australian servicemen (no women were allowed at the site) who served at Maralinga have not had their time there recognised as military service by the Australian Government or Military. Many of these nuclear veterans died from unexplained cancers in their 20s, 30s and 40s as a result of the work they were ordered to do by controlling British regiments. For more on Australian nuclear servicemen and their treatment at Maralinga see Frank Walker, *Maralinga: The Chilling Exposé of Our Secret Nuclear Shame and Betrayal of Our Troops and Country* (Sydney: Hachette, 2014), 106–29; and Paul Brown, 'Maralinga: Theatre from a Place of War', in *Unstable Ground: Performance and the Politics of Place*, ed. Gay McAuley (Brussels: P.I.E. Peter Lang, 2006), 205–26.

