

DAUGHTERS OF URANIUM
MARY KAVANAGH

Jayne Wilkinson

A Radioactive Domestic

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A Radioactive Domestic

Jayne Wilkinson

Editor-in-Chief, Canadian Art

Grasping the atom was the culmination of human dreams of controlling nature. It was also the beginning of those dreams' undoing.

Anna Tsing¹

Staging the Anthropocene

It is now well known, this geologic term Anthropocene. It appears in popular culture as much as science journals; it is in the air, the zeitgeist. It seeps into our collective consciousness through the news feeds and social streams that connect us to one another while distancing us from our non-human neighbours. As climate fears become vivid realities, the Anthropocene is the word that names the human-led geologic era, entwining narratives of progress with destruction. The “Atomic” and the “Nuclear” once held similar sway as era-defining terms. If one could carefully avoid the politics of the Bomb, then Atomic meant the future—elegant and advanced science, great leaps forward—while Nuclear was energy, power, clean technology, and creation. But however defined, each seems to link back to the fact that humans are responsible for a future we made to destroy. We are living on a fast-warming planet without the biodiversity of just a few decades ago—and without uncontaminated soil, air and water, at least in part because of the atmospheric radiation released on July 16, 1945, when the United States detonated the world’s first atomic bomb. This was the first of thousands that have been exploded globally since then.² For all humans, the relativity of one’s lifetime to the weaponization of the atom marks a point in a kind of global decay chain; after July 16, 1945, the world began changing more rapidly and more permanently than anyone could control. The Trinity Test is the beginning of a planetary story, and a Beginning is a useful tool for humans, steeped as we are in the stories of our own lives and having evolved to understand the unknown through the narrative arc of myth.

This is the setting for the story of Mary Kavanagh’s recent exhibition. In *Daughters of Uranium*, the nuclear era is rendered in all manner of media, structuring the Nuclear as a totalizing concept rather than as a specific event or period. Kavanagh’s approach is unique in the visual records of the atomic era. Photographic representation tends to over-rely on the photogenic Bomb, and the highly aesthetic, awesome images of detonation and destruction are frequently reproduced and circulated.³ But where images fail, radiation remains.⁴ Through a precise combination of objects, sculpture, moving images and reproductions, Kavanagh produces an archival narrative that encompasses not only the desert site of the first atomic explosion but the post-war suburbs that expanded rapidly in its shadows. Not only the laboratories that buzzed with thrilling scientific discovery but the homes where the cost of war was actualized in the slow decay of

uranium isotopes moving through newly cancerous bodies. In contrast with the true invisibility of radioactivity and radiation sickness, Kavanagh's work frames a critique of militarism and military aesthetics through encounter and touch in order to understand how war impacts the body through generational histories. This is a political gesture where the politics of second wave feminism—that the personal is political—register in radioactive materials.

A number of interconnected but discrete works form the far-reaching tentacles of this atomic exhibition: glowing-green amputated legs; presumably active samples of trinitite; lines drawn by hand to represent the artist's laboured breath; a series of precise watercolours depicting radiated specimens; reproductions of the official and annotated photographs of The Test; a strange-looking radiation suit for a pig; a pile of lead bricks. Notably, the exhibition contains a personal collection of everyday and rare objects related to the domestic and scientific spaces of the nuclear era: science textbooks, antique chemistry instrumentation, a rosary, broken casts, a truncated piece of copper telephone cable, mineral and rock samples, and various kinds of mid-century glassware cast in the luminous glow of uranium glass. One can imagine excavating one's own family trove to discover the secret life of a chemist aunt or physicist grandmother whose work was required to be kept secret, an unshared story. By incorporating modest scientific instruments, research materials and domestic objects, Kavanagh expands how we understand the boundaries an archive, that cornerstone of public research, beyond the purely photographic or textual. Kavanagh's entire exhibition functions as an archive, one that charts her personal proximity to radioactivity—her hand touching and arranging each object, carefully painting in water the outlines of her own tumour, drawing a line when she starts and stops breathing. This adjacency to bodily decay serves as a proxy for the viewer's own body, reminding us that the tentacles of war reach much closer to civilians than suggested by the perpetually-at-a-distance images of the iconic mushroom cloud. Nuclear war is a war of proximity. It is already in us, touching us through the passed-on objects of kitchens and living rooms, the family stories told (or untold) in the home, the generations exposed to the permanence of radiological decay but whose archival memories are contained in ways much less visible than the stunning white light or cloud of explosion.

