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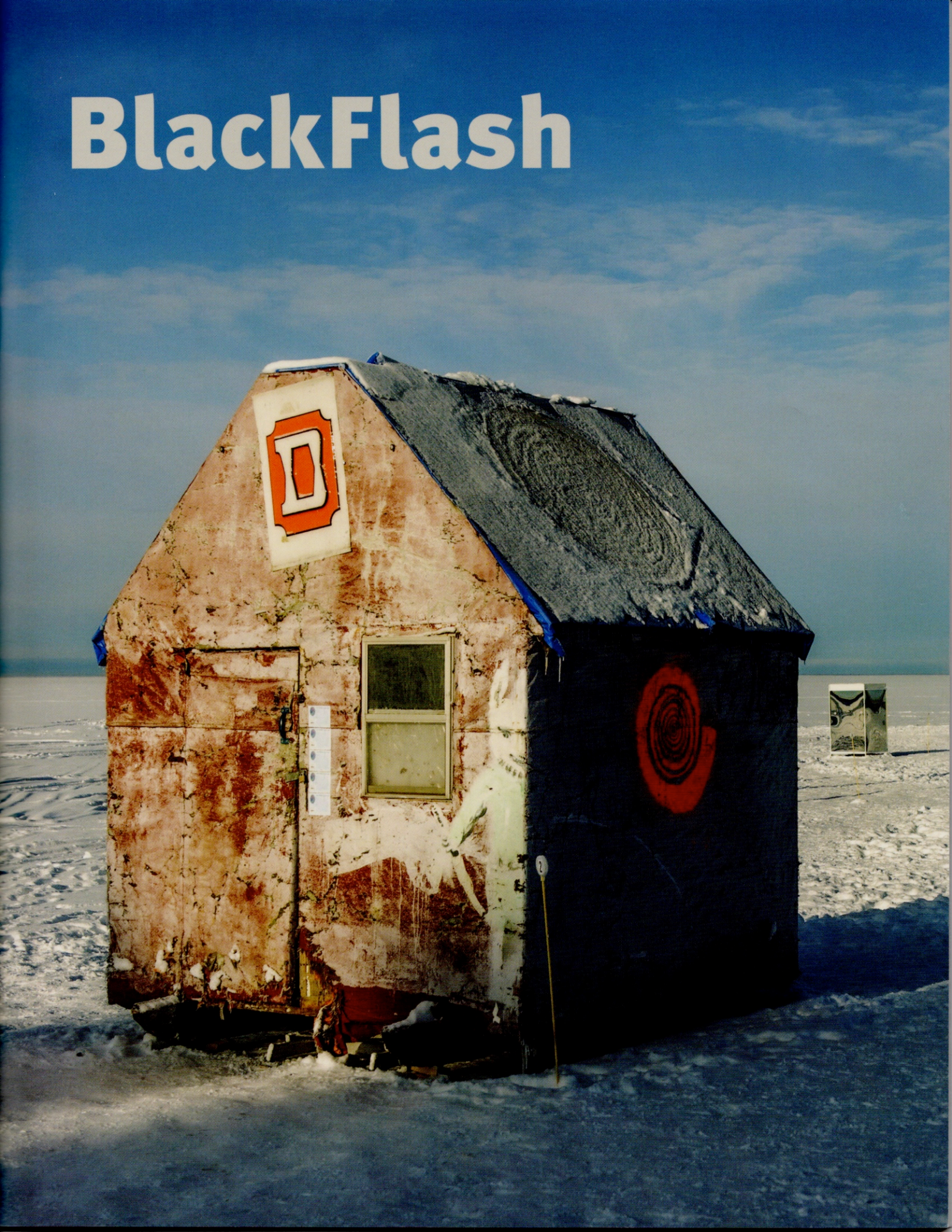

SAND AND BREATH TURNED TO GLASS: TRACING NUCLEAR STORIES

By Warren Harper

Page 52: *Cloud Chamber.* 2020. Yhonnie Scarce . 1000 blown glass yams, stainless steel and reinforced wire, steel grid. 790 cm × 358.5 cm, yam dimensions variable. Courtesy: the artist, TarraWarra Museum of Art and THIS IS NO FANTASY. Photo credit: Andrew Curtis.

