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Situated Nuclear Knowledges: an Ecology of Antipodean Nuclear Art

by N.A.J. TAYLOR

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Introduction

This special issue documents--and thereby draws to a close--the three-year Nuclear Futures Partnership Initiative project, sponsored by the Australia Council for the Arts. Contributors to *Reimagining Maralinga* examined discrete aspects of the project but were unified by a rejection of the assumption that nuclear knowledge is purely scientific and therefore also universally applicable. Indeed, the notion that there exists a singular nuclear knowledge is widely-held by those vested in nuclear science, strategy and policy.¹ Such so-called "expertise" is routinely used to discount the voices of others outside of the nuclear village; ascendancy to authority on nuclear matters brings with it a pretence to intellectual hegemony. Consequently, when it comes to nuclear discourse, the insights and perspectives of artists, writers, filmmakers, and other "experts" in the creative faculty of the imagination are variously neglected, omitted or marginalised. Also absent are community voices, grounded in local knowledge and experience. Remedying this global tendency takes on additional importance in the Australian context. For pre-nuclear knowledges such as those developed by the indigenous aboriginal peoples on the land they have inhabited for over 65,000 years must surely come prior to a singular form of nuclear knowledge that derives from a 20th century scientific project.² Further, since the knowledge of the aborigines is potentially as contemporary and ancient as any other knowledge system, including nuclear knowledges, each must be brought into dialogue with the other.³

Braiding the threads of nuclear knowledges presented in this volume evidences a distinct plurality of (nuclear) expertise and experiences in Australia. Such knowledges are not only highly-individuated, but they also operate across space and time. To illustrate this let us consider the scientific effect of nuclear weapons that marks them out as distinct from other explosive devices: radiation. The radiation that results from nuclear weapons detonations--whether in warfare or peacetime--follows two distinct pathways: first, *external* radiation from direct exposure to gamma rays (i.e. in the blast zone) and second, *internal* radiation, from indirect exposure to radioactive particulates, including beta and alpha emitters (i.e. through air and water intake). Aboriginal peoples at Maralinga, for instance, were exposed both to external and internal radiation, whereas at least some attempt was made to protect Australian and British service personnel from such exposures. Meanwhile, thousands of kilometres away from Maralinga, the vast proportion of white-settler colonial society, living on the east coast of the Australian continent, were neither significantly vulnerable nor sufficiently aware of either. This scientific fact points to the production of distinct vulnerabilities to--and experiences of--nuclear harm. Because these vulnerabilities and experiences differ most starkly between atomic survivor communities and those who are not, this paper also intends to throw some light on the contrast between these two particular sites of nuclear knowledge.

This essay proceeds as follows. In the first section, I ask whether there is a discernible Australian, nuclear, art? In order to support this contention, I briefly examine the two major survey exhibitions of nuclear art in Australia that were curated by Rod James at Monash University Gallery in 1993 and J.D. Mittmann's touring showcase that began in 2016, respectively.⁴ In so doing I (re)situate Australia, and thereby the category of Australian nuclear art, in the Antipodes. Second, I develop further this notion of an Antipodean point-of-view by retrieving the term from art history. Such an Antipodean stance situates Australia in Oceania, but also in opposition to the dominant statist and anthropocentric (or, human-centred) literature which is written from either a superpower or else Anglo-American perspective.⁵ In the third--and final--section, the importance of experiential and immersive nuclear knowledges is explored as a means of connecting two of the major outputs from the Nuclear Future Partnership Initiative--the immersive films *10 Minutes to Midnight* and *Ngurini (Searching)*--with the wider category of Antipodean nuclear art.⁶

Is there an Australian, nuclear, art?

Despite the intuition that artistic responses may offer important insights into the problem of nuclear harm, there have been relatively few works that could be said to

constitute a scholarly literature of nuclear art in Australia. Indeed, a review of the related and larger literature which does exist on cultural responses to British nuclear imperialism similarly offers little guidance. Writing on the category of "British nuclear art", Catherine Jolivette (2014, 2) prefers to examine "the contributions of British-born and émigré artists", rather than strictly those living and working in Britain. Curiously then, given that the experience of British nuclear colonialism was largely inflicted upon Australia by way of nuclear weapons and other testing, Jolivette's collection includes no Australian authors, and scant reference is made to Australia anywhere in the text. Elsewhere the British curator, Ele Carpenter (2016, 9) has assembled aesthetically and intellectually fascinating "nuclear material cultures" that are more concerned with universal knowledges and experiences--or, in Carpenter's parlance "the source book"--of "what 'the nuclear' is and might become". Thus, contributors to Carpenter's volume are said to "offer insights into nuclear culture in the early twenty-first century and speculate on nuclear futures to come". Whilst a good many of Carpenter's contributors explore non-Western sites (see Hecht 2016; Gama 2016) or else some or other ecological intervention (see Morton 2016; Honda 2016), those Australians who do feature avert their gaze internationally (see Broderick and Jacobs 2016). Despite the exceptional quality of Carpenter's project, no author or artist evidences the Antipodean perspective that I seek to develop here. Unfortunately, the same may be said of John O'Brian's (2014, 62) equally impressive survey of atomic photography which, despite its immense curatorial value, includes no Oceanic material save for a photograph from 1971 of a French nuclear weapon suspended from an airship over the South Pacific--although the poignancy of how that image brings the Antipodes into view is not lost on this reader!⁷