In the two-channel video installation *Trinity* (2019) viewers join the steady stream of visitors to the Trinity test site in New Mexico, sharing an experience of odd wonder and awe as a variety of tourists describe the totality of the space and its history. These are the people of an Anthropocene era: proud and fearful at once. The interviewees, standing in a wide, open stretch of desert, relay stories of the brute power of the modernist nation-state at a moment when worlds, all worlds, were set to be destroyed. Or, more precisely, a moment when contamination took hold. They frequently recount a story of American exceptionalism and American science that has been told many times: the story of Oppenheimer, of Los Alamos, of the super-secretive Manhattan Project, of Area 51, of all the money and power poured into the attempts to build a superhero nation, and then to sell that image to the world through popular culture—that story is a compelling, if dangerous, story. It is the story that made the Trinity site a rarefied tourist attraction, a pilgrimage for the Anthropocene era in a time when spirituality and ascendancy have been truly detached from the church and is now in human hands.

At Home

Since 1945, over two thousand nuclear explosive devices have been detonated around the world, the majority by far in the United States.⁵ The disposability of workers' lives is the story of the Atomic Age, from the atomic veterans—military engineers and soldiers required to be within viewing proximity of the atomic tests⁶—to the labouring city of Pripyat, never properly evacuated or compensated after the Chernobyl disaster—to Three Mile Island to Fukushima, the responsibility of workers to bear the brunt of radiological impact is ongoing. In Canada, this destruction is present in the continuing legacy of the nation as a mining superpower, a legacy often purposefully ignored in the liberal fantasies of ecological sustainability and Indigenous reconciliation. In the Northwest Territories, the Dene people of Délı̄ne First Nation were implicated in the mining of the uranium that fuelled the Trinity test and the Bomb dropped on Hiroshima, and critically, without being informed of the toxicity of the pitchblende or that they were unwilling participants in the development of a weapon.⁷ For workers and their families, living with the immediate and generational effects of radiation was, and remains, devastating. Délı̄ne is known as the “village of widows” because so many of the men who worked at or around the Eldorado mine site later died from cancer or related toxicological diseases.⁸ This slow,

insidious, multi-generational history counters the iconic image of the mushroom cloud; it carries a less visible material toxicity, one that is registered in the privacy of the home rather than in the public realm of photojournalism. Much has been written about the paradoxes of visibility in the nuclear era, and for many artists the fact that what is invisible to the human eye (the atomic and subatomic particles) can become so hyper-visible is compelling.⁹ Yet the effect of radiation on human and other life forms is not registered in the immediacy of detonation but in the longer exposure to a “hot” element, and its scale of decay.

Against the visuality of atomic testing, in Kavanagh’s work the proximity of home and the intimacy of touch are impressed upon in many ways: in the gentle, fluid watercolour studies of the interior body and desert animals; in the intimate cursive of a letter written by a mid-century artist (Georgia O’Keeffe) concerned with the military testing happening near her home in New Mexico;¹⁰ in hand-collected and labelled rock samples; in the front-page news of the *New York Times* on August 7, 1945; in the collection of glassware and other instruments; and in the hand-drawn lines of the breathwork where the artist’s hand mimics her lung in drawing out the extent of a body’s capability. It produces the feeling of being in a living exhibition. One of the things so alarming about radiation is how, without being available to sight, proximity and touch become dangerous. To be too near is to be in contact with a radiating object. Cancerous tumours become those places where this toxic touching, this too-closeness of body and radiating world, finds a permanent mark containing contaminated energy within one’s own cell structure and even DNA. It is known that radiation damage can skip generations,¹¹ so surely the psychological effects of radiological decay are also passed along.

More than other signifiers of domesticity, Kavanagh’s choice of title further cues the distributed familial relations. “Daughters of uranium” is a technical term for the stages in the decay chain of uranium-238 and uranium-235, but it is also poetically suggestive of the generations to come. We are all such daughters in a globally integrated world, connected to generations of radioactive material that is difficult to contain and control: the atmospheric nuclear tests of the 1950s and early ‘60s dispersed radioactive fallout around the globe, meaning that all humans no matter where they live could be considered “hibakusha,” the Japanese term first used to describe those affected by the atomic bombing of Hiroshima and Nagasaki.¹² We set the conditions to produce and release immense amounts of energy to feed an energy-hungry world, but exposure to the