IN THE SUMMER OF 2023, and after much hype, Christopher Nolan's blockbuster film *Oppenheimer* was globally released. The movie tells one side of a story about the world's deadliest weapon, its birth and one of the men that brought it into being. Formally, it leans into the atomic sublime with the use of an ominous soundtrack and spectacular shots of mushroom clouds, fire, atoms. As many others have already offered reflections on the film and its relationship to 'the nuclear'—and about those who propelled society into a nuclear arms race and the scientific progress which underpinned it—I am not interested in reviewing the film. In spite of the multifaceted and complex points of discussion the movie no doubt raises, I would like to suggest that there are other stories worth listening to.

During the same summer, a timely counterpoint to *Oppenheimer* was also launched. Rather than the mythologisation of the 'father of the atomic bomb' and focussing on his apparent ambivalence in his thoughts or actions; nor the preoccupation with the paradoxes and ways in which his position shifted in relation to nuclear weapons and their control, but one commonality they might share in highlighting might be the insufferability of bureaucracy and the way power operates through it. In July, the Nuclear Truth Project released a report titled *Challenging Nuclear Secrecy: A Discussion of Hierarchies and Barriers to Access in Nuclear Archives*. The report "calls for openness and transparency, accountability and redress for those people and places who have been harmed, and [the] minimization of future harms from nuclear activities.[1] It advocates for many qualities that have been found wanting from the nuclear industries; particularly by the people whose lives have been impacted by nuclear bombs, uranium mines and radioactive waste. This work asks difficult questions about the nuclear military complex by problematising singular, top-down stories. These projects foreground the power dynamics at play in archival practices and the uneven levels of access available to communities without affiliation to the institutions responsible for the care and maintenance of nuclear related records.

How nuclear stories are told (or not), made sensible (or not), has been a preoccupation of mine for a while. I have been thinking about nuclear culture through the lens of contemporary art and curatorial practice for over five years, becoming particularly interested in what they (art and the curatorial) can offer up in terms of ways to provide insight into or further understand the slow, violent, leaky, messy, amorphous, ubiquitous and ongoing stories of the nuclear. My starting point has been my country of birth, England, and my home county of Essex in particular, considering the role Essex has played in Britain's pursuit of nuclear weapons development and power production. My research inevitably led me to places beyond the British Isles, since much of the infrastructure, territories and routes integral to Britain's nuclear state ambitions lay beyond its shores, entangled with colonial expansion.

1 https://nucleartruthproject.org/wp-content/uploads/Challenging-Nuclear-Secrecy-report-NTP-31-July-2023-low-res.pdf

Curators and artists have the capacity to bring together seemingly disparate concerns, disciplines, positionalities, localities and trajectories. Artists are well placed to navigate the challenges of a complicated context like British nuclear colonialism,[2] and curatorial practice can be complementary to these motivations, offering up parallels, links and avenues of making-public.[3] I have found historian Gabrielle Hecht's proposition of 'interscalar vehicles' a generative way to think about the disparate and dispersed characteristics of the curatorial, the nuclear and the different scales they can be imagined and reimagined, and how one might consider them in relation to art practice. Hecht likens interscalar vehicles to interstellar travel, but rather than traveling through time and space, one travels through space, time and across scales. For Hecht, interscalar vehicles are 'objects and modes of analysis that permit scholars [and, I suggest, curators and artists] and their subjects to move simultaneously through deep time and human time, through geological space and political space.'[4] What the interscalar does when mobilised is allow for incommensurate realities or spaces to sit together within the same conceptual frame. To be incommensurate is to have no common measure, but to be incommensurable does not mean these realities and spaces should be siloed. I argue that we should try to think of these things together, keeping in mind this notion of the interscalar, to think about the nuclear holistically, mapping out and connecting that which is kept apart.