The task therefore remains to remedy the relative neglect of Oceania in the literature on nuclear art and culture. In addition, the range of mediums that may feasibly be explored extends from painting and literature, to screenprinting and virtual reality. Among the earliest appearances of Asian art in Australian institutions is widely-considered to be the solo exhibition of the first ten of Maruki Iri and Maruki Toshi's (1950) fifteen *Hiroshima Panels* at the Art Gallery of New South Wales in 1958. Consisting of eight sections and totalling approximately 6 x 23 feet each (and thus totalling over two-hundred feet), the *Hiroshima Panels* provoked audiences by enveloping them in an immersive display of the harm and destruction that the artists encountered at Hiroshima just three days after the city was subjected to a nuclear attack. Although the *Hiroshima Panels* are now well-known and were regarded by the Art Gallery of NSW at the time as one of the season's most "impressive and popular",⁸ they were not exhibited in the United States until 1970. The late-Australian art critic, Robert Hughes, went so far as to remark that: "The vision expressed in the panels overreaches national boundaries and goes beyond any particular event; its message runs straight, true and terrible".⁹

Since that time there have been two major survey exhibitions of nuclear art in Australia, in addition to undoubtedly countless other, smaller solo and group shows.¹⁰ The first survey exhibition of "the bomb in Australian art" was curated by Rod James (1993) in 1993 at Monash University Gallery, developed out of graduate research that he completed in 1990 (see R. B. James 1990). Although James does not clearly articulate any discernible historical periods for the development of nuclear art in Australia, at least five broad trends may be extrapolated from his various texts for present purposes.¹¹ First, James (1993, 4) reasons that in Australia the immediate artistic response to the emergence of nuclear harms at Alamogordo, Hiroshima and Nagasaki was on conflated visions of "an end, a last chance, or a new beginning, rather than THE END". Here, James groups together a diverse mix of well-known (male) figures in various corners of Australian art such as the painters James Cant (1945), Reginald Rowed (1946b, 1946a) and Albert Tucker (1947) who grappled with nuclear ends to human life on earth. Second, James contrasts their dystopian imaginary with the rather less fashionable idea that the nuclear age promised power for some and suffering for many. For example, William Hardy Wilson (1949), who emphatically embraced visions of future "utopian atomic civilizations" wherein human flourishing is realised by way of nuclear processes, is widely acknowledged as the leading exponent of this view, although Weaver Hawkins's (1947) *Atomic Power*, which is more critical and far more tempered than Wilson, provides another. Relatedly, a third period coincides with a heightened emphasis on the human body in the nuclear age as a harbinger for the wellbeing of a society, but also of the locus of feeling. In this an equally diverse range of artists are represented, such as Noel Counihan's (1950) series of linocut portraits, Stella Dilger's (1950) feminist conceptualisation of the body, and Ralph Eberlain's (1976) experimental performances, which confront the viewer by rendering visible the violation of the human body--a trend only amplified with the exhibition of the *Hiroshima Panels*. James identifies a fourth period of Australian nuclear art coinciding with more overtly political environmental concerns in the late-1960s through the 1970s. The fifth--and last--period that James (1993, 9) points to emerges out of Lin Onus' (1990) *Maralinga* sculpture which "reinscribes an aboriginal presence at the moment of the blast", which has given rise to a number of contemporary aboriginal works using both Western and traditional mediums.

More recently, J.D. Mittmann (2016) has curated Australia's most ambitious touring exhibition of nuclear art titled, *Black Mist Burnt Country*. In so doing, Mittmann (2016, 37) identifies four distinct historical periods in Australian nuclear art. The first period, occurring between 1945 and the 1970s, is most closely associated with the male modernist painters such as Albert Tucker (1947), Sidney Nolan (1952, 1974), and Arthur Boyd (1976,

1979) who variously imagined nuclear harm from preliminary news reports about the nuclear attacks on Japan and (later) Aboriginal peoples and land, or mimetically represented what they saw at Ground Zero at Hiroshima. Second, from the 1970s through to the mid-1980s, Mittmann reasons that nuclear weapons testing in the Pacific--and the revelations concerning British nuclear colonialism--stirred both a feminist and environmental artist response. Third, Mittmann considers the work of Lin Onus (1990) as pioneering a broader Aboriginal response to earlier British nuclear testing in the early 1990s, which in turn inspired other aboriginal artists such as Jonathon Kumintjarra Brown (1996). The fourth--and final--historical period that Mittmann identifies is the continued relevance of nuclear issues to contemporary artists using a wider range of mediums, including both traditional aboriginal dot paintings and immersive multimedia technologies.¹² As Mittmann's (2016) own curatorial project came to fruition, *Black Mist Burnt Country* was reframed around the more specific category of "Australian artistic responses to British nuclear testing" at Monte Bello, Emu Field, and Maralinga. This focus seems to imply that there is a useful distinction between artworks that appeared before and after British nuclear testing in Australia, although no such contrast to James' more expansive curatorial frame is made in Mittmann's text.