decaying tailings and waste is life-destroying. The daughters of uranium are unruly and unpredictable—daughters who disobey, who question authority. Feminist philosopher Rosi Braidotti uses the term “undutiful daughters” to suggest the possibilities of feminisms across generations, where inheritance develops into “a productive form of conceptual disobedience.”¹³ This disobedience seems a useful way to contend with the inheritance of a now-contaminated world. Kavanagh’s work does this by recognizing that the atomic is mythic as much as practical, that it is domestic as much as it is spectacular, that we are both subjects and objects, spectators and actors. And ultimately, that its dangers are closely tied to our own families and homes. This is a feminist act, a task that requires us to look at ourselves and at each other as contaminated through intimacy.

In setting up this public but idiosyncratic archive, in this exhibition-as-archive full of objects and documents, Kavanagh’s “daughters” are the bodies present by proxy—the bodies at work, the bodies that are open and exposed, putting themselves on display. They circle around and through the world to come. The terminus of nuclear war wasn’t annihilation; it was late capitalism. It wasn’t death; it was tourism. It wasn’t globalization; it was misguided and misdirected American exceptionalism. It wasn’t the away-ness of “empty” landscapes, now impossible to clean or remediate. It was a war on ourselves. It was the toll on bodies, to differing degrees, who were all needed to participate (in secret). It wasn’t the extinction of one’s body; it was the forever proximity of the near-nuclear, the constant threat of contamination. In the Anthropocene, the human body is the archive of our changing geologic era, holding in our blood and DNA all the pollutants and toxins and chemicals now found throughout the earth’s circulatory system. In understanding what feminism might mean in the Anthropocene, Claire Colebrook returns to the adage that the personal is political except to say that the personal is geological. And that the capacity for life to destroy itself is part of us too: “extinction is not the opposite of life but is part of life’s possibility.”¹⁴

A World Beyond Control

That the possibility of human extinction remains close is a feature of the Anthropocene as much as it was of the post-war mindset. In October 1945, George Orwell wrote: “You and the

Atomic Bomb,” a precursor to *1984*, wherein he coined the term “cold war.”¹⁵ Orwell was one of the first to raise questions about the dark future of nuclear warfare by presciently pointing out that the history of human civilizations is a history of weaponry. “Ages in which the dominant weapon is expensive or difficult to make will tend to be ages of despotism, whereas when the dominant weapon is cheap and simple, the common people have a chance. ... A complex weapon makes the strong stronger, while a simple weapon—so long as there is no answer to it—gives claws to the weak.”¹⁶ So began an era in which the control of civilians was assumed, and all could easily be subsumed under the responsibility of the “war at home” or, more precisely, civil defence. The nuclear family of the Cold War era is where one can see how power operates covertly. No one person, no family unit, no single community, would ever hold the entire picture. That is the power of secrecy, and it became the functioning ideology of the Cold War. If no one knows, then no one is responsible; what atomic weaponry, and atomic energy, did was produce a home life of secrecy.¹⁷ In this context, war crimes might just as easily be understood as crimes of the home.

The war effort and the war-at-home aren't only axioms; the home became a primary site of the destruction of war. Political philosophers Éric Alliez and Maurizio Lazzarato write that the Cold War marked the entry into the cyborg age, coupling “the psychosocial dynamics of nuclear threat to the economic benefits of the indebted nuclear family.”¹⁸ The war machine became automated, digitized, simulated, paranoid. They argue that the Cold War constitutes a globalization of civil war, and if we think in particular about how nuclear weaponry poisons and contaminates the ecologies of peoples against themselves, the self-destructing domestic assault of “civil war” rings true. Further, it's that the globalization of civil war “tends to become autonomous (for the exploited classes and peoples that one would deprive of all power do indeed revolt, throughout the world), and of the ‘management’ of this war in an unprecedented form of military security produced by a ‘tacit agreement never to use the atomic bomb against one another.’”¹⁹

The rhetoric of post-war civil defence, of military security, of the homeland being defended, reveals generations of personal legacies and personal shame. The war was never only about the staging—the theatricality, performance, and display of state power—it was also about how the home became a weapon through technology. And marked the nuclear subject as such. In one of

the most literal cases in the mid-1950s, American citizens were tattooed with their own blood type in a test program, so that should there be a Soviet strike and should the DEW line fail to provide enough advance notice, medics would be able to make blood transfusions faster. The necessity for citizens to defend themselves was marked on the body. If the home becomes a space that is also subject to military security and surveillance, as we are only beginning to realize now with our fully automated Alexas and Siris, then we truly are living in a world beyond our control. The atomic era may have heralded this more than half a century ago, but it is our reality now.