In contemporary art since the 1960s artists have engaged with the archive to speak to histories, either overlooked or forgotten about, the present and possible futures as well as critique societal systems and structures. The archive for artists can be a generative site of reimagination and space for criticality, responding to or appropriating from institutional archives, or building their own and reflecting upon family histories, telling and retelling stories and highlighting the absurd notion that archives are objective or neutral, whilst foregrounding their allowance for creative possibility. An archival impulse,[5] in one form or another, is alive and well. Archives can be understood as collections of materials like letters, 'official' documentation and correspondence, photographs, video and sound recordings that perhaps speak to a certain place, organised by subject matter, such as places, people, communities, companies, organisations, and they are generally maintained or made accessible in a variety of ways. The archive and its engagement in contemporary art practice has expanded with the body, land, flora and fauna considered archives in and of themselves; here they may not be stored away in boxes but instead are active, harbouring stories, speaking to histories as well as to what may lie ahead.

From the first half of the twentieth century, institutional or governmental archives have focused on the officials charged with policy decisions pertaining to the development of bombs and power stations, or the research of scientists who developed nuclear technologies. As a consequence a singular, authoritative narrative is conveyed by this top-down origin story of nuclear culture. This trajectory preoccupied with politicians, scientists and military personnel has of course continued, with the nuclear military complex and nation-states eager to assert their version of the nuclear story. However there are many other stories outside of this: from the uranium mines and the miners who worked them; the downwinders; the nuclear test veterans; Indigenous communities; the radionuclides that traverse air, land and sea; or the habitats humans have evacuated, never to return due to accident or disaster. It is important to point towards and open up these complex stories, as a means to produce alternative and diverse nuclear archives. To remember.

As a counterpoint, artists whose work critically engages with the nuclear tend to avoid fetishizing the very men who are put on pedestals for producing such an atrocious weapon of destruction, and instead embrace and reckon with the complexities of the nuclear by drawing on personal or family histories, institutional archives, mapping out nuclear infrastructures and considering how it feeds in to and touches all facets of society. Within contemporary art and its associated practices lies exciting potential to question inherited grand narratives and stories or acknowledge and amplify communities that have been invisibilised. After all, it is often those perceived to be on the periphery who end up with the raw end of the deal and face the brunt of the negative impacts of nuclear facilities.

The dearth of information and access to many classified nuclear documents produces secrecy and concern around national security, which in turn creates a lack of accountability for many nation states. Historically, these nations have taken inadequate steps to decontaminate sites that have been subject to nuclear testing, the detonation of bombs, and accidents and disasters across oceans and on land. One such operation, on the land many now call Australia, was undertaken by the British Government after testing various nuclear weapons for more than a decade, where great swathes of land were subject to irrevocable damage and contamination. Parts of which are still inaccessible and too dangerous to spend prolonged periods of time in. Called the Woomera Prohibited Area (WPA), it currently covers around 122,000 square kilometres, nearly the size of England, and encompasses land of the Maralinga Tjarutja, Anangu Pitjantjatjara, Yunkunytjatjara, Antakirinja Matu-Yankunytjatjara, Arabana, Gawler Ranges, and Kokatha. At its largest, the WPA encompassed nearly double this footprint: a staggering 270,000 square kilometres. Something as seemingly miniscule, imperceptible and inconsequential as atoms crashing together has led to unthinkable consequences that have been dealt with inadequately, swept under the rug or consistently knocked down the agenda.

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2 Nuclear colonialism refers to how the entire fuel cycle from uranium mining and refining to nuclear power and weapons development, production and testing, and the subsequent dangers of nuclear waste, disproportionately affects Indigenous peoples and their lands.