On my reading, although James and Mittmann intrude Australian art histories into a predominately Anglo-American literature, neither identify any features that distinguish Australian nuclear art as a useful category. That is to say, whilst the emphasis of James' exhibition concerns the universal question of nuclear vulnerability in the post-Hiroshima world, Mittmann's curatorial focus is loosely focused on British nuclear colonialism at Monte Bello, Emu and Maralinga. Curiously then, it is James (1993, 17-18) who places less importance than Mittmann (2016, 37-42) on the male modernists in general and the first-hand experience of those who visited Ground Zero in Hiroshima. Thus, in both James and Mittmann's art histories, the connection to Australia--whether by the nationality or residency of the artist, or the subject under study--is at times tenuous, and never fully problematized.

Predictably then, the nuclear art that James and Mittmann have assembled--and how they have contextualised it in their art histories--evidences a deeply anthropocentric (or, human-centred) approach to the problem of nuclear harm wherein human suffering and flourishing are the central themes, and the spectre of nuclear extinction looms large. Two trends predominate. First, the early work responding to the emergence of nuclear harms were largely devoid of human and organic life. For instance, the earliest known nuclear artwork by an Australian, James Cant's (1945) *The Bomb* depicted the human artifice of a city empty of all life. Cant's nuclear imaginary therefore contrasts markedly with reports filtering out of post-War Hiroshima. Indeed, William Burchett (1945), the first Western journalist to enter Ground Zero a mere month after the attacks, described a city that "looks as if a monster steamroller had passed over it and squashed it out of existence". The first Australian artist to visit Ground Zero was the official war artist Reginald Rowed (1946b, 1946a), who arrived in Japan in 1946 to paint the city of Hiroshima being rebuilt, yet devoid of organic life. Rowed instead afforded a prominence to the now familiar silhouette of the "dome", or Hiroshima Exhibition Hall, which has come to stand-in as a symbol of defiant peace. The modernist painter Albert Tucker (1947) was the first to confront the subject of individual suffering in Hiroshima, by foregrounding an orphaned child survivor--or *hibakusha*--amidst the now familiar image of a levelled city. Although situating the human at the centre of the painting, it is arguably the charred tree, foreboding sky, and green and brown hues of the Earth that take centre stage. Through this image, organic and human life in post-War Hiroshima are depicted for the first time by an Australian artist.¹³

Second, when the subject of British nuclear testing did first appear in Australian art, several of these same male modernist painters consigned the notion of nuclear colonialism to the background as a mere motif. In part this is explained by a combination of ignorance, apathy and poor media reporting that withheld news of what has transpired at Monte Bello, Emu and Maralinga until a series of investigative reports and revelations from whistleblowers in the 1970s (see Boylan this volume). Most notably in this regard, the male modernist painter Sidney Nolan (1952) completed his lauded *Central Desert* series in Melbourne, Australia, although later added a mushroom cloud in the background of one painting in 1957 after he had attended one of the earliest Campaign for Nuclear Disarmament rallies in London.¹⁴ To extend the irony of importing a nuclear imaginary into the Australian landscape further, Mittmann (2016, 41) contends that the work was not publicly shown until almost by accident in 2001, thus explaining why it is not found in James' 1993 survey exhibition or notes.

Arthur Boyd, similarly incorporated the mushroom cloud into two works from his *Shoalhaven* series, although neither James nor Mittmann make more than a passing reference to the way(s) in which Boyd conceives of the nuclear. Boyd's (1976) first painting, *Jonah Outside the City*, imposes Biblical themes onto the Australian landscape as if British nuclear testing has wreaked evil on Earth. Whereas Boyd's (1979) later work, *Picture on the Wall, Shoalhaven*, juxtaposes two images side-by-side: a painting on a wall of an almost identical scene that is framed through a doorway. The juxtaposition arises from Boyd's inclusion of a mushroom cloud in the painting that is absent from the representation of the landscape outside.

From the Antipodean point-of-view that I propose and defend in the next section, two

readings appear feasible. On one reading, the painting on the wall--and the viewer--is positioned internally to what may only be glimpsed externally. In this way, what is positioned outside affirms a distance between both the external world and the painter, as well as the imagined scene and the actual one. Alternatively, another reading points to the invisibility of past nuclear harms, but also to their arrival in new previously unimagined contexts. In this view, the inference of importing a nuclear imaginary into his *Shoalhaven* series for Boyd's largely non-indigenous audience was that nuclear harm could be inflicted here too--to non-indigenous Australians! Thus, despite the apparent need to intrude Oceanic perspectives into literatures of global nuclear culture, the central theme of both James and Mittmann's formalisation of the category of Australian nuclear art is an introspection towards other worlds--and knowledges--of nuclear culture.¹⁵

Australian nuclear art from an Antipodean point-of-view

My proposal for an Antipodean nuclear art argues that people from the Antipodes--by which I mean Australia as well as Melanesia, Micronesia, and Polynesia--offer a unique perspective on the relationship between human and non-human beings, and the earth they inhabit that derives from their biospheric situatedness. Whereas in the dominant strands of Anglo-American thought, humans are routinely taken to be somehow "hyper-separated" from nature, for many Oceanic peoples, they are in fact embedded and mutually implicated in it. However, such an Antipodean stance may not be present in the work of all Oceanic nuclear artists, because of what Richard Routley (1973, 207) wryly-termed a "human chauvinism" (or, human-centrism) that pervades much non-indigenous art in particular.¹⁶ Such tensions between the colonised and coloniser are pronounced all over the world, but no more starkly than in nuclear art that originates from the first peoples and white-settler colonial Australian society. Although such an Antipodean stance should have no bearing on the *morality* of the matter (which must be held universally), the Antipodean stance is highly *socially* and *politically* relevant (and thus situated in spatial locales and temporal contexts). In this way, Antipodean nuclear art demands new ways of engaging and thinking about aesthetic representations of--and reflections on--the nuclear age.