By eschewing the familiar aesthetics of the war machine (that come into the exhibition only occasionally through documents and photographs), *Daughters of Uranium* asks us to think about the personal, unique ways that we interpret the generational impact of war and conflict. The references to things that glow in the dark, to seeing your own skeleton, to black rain and dark clouds and glass forming in the air of the desert—all recall a dystopic, science-fiction vision of a future that already exists. As one of the visitors to the Trinity site says in the film, the Bomb is really “the shadow aspect of who we are as human beings.”²⁰ In many ways, the exhibition is a reflection of Kavanagh’s nuclear shadow, charting how radioactivity fills one’s life or affects one’s body, often without agency. The violent aspect of this work comes through the reminder that it’s easy for the atomic era to be wrapped up in a kind of spiritualism or awe that discounts what it is actually about: the control of bodies in the accumulation of capital. Kavanagh has said that producing this project is a recognition that, “I am a subject in a world beyond my control. As we all are.” How are we to make sense of such a world beyond control? The ordering of an archive turned exhibition is one way to make radiation palpable. But there is no way to control the far-flung elements of radioactive decay, no way to understand proximity to danger, whether it be at the site of the explosion, generations later in a family living room, or millennia later as hot elements turn cold through the natural breakdown of the decay chain. We are all atomic subjects in a world beyond control.

Notes

¹ Anna Tsing, *The Mushroom at the End of the World* (New Jersey: Princeton University Press, 2015), 3.

² According to the Arms Control Association, an American nonpartisan organization, as of February 2019, at least eight nations have detonated 2,056 nuclear test explosions globally. They write, “most of the test sites are in the lands of indigenous peoples and far from the capitals of the testing governments. A large number of the early tests—528—were detonated in the atmosphere, which spread radioactive materials through the atmosphere. Many underground nuclear blasts have also vented radioactive material into the atmosphere and left radioactive contamination in the soil.” <https://www.armscontrol.org/factsheets/nucleartesttally>.

³ See John O’Brian, “Introduction: Through a Radioactive Lens” in *Camera Atomica*, ed. John O’Brian (London: Black Dog, 2015), 11. O’Brian writes, “Wherever nuclear events occur, photographers are present. They are there not only to record what happens, but also to assist in the production of what happens. From the outset, photographic images have been instrumental in shaping nuclear research and how it is used.” The broad field of scholarship connecting the nuclear industries and photographic industries is productive terrain for engaging the politics of the Nuclear, since in its reproducibility we can (try) to *see* the effects of atomic events. This volume especially attempts to eschew the more familiar images of military power for photographs documenting the more mundane aspects of the atomic industries. But where images often fail is in the longer lasting *affect* of radiation, which requires a more demanding critique of the role of the military in the domestic lives of atomic veterans and civilians alike.

⁴ Theorist and artist Susan Schuppli uses the term “material witness” to name the residue of nuclear events, the trace evidence of non-human matter that can speak to (or even testify to) an event that took place but can almost never be imaged. Schuppli discusses the indexical abilities of radiological decay in the essays “The Most Dangerous Film in the World,” in *Tickle Your Catastrophe*, ed. Frederik Le Roy et al. (Ghent: Ghent University, the KASK Ghent Royal Academy of Fine Arts and Vooruit, 2010), 130–45; “Trace Evidence: A Nuclear Trilogy,” in *The Nuclear Culture Source Book*, ed. Ele Carpenter (London: Black Dog; Arts Catalyst, 2016); and “Radical Contact Prints,” in *Camera Atomica*, ed. John O’Brian (London: Black Dog, 2015). The material witness is also the structuring theme in the documentary video trilogy *Trace Evidence*, directed by Susan Schuppli with a soundscape created by Philippe Ciampi, 53 minutes, 2016.

⁵ In the years that followed the Second World War and up until 1992, the United States was actively testing nuclear weapons within its domestic territory, including more than one thousand nuclear tests in the military deserts of Nevada and tests in other states including Alaska, Colorado, and Mississippi. In addition, beginning in 1946 with Operations Crossroads, the United States’ military conducted more than one hundred nuclear tests in the Marshall Islands and the colonized atolls of the South Pacific.
<https://www.armscontrol.org/factsheets/nucleartesttally>.