3 Making-public could be understood as a 'curatorial situation', articulated by curator and art historian Beatrice von Bismarck as 'a coming-together in the interest of the becoming-public of art and culture. Each generates a fabric of interrelations among all of the various human and non-human participants–the exhibits, artists, and curators, but also critics, designers, architects, institutional staff, various recipients, and publics as well as the display objects, mediating tools, architecture, the spaces, sites, information, and discourses. As these elements connect with one another, the becoming-public of art and culture always implies change: exhibits find themselves in new juxtapositions, entering into relations with altered spaces and social, economic and discursive contexts, encountering (many different, more or less familiar) humans and nonhumans.' See Bismarck, Beatrice von. *The Curatorial Condition*. London: Sternberg Press, 2022. p.9

4 Hecht, Gabrielle. 'Interscalar Vehicles for an African Anthropocene: On Waste, Temporality, and Violence'. *Cultural Anthropology* 33, no. 1 (22 February 2018) p.135. Hecth's focus on the interscalar is geared towards scholars, however I argue that this extends to artists and curators with expanded or interdisciplinary practices in contemporary art

5 Foster, Hal. "An Archival Impulse." *October* 110 (2004): 3-22.

Pages 55–57: *Cloud Chamber.* 2020. Yhonnie Scarce . 1000 blown glass yams, stainless steel and reinforced wire, steel grid. 790 cm × 358.5 cm, yam dimensions variable. Courtesy: the artist, TarraWarra Museum of Art and THIS IS NO FANTASY. Photo credit: Andrew Curtis.

Top: *Prohibited Zone, Woomera*. 2021. Yhonnie Scarce. Research photograph. Courtesy: the artist and THIS IS NO FANTASY.
Bottom: *Hotel (Pripyat), Chernobyl exclusion zone*. 2019. Courtesy: Yhonnie Scarce and Lisa Radford.

The stories of the nuclear are diverse, and, reflecting this, so are the artistic responses to it. For over 15 years artist Yhonnie Scarce has been reckoning with the devastating history and impact of colonisation in Australia, including Britain's nuclear testing programme. Scarce was born in Woomera and belongs to the Nukunu and Kokatha peoples, whose Country covers wide expanses of southern Australia. Her multifaceted practice has engaged, appropriated, reframed and reclaimed archival materials to present a personal response to the impacts of colonisation to Aboriginal peoples. The artist couples these concerns with a rigorous, intimate and critical engagement with the materials, using glass as a medium, whose central ingredient of sand is ubiquitous across South Australia. It was at Emu Field and Maralinga that sand was turned to glass from the extreme heat emanating from bombs detonated there in the 1950s and 1960s. The land became a direct reference to, and index of, the violence it was subjected to, as well as those who have called it home, the displacement many experienced and the intergenerational trauma as a result of nuclear weapons testing.

In *Cloud Chamber* (2020) a collection of glass forms are suspended. The work's title references a piece of laboratory equipment used to make visible the passage of ionising radiation, making visible to the naked eye what is otherwise an imperceptible phenomena for humans. The glass forms within *Cloud Chamber* are reminiscent of yams, a traditional bush food that is no longer safe to eat due to Britain's nuclear testing programme in the region. They could also be read as inverted rain drops, tears or distorted anthropomorphic forms that carry their own connotations. Together they take the shape of a poison cloud that recalls the black mists that rolled over the communities living downwind from the blasts. *Cloud Chamber* is the third work in the artist's cloud series, which also includes *Thunder Raining Poison* (2015) and *Death Zephyr* (2017), the former inspired by stories of rainfall after the tests and how it burned people's skin, and the latter wind and weather patterns are some of Scarce's preoccupations. Each work uses photographic evidence of clouds immediately after the nuclear tests at Maralinga and Emu Field as reference points. The cloud series operates as a form of memorialisation, a means to consider what and who is remembered.[6] Scarce is a master glassblower and each form, grey-blue-black in tone, is made with her own breath (or in some instances with other glassblowing collaborators). It is a process and material condition of the work calling on the viewer to consider the contaminated air that many had to breathe in as the clouds descended after weapons were tested. Scarce's work traverses the scales of atoms, the body and land through her choice of materials, methods of production and the accumulative qualities they embody together.