Prior to performing such an alternative nuclear art history, we must reclaim the meaning of the Antipodes from Australian art history. Within Australian art history the term is most commonly associated with the 1950s art movement--the Antipodeans--wherein a small group of male modernist painters in Melbourne called for a thoroughgoing rejection of American abstract expressionism (see Smith 1976). The Antipodean Group were not so much a new art movement but rather a reaction to the relative successes of the touring exhibition, *The New American Painting*, sponsored by New York's Museum of Modern Art. Whereas this Antipodean art movement positioned itself as opposed to American trends, the Antipodean stance that I am advocating situates Australia in relation to--and in opposition with--the Northern hemisphere. Yet conceiving of the Antipodes as an oppositional stance and space in this way does give rise to several other misgivings. For instance, art historian Ian McLean dismisses the possibility of a fruitful Antipodean perspective as the "scar Australians bear --[...] of having an identity founded in negativity rather than positivity". Indeed, for McLean, such 'antipodality' amplifies the Eurocentrism that besets Australian art and artists as also, as Val Plumwood (1999, 168) makes plain in in relation to the discipline(s) of (Environmental) Philosophy:

The struggle for the soul of environmental philosophy has taken a slightly different form in Oz, the antipodean heartland of western culture. [...] The very hard line Australian philozophy [sic] has taken on environmental philosophy is consonant with the very hard line it tends to take on most other things. Philozophy until quite recently was the wild colonial son of British empiricism, schooled at Oxford until this influence was replaced by North American hegemony in more recent years. From this British colonial 'parent' we inherited a background philosophy of exceptionally narrow, masculinist and reductionist cast, and these features have been exaggerated, rather than softened, through the dynamic of ex-colonial masculinity.

To combat the colonialist tendencies of many in the Antipodes, Paul Giles (2013, 28) asserts that "the antipodean configuration betokens not simply a covert organicist nostalgia for Eurocentric culture, as McLean and others have argued, but instead an aesthetic of systematic perversion rather than simple inversion, where an upside down state becomes the dominant or naturalized category".¹⁷

Paradoxically then, such an Antipodean stance towards the problem of nuclear harm is found not to originate in Aboriginal art wherein land--and thereby place--are the principal vehicles of all meaning. Rather, it was arguably the migration of European artists to Australia that gave rise to a radical departure from the human-centred artworks in the immediate post-War period that so preoccupied both James and Mittmann. Here I provide two examples, in Danila Vassilieff and Nevil Shute. Danila Vassilieff (1952) migrated to Australia in 1923, and although became part of the Heide Circle with Tucker, Boyd, and Nolan his work stands apart as one of the earliest studies of the ecological dimensions of nuclear harm by an artist with some meaningful connection to Australia. In *Hiroshima*, Vassilieff depicts the intergenerational genetic mutations that have persisted in the years since the nuclear attacks on Hiroshima. Resettlement in Australia had a more

demonstrably profound effect on another European émigré, the Englishman Nevil Shute. Yet his apocalyptic novel, *On the Beach* (1957), which was widely-read internationally, foregrounds the idea of nuclear winter, and in particular the unique plight of Antipodeans who must wait to experience a "Northern war" that has already taken place. Shute had written nothing on the nuclear age before he migrated to Australia to live on farmland in Langwarrin, south-east of Melbourne, Australia, in 1950. Yet within several years, for Shute's (1957, 100) protagonist reasoned that:

"But no wind does blow down right into the Southern Hemisphere from the Northern Hemisphere. If it did we'd all be dead right now."

"I wish we were," she said bitterly.

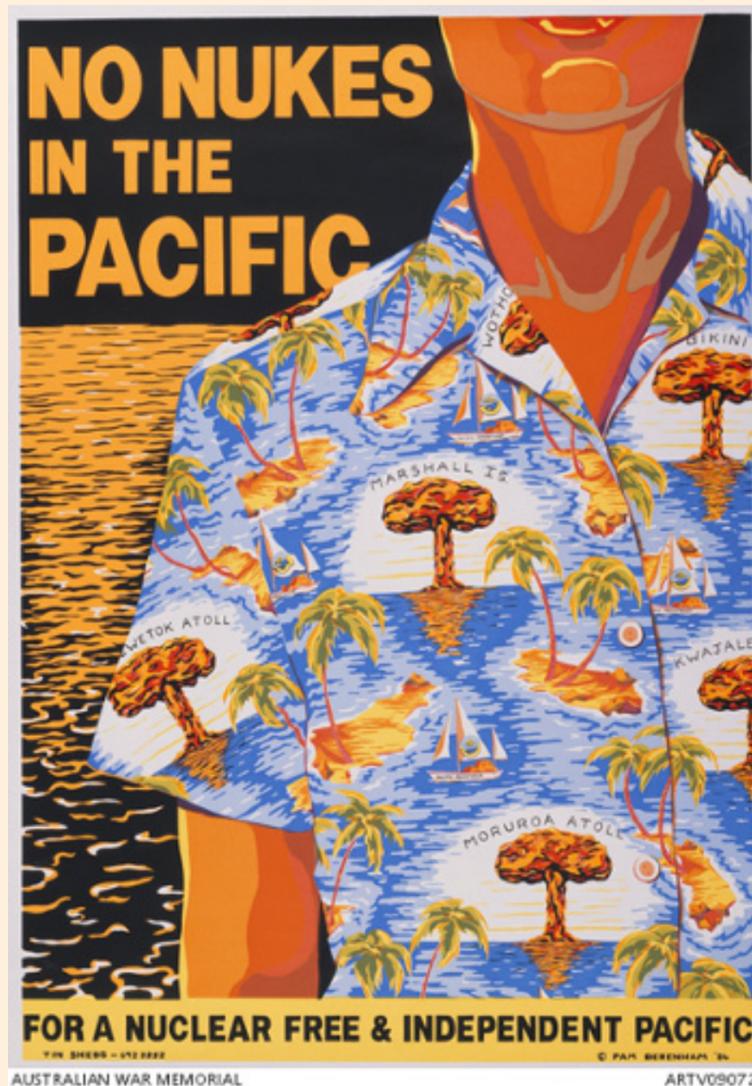
"It's like waiting to be hung".