⁶ See Morgan Knibbe, “The Atomic Soldiers,” *New York Times* online, February 12, 2019 [video]. By this account, as many as four hundred thousand American soldiers and sailors observed

nuclear explosions just a few miles from ground zero in atmospheric tests between 1946 and 1962.

⁷ See Peter C. van Wyck, *The Highway of the Atom* (Montréal; Kingston: McGill-Queens University Press, 2010). In a rigorous field study, van Wyck traces the supply chain of the atomic bomb, from the mining of pitchblende at the Eldorado mine on Great Bear Lake, North West Territories, to its enrichment in Port Hope, Ontario, to its transfer to the many research facilities of the Manhattan Project.

⁸ In Peter Blow's documentary, *Village of Widows* (1999), two workers who were children during the operative years of the Eldorado Uranium Mine recalled how little regard the company had for safety and described how the tailings had the consistency of flour blowing in the wind, blowing through their homes [15:00]. Even after the mine had closed, knowing that radiation damage can skip generations [39:09] means that, for this community, geographically distant from the sites of nuclear testing, the effects of this damage will reverberate through many generations.

⁹ Among many volumes discussing atomic visibility and invisibility as related to film and the visual arts are Akira Mizuta Lippit's *Atomic Light: Shadow Optics* (Minneapolis: University of Minnesota Press, 2005); Gabrielle Decamous's *Invisible Colors: The Arts of the Atomic Age* (Cambridge, MA: MIT Press, 2018); and artist Susanne Kriemann's *Pech Blende: Library for Radioactive Afterlife* (Leipzig: Spector Books, 2016).

¹⁰ Following the reporting of the bombing of Hiroshima, Japan, in the *New York Times* on August 7, 1945, Georgia O'Keeffe wrote a letter to Alfred Stieglitz, in which she commented on the Bomb. In her letter, O'Keeffe described feeling her house shake several weeks earlier, early in the morning when she was first awake. O'Keeffe would have been at her Ghost Ranch home in New Mexico, about 250 miles north of the Trinity test at the Alamogordo Bombing Range. The test occurred on July 16, 1945, at approximately 5:30 Mountain War Time.

¹¹ Neil Osterwell, "Parent's Exposure to Radiation May Change Offspring's Genes," WebMD Archives, May 3, 2000, www.webmd.com/cancer/news/20000502/radiation-parents-offspring-genes.

¹² Quoted in Hiromitsu Toyosaki, "Hidden and Forgotten Hibakusha: Nuclear Legacy," trans. Ronni Alexander, in *Camera Atomica*, ed. John O'Brian (London: Black Dog, 2015), 158. "According to a report released by the United Nations Scientific Committee on the Effects of Atomic Radiation in 2000, atmospheric nuclear tests have released approximately three million petabecquerels of radioactive fallout which has dispersed around the globe. This means that the term *hibakusha* applies not only to people in the vicinity of nuclear test sites, but to the entire human race."

¹³ See Rosi Braidotti, "Preface: The Society of Undutiful Daughters" in *Undutiful Daughters: New Directions in Feminist Thought and Practice*, ed. H. Gunkel, Chrysanthi Nigianni, and Fanny Söderbäck, ix–xx (New York: Palgrave Macmillan, 2012).

¹⁴ Claire Colebrook, “We Have Always Been Post-Anthropocene: The Anthropocene Counterfactual,” in *Anthropocene Feminism: 21st Century Studies*, ed. Richard Grusin (Minnesota: University of Minnesota Press, 2017), 1–20.

¹⁵ George Orwell, “You and the Atomic Bomb,” *Tribune* (London), October 19, 1945.

¹⁶ Ibid.

¹⁷ In Knibbe’s documentary, one of the atomic veterans recalls that they were threatened with a \$10,000 fine or ten years in prison for speaking with anyone about what they had witnessed. Another said there was the continual threat of treason, and that they were treated like test subjects, like animals. Another vet, Rex L. Montgomery, discussed the secrecy plainly: “Everyone was told that you are never, ever to discuss this again. That what you say stays with you forever. You can’t tell your wife. You can’t tell your kids. And particularly, you can’t talk amongst yourselves.”