Another of Scarce's projects, this time with a more explicit engagement with the archive, is a long-term collaboration with artist Lisa Radford. *The image is not nothing (Concrete Archives)* (2021)[7] is an extensive exploration of sites of nuclear colonisation across the world, as well as those of genocide and the memorials erected in response to these atrocities. Scarce and Radford traveled to visit these places to consider the ways in which different countries reflect upon and represent these histories and their ongoing ramifications. They also invited artists to respond to the project's areas of enquiry which launched an extensive editorial project with Art + Australia online.[8] In addition to the web-based components of the project, the two have realized exhibitions, public programs and collections of research materials that together accumulate to constitute an extensive archive mapping out links between genocide, nuclear colonisation, memorialisation and artistic approaches. This collection foregrounds, and makes visible, these injustices while also celebrating the resilience and strength of those affected. The impetus for *The image is not nothing* stems from Australia's distinct lack of, or refusal, to reckon with the genocidal violence perpetrated against Aboriginal people, and the lack of meaningful reference points to reflect upon this. For several years Scarce has returned to Woomera and Maralinga to conduct research that questions how a body of work might be produced to memorialise that which has long been swept under the carpet by both the British and Australian Governments. Scarce's work is a means to consider how 'official' archives may obfuscate or do not account for certain narratives.

Although the starting point for Scarce is localised and distinct in character, she also speaks to the wider implications and machinations of the nuclear colonial project, its role in state building and the abuses of power that may come with it. The exploitation of Indigenous land for the furtherment of nuclear power and weapons development is not the exception, but the rule. Approximately 70% of the world's uranium is found on Indigenous lands, two-thirds of mined uranium being in Kazakhstan, Canada and Australia.[9] In addition, much of the testing of nuclear weapons has also occurred on unceded Indigenous lands. Nuclear archives that provide adequate access-like what the Nuclear Truth Project is advocating for-can provide a better sense of the past and ongoing effects of nuclear colonialism, which are invariably downplayed by the nation states that enacted them.

Similar issues raised in Scarce's work are also present in Canada. Specifically, the marked lack of accountability and acknowledgement of the role this nation has played in advancing nuclear colonial projects, as well as a distinct absence of memorialisation. Writer Lou Cornum speaks of 'the irradiated international', referring to the diffuse global collective of those that have been impacted by the nuclear complex, from processing, power production, weapons testing, the detonation of bombs, waste storage, accidents and disasters.[10] Cornum reminds us how nuclear sites are connected, implicated within one another's existence. They describe the mining of uranium in Northwest Canada and its journey to Hiroshima, and how in 1998 the Dene elders of the Northwest followed, acknowledging accountability and apologising for their unknowing part in the United States' bombing of the city in 1945. Cornum notes, perhaps unsurprisingly, the distinct absence of Canadian officials or politicians on this trip.

Great Bear Lake is one particular area within the vastness of the Northwest territories that speaks to histories the Dene elders were well aware of during their trip in 1998. Along the lake's shores is Port Radium, a mining area where radium and uranium was mined for medical applications, power production and bomb making. Artists Tsēmā Igharas and Erin Siddall have worked intently with this

6 https://ocula.com/magazine/conversations/yhonnie-scarce-at-acca-melbourne/

7 See Lester, Karina, Lisa Radford, Yhonnie Scarce, David Seqeira, Patrice Sharkey, and Azza Zein. *The Image Is Not Nothing (Concrete Archives)* Catalogue. Edited by Lisa Radford. Adelaide: ACE Open and Person Books, 2021.