"Maybe it is. Or maybe it's a period of grace."

Although Shute emigrated to Australia like many Britons, he had the mind for nuclear science and the passion for writing for the reading public that produced what remains among the quintessential statements of Antipodean nuclear thinking (see Ball 2006; Broderick 2013).¹⁸ According to his biographer, Gideon Haigh (2007, 1):

*Shute was a Briton. But no novel could be more explicitly Australian than *On the Beach*, set in his new home town of Melbourne. Nor could any novel make such provocative creative use of our distance from the rest of the world: as the last habitable continent, Australia is suddenly the most important place on Earth, at the very moment of its greatest impotence and ignorance, awaiting dooming winds from an incomprehensible war in the northern hemisphere.*

An ecological awakening shared by many Australian artists followed soon after. Again, two works by artists with a more long-standing connection to Australia, John Perceval and Sidney Nolan, are among the exemplars. John Perceval's *Homage for Lawrence Hargrave* (1960) reconstructs post-Hiroshima existence. At the centre is the "splitting of the atom" by way of strewn faces and limbs. Flight--into space--is seen as one of the only hopes for survival--yet to the top left is a baby severed of the umbilical cord from its mother (top right). Overlooking all this is the man-of-flight, Sir Lawrence Hargrave, one of Australia's most eminent astronomer, inventor and aviator, Lawrence Hargrave. Out of sight here, is the sun--in peace in stark opposition to the violence surrounding Earth. Breaking out of the confines of the modernist movement, Sidney Nolan returned to his earlier *Boy and Moon* (1940) series by (re)configuring the mushroom cloud of an atomic test with the human head reminiscent of Dali's (1947) *Three Sphinxes for Bikini Atoll*. In Nolan's (1974) *Untitled (Moonboy and atom blast)*, however, the human figure is depicted as an earthen mushroom cloud with two figures on horseback--perhaps the ill-fated explorers white-settler colonialist Burke and Wills--in harm's way.



Pam Debenham, *No Nukes in the Pacific*, 1984, Screen print on paper, 88 x 62 cm, National Gallery of Australia

Among the leading exponents of a broadly environmental approach are Pam Debenham's

iconographic screenprints and Peter Booth's atmospheric paintings. Working alongside a number of other (eco-)feminist screenprinters at Tin Sheds workshop at Sydney University, Debenham's (1984) explicitly anti-nuclear print *No Nukes in the Pacific* appears at first sight to depict a Hawaiian-style shirt replete with swaying palm trees and clear waters. In reality, however, what Debenham has interspersed in the print are depictions of French and American nuclear weapons testing in the Pacific. Deeply political, Debenham was prone to eschewing the satire and humour favoured by many of her contemporaries such as Toni Robertson (1981).

In *Painting Two*, Peter Booth (1984), who was already then widely known for exploring post-holocaust life, imagines a post-human world in which human beings more reassemble insects mutated almost beyond recognition by some nuclear event. Crucially, previously inanimate things are now, in James' (1993, 6) words, "pulsating with life" amidst an irradiated sky. Booth's nuclear imaginary is particularly interesting and important given it remains among the few paintings by a non-indigenous artist to examine possibilities beyond human extinction, and thus beyond the charge of human-centeredness levelled at so much earlier Australian nuclear art.

For the first time perhaps, in Vassiliev and Shute, Perceval and Nolan, as well as Debenham and Booth, we see non-indigenous artists beginning to approach the problem of nuclear harm with ecological-attunement that is characteristic of an Antipodean stance.

Experiential and immersive nuclear knowledges

More recently, we have seen the emergence of experiential and immersive nuclear knowledges, including the development of increasingly accessible augmented and virtual reality technologies. Two Aboriginal artists, Lin Onus and Jonathan Kumintjarra Brown are among the precursors to this experiential and immersive approach to nuclear representations of the problem of nuclear harm. The first known aboriginal work to appear in the public domain on the matter of British nuclear colonialism also marks a critical juncture in Antipodean nuclear art. Lin Onus' (1990) *Maralinga* sculpture does not portray a mother and child in the moment of incineration, but rather, the enduring harm that is inflicted upon them by the blast wave that reaches out for kilometres after a nuclear device is detonated on their lands.¹⁹ Thus, the explosion itself is absent from Onus' experiential sculpture, replaced instead by the trefoil radiation warning standard which dances in front of the pair, in the British colours of red, white and blue as if in a double-torment. In this way, Onus' character suffers because of forces carried on the wind such that the human cost of nuclear weapons--whether in warfare or in testing--is entwined with ecological ones.