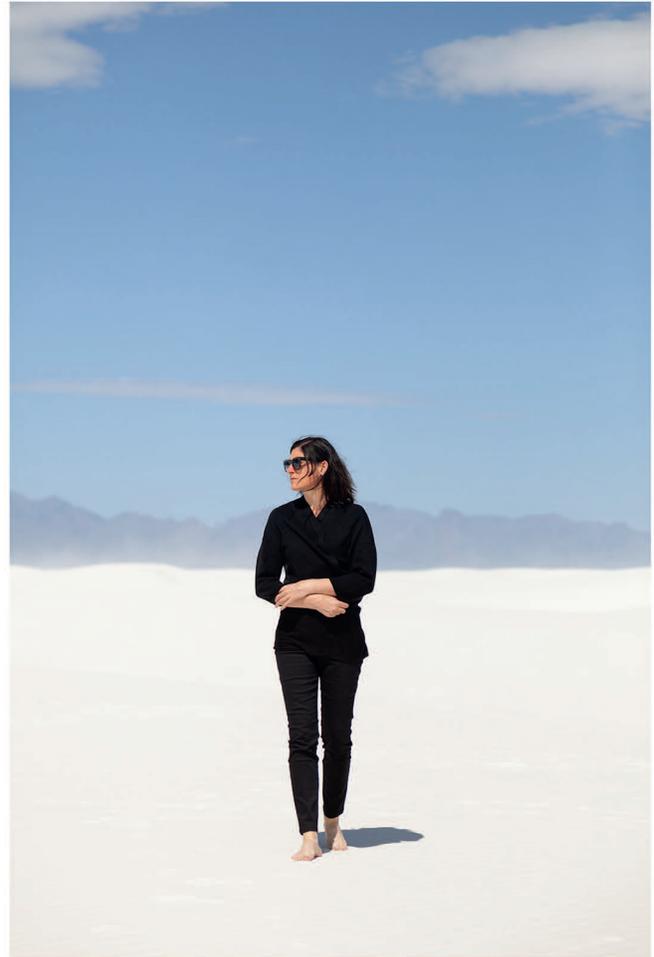
¹⁸ James Wiltgen and Robin Mackay, “Introduction: Cold War/Cold World—A Project of Reason?” in *Cold War/Cold World*, ed. Amanda Beech, Robin Mackay, and James Wiltgen (Falmouth: Urbanomic, 2017), 4.

¹⁹ Éric Alliez and Maurizio Lazzarato, “The Cold War, at Home and Abroad,” in *Cold War/Cold World*, ed. Amanda Beech, Robin Mackay, and James Wiltgen (Falmouth: Urbanomic, 2017), 23.

²⁰ Judy Tuwaletsiwa, Galisteo, New Mexico, interviewee in *Trinity* (2019).

Artist's Biography

Mary Kavanagh is a Professor in Art Studio in the Department of Art, University of Lethbridge, Alberta. She holds a BA in Fine Art from the University of Guelph, an MA in Art History from the University of Western Ontario, and an MFA from the University of Saskatchewan. For over twenty years, Kavanagh's artwork has been presented in solo and group exhibitions in Canada and abroad, and she has contributed artist projects to numerous publications including *Through Post-Atomic Eyes* (McGill-Queen's UP, 2020) and *Prefix Photo 32: Occupying Forces* (Toronto, 2015). Her research interests include feminist political ecology, technologies of war, and histories of science. She has documented military and nuclear sites in Utah, Nevada, New Mexico, Alaska, Japan and Canada. Her work has been supported by the Canada Council for the Arts, the Alberta Foundation for the Arts, the Saskatchewan Arts Board, and the Social Sciences and Humanities Research Council of Canada. Kavanagh's participation in artist residency programs includes the Center for Land Use Interpretation, the Santa Fe Art Institute, and the Canadian Forces Artists Program. She is an advisory member of the Atomic Photographers Guild, and an Associate Member of the Centre for Documentary Studies, School of Image Arts, Ryerson University, Toronto. In 2017 Kavanagh was awarded a SSHRC Insight Grant for her project, *Atomic Tourist: Trinity*, which explores nuclear anxiety in the twenty-first century. She was recently awarded a Tier I Board of Governors Research Chair by the University of Lethbridge and begins her five-year appointment in 2020.