8 https://www.artandaustralia.com/online/online/image-not-nothing-concrete-archives.html

9 Runyan, 2018, 25; LaDuke 1999, 97; Churchill 1993, 261; World Nuclear Association 2017.

10 Cornum, Lou. 'The Irradiated International', 2018. https://datasociety.net/wp-content/uploads/2018/06/ii-web.pdf.

context, researching Great Bear Lake and tracing how land and Indigenous communities overlap, and where nuclear industries and their extractive logic are present. Led by Dene elders on their journey to Port Radium the artists' responses, the lake itself and the surrounding areas take on archival tendencies. These can be identified in the 'material memories' that the lake harbours, or that of the mines, where crystals gathered from within continue to emit very low levels of radiation,[11] which at once tells us of certain material conditions within these post-industrial landscape scars[12] whilst reminding one of one's own body, which can be unknowingly subjected to the slow violence[13] of ionising radiation. Artists construct alternative archives that map out the impacts of nuclear colonisation, presenting stories that might be critical of the 'great minds' that brought the nuclear bomb into being, or do not consider them at all. Granted the scientific achievements that conceived of the possibilities of the atom are a great feat, but its uptake in the pursuit of status and power leaves a sour taste in my mouth, which pales in comparison to the inconceivable consequences that are far worse for those that have suffered at the hands of the 2000 plus nuclear bomb detonations that have occurred since 1945.

Canada and Australia's stories of nuclear colonialism converge and diverge, at once very different places with very different stories but with undeniable resonances. Thinking about these through an interscalar lens–mapping out the networks and infrastructures of the nuclear military industrial complex–is a way to make sense of the nuclear industries and a hyperobject[14] like radiation which is its consequence. I relocated to Canada just over a year ago and over the course of this period I have been trying to make sense of and understand my new context, attempting to understand if and how where I live now–Tkaronto/Toronto, Ontario–figures within my current research, whether there are sites that are implicated within the particular stories I have been listening to, or whether there is a completely different trajectory altogether. Cornum's retelling of the Dene elders' journey to Hiroshima and how the lands of Northwest Canada have been churned over and fashioned into weapons points to these global connections. Artists, curators and other practitioners can help close the gap between these disparate places, bridging that which is usually kept apart, attempting to hold together incommensurate realities in such a way that might only be brief but facilitates a deeper understanding. BF

Warren Harper *(he/him) is a curator and researcher currently based in Toronto, Canada. He is a PhD researcher at Goldsmiths, University of London, where he is working on a curatorial research project exploring Essex's role in Britain's nuclear story. He was director at The Old Waterworks (TOW), an artist-led charity in Essex, UK, that provides studios, facilities, and research and development opportunities for artists. Warren is also a board member of The Other MA (TOMA) and a supporter and member of the Working Class Creatives Database, which is a platform to share and highlight the work of working class creatives. Warren has worked with and held positions at various galleries and institutions across the UK, Canada and the US including MOCA Toronto, OCAD University, CARA, Robert McLaughlin Gallery, Whitstable Biennale and South London Gallery.*

11 https://torontobiennial.org/work/tsema-igharas-and-erin-siddall-at-5-lower-jarvis/

12 See Storm, Anna. Post-Industrial Landscape Scars. New York: Palgrave Macmillan, 2014.

13 See Nixon, Rob. *Slow Violence and the Environmentalism of the Poor.* 1. Harvard Univ. Press paperback ed. Cambridge, Mass.: Harvard Univ. Press, 2013.

14 See Morton, Timothy. *Hyperobjects: Philosophy and Ecology after the End of the World.* Posthumanities 27. Minneapolis: University of Minnesota Press, 2013.

Page 59: Tsēmā Igharas & Erin Siddall, *Great Bear Money Rock*, 2021-2022. Multimedia installation, bottle of Great Bear Lake water, glass prism, 16 mm projection, sound, leaded glass bubbles, crystals, Silk Prints, custom plinths. Installation dimensions variable, film duration 10 minutes 16 seconds. Co-commissioned by Toronto Biennial of Art and Momenta Biennale de l'image. Courtesy the artists.