Onus' sculpture is also a political statement against the suffering inflicted upon indigenous Australians under British (nuclear) colonial rule. For it renders visible the invisibility of nuclear harm and reiterates the irrevocable connection between people and the land that was violated at Maralinga. Jonathan Kumintjarra Brown (1992, 1995, 1996) was mentored by Lin Onus, and inspired by his family history. Brown, a victim of the Stolen Generation whereby babies and children were forcibly removed from their families and communities, thereby (and mortally) severing their connections to country, painted *Maralinga* as someone divorced from connection to his people and land, which he was later to learn were themselves violated by the British atomic tests at Maralinga (see J. K. Brown 1992). Brown's is therefore a double tragedy. In *Black Mist*, Brown (1995) recalls the tragic story of the Milpuddie family who were found to be camping at a contaminated above-ground nuclear test site at Maralinga and suffered horrific health issues, including the death and disfigurement of several children and the inter-generational trauma produced by the forced removal from their land, as a result (see McLelland 1985a, 302 and 319-22, 1985b, 613; Yalata and Oak Valley Mattingley Communities and Mattingley 2009, 44-45). Following the work of Onus and Brown, the Nuclear Future Partnership Initiative and Mittmann's *Black Mist Burnt Country* touring exhibition evidence a vibrant contemporary interest by aboriginal artists in the subject of British nuclear colonialism.

Indeed, the remoteness of Aboriginal cultures and peoples, and otherness of hibakusha (or, Japanese atomic survivors), has prompted artists to resituate the viewer so as to experience nuclear harm (see Barkley et al, Crea and Boylan this volume). The adoption of new technologies advances a long-standing tradition of experiential nuclear art in Australia, wherein both Tony Coleing (1977) and Ti Parks' (1993) actions at the 1980 Venice Biennale and 1993 Paris Biennale, respectively, sought interactions with the audience. Two of the most ambitious works recently have been carried out by the aboriginal artist Yhonne Scarce (2015), and senior men from across the Anangu Pitjantjatjara Yankunytjatjara lands (Baker et al. 2017). Both immersive installations have appeared at the bi-annual Tarnanthi Festival (meaning to come forth or appear) in Adelaide, Australia, curated by Nici Cumpston since 2015. Although Scarce's artist practice has long employed the medium of glass to explore the impact of colonialization on Aboriginal people in some way, the relevance of firing sand to produce her work is heightened in relation to British nuclear weapons testing on her grandfather's country at Maralinga. Scarce's (2015) *Thunder Raining Poison* consists of two thousand hand-blown glass yams (a vital food stuff for desert peoples) suspended from the gallery ceiling.

Similarly, a group led by senior men from the Anangu Pitjantjatjara

Yankunytjatjara Lands have transformed a crucial link to their country--this time the cultural practice of spear making--into an immersive artwork (see Baker et al. 2017). Also suspended from the gallery ceiling, *Kulata Tjuta* (meaning many spears) is made up of 550 spears which represent the moment of detonation of one of the nuclear weapons tests inflicted upon the ancestors of the group and their land at Emu Junction and Maralinga. By inserting a light inside the installation, pointed shadows spill out onto the gallery walls, floor and ceiling thereby expanding the work ever outwards--not as "an explosion frozen in time", as many have said, but rather the representation of a past nuclear event which has forever violated what was once whole. In this way the light serves a double purpose: first, to activate the spears as a detonation, and second, to afford a temporal quality to the work. Positioned on the floor are several dozen hand-carved piti (meaning wooden bowls) carved by local women in an act of intra-group cooperation as well as an offering of life-giving stuff in the face of otherwise hopeless adversity. *Kulata Tjuta* derives out of a larger, ongoing project of cultural maintenance in which individual members of the Angu community learn the craft of spear making through workshops.

Which brings me to two major outputs of the Nuclear Futures Partnership Initiative that has until now been the focus of this edited volume. These two immersive films, *10 Minutes to Midnight* (2015) and *Ngurini (Searching)* (2015), designed as 360° projection installations, are intended to be screened on 8-metre diameter cylindrical screens to immerse the viewer (see Barkley et al. 2018). Doing so has the effect of implicating the viewer in the film, centrally positioned within the story-scape of sound and moving image, and by way of the shadows cast by other participants all around you--you are left asking, "in what ways might I be implicated in this story too?" Both films follow in a tradition of community arts projects with nuclear survivors in Australia, starting with Lance Atkinson's efforts in the late 1990s, which culminated in an exhibition at the 2002 Adelaide Festival (See Brown this volume). The films deal with themes of forced migration and intergenerational impact for indigenous communities and the grotesque experimentation and exposure of service personnel and civilians during British testing.