Christina Cuthbertson is an independent curator and writer based in Lethbridge, Alberta. She held numerous positions at the Southern Alberta Art Gallery in Lethbridge, including Assistant Curator (2012–2014) and Interim Curator (2014–2017). Her curatorial projects of note include *Still Move* by Brendan Fernandes; *Hospital Hallway* by Sarah Anne Johnson; *Portraits in Light* by Petra Mala Miller, and *Another Name for Everywhere* by Miruna Dragan. Cuthbertson has contributed exhibition texts for Latitude 53, Trianon Gallery, and OBORO, and her writing has also appeared in *Galleries West* and *Momus*. She was curator-in-residence at the Banff International Curatorial Institute in 2018, and curator-in-residence at the International Studio and Curatorial Program (ISCP) in Brooklyn in 2019. Her current research interests focus on concepts of affect, embodiment and power structures, as defined through institutional and experiential relationships, and the translation and mediation of knowledge. Working within and beyond the boundaries of the museum or art institution, her projects have taken on many forms, including exhibitions, interdisciplinary collaborations, performances, workshops, sensory experiences, and artistic interventions.

Lindsey V. Sharman is a curator at the Art Gallery of Alberta and adjunct professor in the Department of Art at the University of Calgary. Sharman has studied Art History and Curating in Canada, England, Switzerland, and Austria, earning a BA in Art History from the University of Saskatchewan and an MA in Curating from the University of the Arts, Zurich. From 2012 to 2018 she was curator of the Founders' Gallery at the Military Museums in Calgary, an academic appointment through the University of Calgary. In that role she exhibited many contemporary projects that examined human conflict including several with recent participants in the Canadian Forces Artist Program. Her primary area of research is politically and socially engaged art practice. Curatorial projects of note include *Seeing Soldiering: In Theatre with Those Who Serve* by Althea Thauberger; *TRENCH*, a durational performance by Adrian Stimson that resulted in a land art piece located on the Siksika Nation; *Felled Trees*, an exhibition deconstructing national identity at Canada House, London; *Gassed Redux* by Adad Hannah; and the nationally touring retrospective and corresponding publication, *The Writing on the Wall: Works of Dr. Joane Cardinal-Schubert*.

Peter C. van Wyck is Professor of Communication and Media Studies, and Co-Director of the Media History Research Centre at Concordia University in Montréal. His research and writing arise from multidisciplinary training in forestry, ecological sciences, environmental and cultural studies, philosophy, and media studies. He has published and lectured widely on environmental themes including deep ecology, the predicaments of the Anthropocene, and nuclear history and culture. Recent writings include the award-winning *Highway of the Atom* (McGill-Queen's UP, 2010); a photographic essay "An Archive of Threat" in *Future Anterior* (2012); essays in *Thinking with Water and Bearing Witness* (both McGill-Queen's UP, 2013); "Theory in a Cold Climate," a special volume of *Topia: Canadian Journal of Cultural Studies* (2014); and "The Anthropocene's Signature," an essay for *The Nuclear Culture Source Book*, ed. Ele Carpenter (Black Dog, 2017). Forthcoming are: "The Lens of Fukushima," with Julie Salverson for *Through Post-Atomic Eyes*, eds. John O'Brian and Claudette Lauzon (McGill-Queen's UP); and "Signing the Holocene," for *Critical Topographies*, eds. Jonathan Bordo and Blake Fitzpatrick (McGill-Queen's UP). He is currently working on a monograph titled *The Angel Turns: Memos for the End of the Holocene*—completing a trilogy of nuclear-themed monographs.

Jayne Wilkinson is Editor-in-Chief at *Canadian Art*, Toronto. She holds a BA in Art History from the University of Guelph and an MA in Art History and Critical Theory from the University of British Columbia. Her master's thesis investigated the politics of visibility in documentary and conceptual photography. Her interdisciplinary research practice examines surveillance culture, environmental politics, security, and representation, with a focus on contemporary art and photo-based practices. She has held curatorial and editorial positions at the Vancouver Art Gallery, Emily Carr University of Art + Design, Prefix ICA, *Prefix Photo* and the Blackwood Gallery (University of Toronto Mississauga). She has contributed art writing and criticism to publications including *Canadian Art*, *C Magazine*, *Prefix Photo*, *Inuit Art Quarterly*, *Drain Magazine*, and a variety of peer-reviewed and academic journals, and has developed curatorial projects, public programs and exhibition texts for galleries and artist-run centres across Canada. A recent project considers the visibility of oceanic networks through the material metaphors of digital infrastructure, forthcoming in a collection of essays titled *Energy Cultures*.

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