10 Minutes to Midnight was developed with the nuclear veteran and service personnel communities who are also among the victims of British nuclear colonialism. The project sought to document the nuclear knowledge of the Australian veteran-turned-whistleblower Avon Hudson and his family (see Cross and Hudson 2006), and arose from the 18-month Nuclear Futures Partnership Initiative residency at Balaklava, in South Australia. Also involved were the British veterans involved in Charles Stewart's (2014) documentary film, *Nobody Told Us Anything*. The project therefore sits on a trajectory of work dating back to the 2002 Adelaide Festival, that includes Alphaville's *Half a Life* project (2003-2007) which involved forty-five nuclear veteran families in Britain and Australia (see P. Brown 2006a, 2006b). As a companion piece to *10 Minutes to Midnight*, the film *Ngurini (Searching)* tells the Angu story of forced migration in the far west of South Australia and is another immersive output of the Nuclear Futures Partnership Initiative (see Boylan this volume). *Ngurini (Searching)* demanded sustained dialogue with the aboriginal atomic survivor community that continues to experience impacts of nuclear testing at Maralinga, by way of intergenerational health effects as well as the continued dislocation from their ancestral land. Produced in consultation with Yalata community elders including Russell Bryant, Mima Smart and Keith Peters, *Ngurini (Searching)* serves to resituate the audience, not in the moment of the blast as James and Mittmann have read Onus' work to have done, but in the contemporary aftermath.

The explanatory value of these two immersive installations, *10 Minutes to Midnight* and *Ngurini (Searching)*, is perhaps best illustrated in relation to another contemporary work produced outside of the Nuclear Futures program, Lynette Wallworth's (2016) virtual reality film *Collisions*. In *Collisions* the reviewer is transformed by mobile phone technology into an autonomous participant in what Wallworth terms an "encounter" with not only an indigenous survivor of British nuclear testing, the Martu man Nyarri Nyarri Morgan, but also with the aboriginal connection to place.²⁰ For instance, when Morgan is shown "painting with fire" in an effort to tend to his people's land for the next 100 generations to come, we are reminded not only of the irresponsibility of British nuclear testing and Australia's championing of it, but also of the possibility of intergenerational responsibility. However, the virtual reality medium--which requires goggles and headphones to be worn by each participant--renders the viewer wholly isolated in their experience, or encounter, with the work. Only after the film is over, and the goggles and headphones are removed, do the audience become one. Although based on older technology, the immersive installations *10 Minutes to Midnight* and *Ngurini (Searching)* position the audience together within the work such that at any one point in time, the silhouettes of several members of the audience obstruct another viewer's experience of the film. In this way, the three immersive artworks employ technology not to stage mere "encounters", but rather to explicate the mutual implication and connectedness of atomic survivors' experience in our own lived experience.

Towards Antipodean nuclear knowledges

In scrutinising the evolving eras of Antipodean nuclear art, apparent is the distinct plurality of inter-connected nuclear *knowledges* in Australia, and the region, that operate across space and time. Although those nuclear artists that I have briefly surveyed may

otherwise have very little in common between them that threads them together either intellectually or aesthetically, each speaks to a moral repulsion with the nuclear age and to the need for political action to bring its manifold struggles and harms to an end. For instance, whilst the aboriginal artist Onus and the white-settler artist Tucker held radically different worldviews, through the confines of their nuclear knowledges and artistic practices they situate the human subject differently in relation to the wider ecological community. For Onus, this necessitates making a statement on behalf of the victims of nuclear colonialism, whereas for Tucker, his visit to Hiroshima two years after the attacks renders him a mere "tourist" (Blackman 1980 as cited in Burke 2011). More recently, the continued pursuit of community development for atomic survivors through community arts, and the advancement of creative practice and technological applications of immersion, have influenced the scope and impact of engaging audiences in alternative nuclear knowledges. Through these works non-indigenous audiences are being (re)situated not only at the moment of impact, but also within a new worldview. Of particular relevance here is the contribution of nuclear knowledges emerging from the greater number of works by Aboriginal people which bring to nuclear art a sophisticated and nuanced understanding of nuclear harms in relation to people and the land, that are significantly shaping the contemporary ecology of Antipodean nuclear art.

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Footnotes

1. Elsewhere, post-colonial scholars such as Itty Abraham (2009), Gabrielle Hecht (2012), and Shampa Biswas (2014) have critiqued elements of this universalizing narrative more

broadly. ↵

2. For evidence that the minimum standard for the arrival of humans on the Australian continent now likely exceeds 65,000 years, see Chris Clarkson et al (2017). One reviewer provocatively asked whether "nuclear science and ancestral knowledges, cosmologies, and philosophies of aboriginal land owners can be compared in this way". Following Cameron Muir et al (2013, 264), I seek rather to point out that situated nuclear knowledge has to contend with such encounters in the Australian context "on Aboriginal people's terms and according to Aboriginal people's customs, and not within Western frameworks". ↵

3. I thank two reviewers for provoking me to reflect on this point. ↵

4. Although this essay takes an alternative approach to the category of Australian nuclear art and to art history, both James and Mittmann's catalogues are highly recommended. Together they offer a reasonably comprehensive, visual account of nuclear art that is in some way connected to Australia and its people. ↵

5. In relation to nuclear politics and policy, the Antipodean stance also necessitates a rejection of the statist ontology that prevails in the literature (see Taylor 2014, 2017, 2018). ↵

6. For a more thorough analysis of these two outputs, see Barkley et al., Boylan and Crea in this volume. ↵

7. The absence of an Antipodean perspective extends to the omission of British nuclear testing at Monte Bello, Emu and Maralinga from O'Brian's (2014, 292-93) "atomic timeline" of key nuclear events. For essays on the importance of place in relation to Australian photography, see Judy Annear (2011) and David Palmer (2013). ↵

8. As cited in a historical survey of Asian art in Australia by Simon Fisher (2011, 69-70). ↵

9. As cited in James (1993, 19). ↵

10. Of course, nuclear art appears in many forums--from curated exhibitions, items held in private and public collections, to solo shows by artists exploring nuclear themes. For instance, in 1976 there was an exhibition of nuclear works at the Sydney Opera House, followed by the anti-nuclear activist shows *Uranium-Artists Speak* in 1978, and the *Artists for Peace* exhibition in 1982. More recently, Linda Williams curated a group show titled *Japanese Art After Fukushima: Return of Godzilla* at the RMIT Gallery in 2015 and Kate Downhill was the subject of a retrospective exhibition, *Chain Reaction*, at Macquarie University Art Gallery in 2013. ↵

11. It is suggested that international readers without access to the archives at Monash University in Melbourne, Australia, consult instead the condensed (nuclear) art history in one of James' (1994) more readily-available essays in the journal, *Artlink*. ↵

12. There are therefore a significant number of works derived from the Nuclear Futures Partnership Initiative in the *Black Mist Burnt Country* survey exhibition, particularly in the community arts genre. For the argument that aboriginal art practices are a form of contemporary art, see Ian McLean (2011). ↵

13. Perhaps it is worth noting that Tucker was to fund his trip by selling prints to the world news media, but also intended to produce a series of larger, modernist compositions (Heathcote 2012, 78). Tucker failed to deliver on both scores, and instead turned to the medium of (and mediation afforded by) photography. Heathcote alleges that he was commissioned to deliver "publishable illustrations" of subjects such as Ground Zero, the bodies and suffering of various hibakusha, and the many able-bodied who were returning to their ruined city. It has been alleged that Tucker experienced something altogether different at Hiroshima--or rather exhausted--the subject of human suffering which was at the heart of his earlier series, *Images of Modern Evil*, and so confronted instead the damage done to (inanimate) objects such as buildings and machines, as well as a barren landscape. ↵

14. It must be noted that at the same time, Nolan painted *The Galaxy* (1957), which has variously been said to either represent the inside of an atom or the threat of nuclear war. ↵

15. Additionally, almost all of the major works conceptualise themselves around the Cold War, and with it comes an emphasis on certain states and peoples at the exclusion or marginalisation of others (see Taylor and Jacobs 2017). ↵

16. The same holds in relation to nuclear policy and strategy, as in the Australian international relations theorist Hedley Bull (1964), who was among the principal nuclear

strategists of the 1960s, advocated not nuclear abolition but nonproliferation. ↵

17. Although a thoroughgoing treatment of the broader Antipodean literature is beyond the scope of this article, one reviewer kindly pointed to several valuable precursors elsewhere in Oceania, applied to other disciplines (see Hau'ofa 1993; Connell 2007). ↵

18. As an aside, it is perhaps worth noting also that beginning with the height of the Cold War in the mid-1980s number of philosophers and strategist have pointed out that any future possible nuclear war is most likely to be a Northern War, fought by nuclear weapons states based in the Northern Hemisphere against mostly Northern neighbours and targets (see Martin 1982, 1988). The idea of nuclear winter, in which the world descends into darkness due to the masses of smoke and dust that would accompany repeated nuclear detonations, includes no claims that the predicted effects would be evenly distributed. For instance, the late Australian nuclear strategist Desmond Ball (2006, 4-5) firmly believed after conversing with Carl Sagan--who remains among the most prominent and strident figures behind the nuclear winter hypothesis--that "it was just as wrong to overestimate the possible consequences of nuclear war, and to raise the spectre of extermination of human life as a serious likelihood, as to underestimate them (e.g., by omitting fallout casualties)." Australia's geographical location in the Antipodes would result in *relatively* less destruction and harms than is predicted would be inflicted upon states and peoples in the northern hemisphere. The argument was not that there would be no effect on the Antipodes from this so-called Northern War, but an acknowledgement that the effects would be unevenly distributed across space and time. Thus, end of world tropes in which an "unthinkable" nuclear war leads to the extinction of the humans species is what a number of Antipodean nuclear philosophers--such as Richard Routley and myself--have equated with anthropocentrism (see Routley 1984a, 1984b, 1990; Taylor 2015, 2018). ↵

19. Critically, there is also a gender narrative at play in Onus' work too, which led Ariel Salleh (1997) to deploy a photograph of Onus' *Maralinga* sculpture on the front cover of her classic eco-feminist monograph. Nowhere in that volume does Salleh unpack the meaning behind the pairing, however, nor the (in)compatibility of aboriginal and settler-colonial worldviews. ↵

20. *Collisions* is one among a series of films that Wallworth has made with the Martu people, which is well documented and analyzed by Una Rey (2016). ↵



This journal is made in the traditional country of the Boonwuring and Wurundjeri people of the Eastern Kulin nation. We pay our respects to Elders past and present. We recognise, respect, and learn from their cultural heritage, beliefs and relationship with country.

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