



↑ fig. 1 A screenshot of the alert sent to all the inhabitants of Hawaii in January 2018. Public domain image. Introduction, *Of All Things Nuclear: On the Aesthetics of The Atomic Era*.

OF ALL THINGS NUCLEAR

ON THE AESTHETIC DIMENSIONS OF THE ATOMIC ERA

Kyveli Mavrokordopoulou and Ruby de Vos

Radiation is a physical phenomenon that exists independently of how it is detected or politicized. Nuclearity is a technopolitical phenomenon that emerges from political and cultural configurations of technical and scientific things, from the social relations where knowledge is produced. Nuclearity is not the same everywhere...Nuclearity is not the same for everyone...Nuclearity is not the same at all moments in time.
—Gabrielle Hecht, *Being Nuclear*.¹

In January 2018, a mobile alert was sent to the inhabitants of Hawaii warning them that a “ballistic missile threat” was inbound to the island. Although the message concluded with the line “this is not a drill”, the alarm turned out to be false (fig. 1).² Hawaii was safe. If the threat of nuclear arsenals seemed to be a thing of the Cold War era, this incident showed that “nuclearity”, as Gabrielle Hecht calls it in the quotation that opens this editorial, is part and parcel of today’s world.³ Nuclear anxieties have revived. However, “nuclear things”, in all their iterations, do not necessarily take the same form as they did back then—and even in the past, nuclearity was already marked by a dazzling plurality of meanings.⁴

In *Being Nuclear*, Hecht therefore rightly asks: What falls under the notion of the nuclear? By extension, one of the questions that drove the making of this issue was: Which issues are included in the category of nuclear aesthetics? Some things that radiate are not necessarily perceived as nuclear, and vice versa, as Hecht explains. The uranium mining industry in Africa, for example, is rarely perceived as nuclear, despite the fact that uranium is indispensable for the production of civil nuclear energy as well as weapons. What about radiation used for medical purposes, such as x-rays and radiation therapy; is that nuclear? And what happens in those instances where the adjective nuclear designates *more* than simply the presence of radiation, such as the ‘nuclear age’? This slippage points up the colonial, military, and nation-building processes and histories that not only shaped the ‘nuclear’, but which are also upheld by the term itself.

The process of definition is further complicated by the fact that manifestations of nuclearity themselves often are intangible and invisible, on a material as well

¹ Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade*, Cambridge, London: MIT Press, 2012, p. 15.

² Julia Carrie Wong, ‘Hawaii ballistic missile false alarm results in panic’, *The Guardian*, 14 January 2018. Accessed through <https://www.theguardian.com/us-news/2018/jan/13/hawaii-ballistic-missile-threat-alert-false-alarm> on 14 January 2019.

³ Op. cit. (note 1).

⁴ With the end of the Cold War, and the entry in the second atomic age, the first wave of nuclear criticism faded away to give place to different approaches to the nuclear. For more information on the topic, see: Molly Wallace, *Risk Criticism Precautionary Reading in an Age of Environmental Uncertainty*, Ann Arbor: University of Michigan Press, 2016. p.21

as on a semiotic level. Nuclear waste is stored underground, while energy is produced and bombs were tested at so-called 'peripheral sites', often in fact inhabited by marginalized and indigenous communities. The mushroom cloud, although it has become an infamous image, is itself ephemeral, in sharp contrast to its long-lasting effects. Radiation, whether it spreads due to an accident or leaks into the groundwater, escapes the senses altogether, and its effects on bodies and environments are often delayed by decades and therefore difficult to trace. The nuclear is also shrouded in mystery on a political level: even the very suspicion that a country is able to harness the energy released during the splitting or fusing of atoms is reason enough to avoid (the Cold War) or to start (Iraq) a war. Through this sense of uncertainty and risk that surrounds the nuclear, it comes to designate a negative presence: something which is there, but of which we can never quite catch a hold. Yet, both as a threat and as a lived experience, the nuclear can also become terrifyingly real in a fraction of a second: from the fake missile alarm in Hawaii in 2018 to its actualisation in Hiroshima and Nagasaki in 1945 or in the form of nuclear catastrophes such as Fukushima in 2011 or Chernobyl in 1986.

Outlining the borders of the nuclear, and by extension of nuclear aesthetics, is a tricky task then, and not one which we have set ourselves for this introduction. We would like to emphasize, however, that we are, and have, for a long time now, been embedded within the nuclear age, which left its traces on the political and scientific landscape (as well as our literal landscapes!) as much as on arts and culture. Indeed, aesthetic strategies—understood here in the broad sense of making something perceptible to the senses—have played a significant role both in shaping our understanding of the nuclear and in facilitating a critical perspective on the topic, as this issue of *Kunstlicht* aims to show. Exploring a broad range of media (video, photography, architecture, experimental music) and disciplines (art history, photography theory, visual culture studies, media theory), the essays included deal with various practices that map the possibilities and potentialities of aesthetics to navigate nuclear things. Nuclear materials and their complex entanglements do not lend themselves to immediate representations. Their appearance is either invisible/hidden or dispersed through space and time, challenging artists to move beyond available creative formats.

Sven Lütticken's introductory article opens the issue with a reflection around the interrelation of aesthetics and politics when one deals with nuclear things. As Lütticken puts it, radioactive materials run apart, both in time and space, triggering a reduced sensory experience. Radiation cannot be sensed, thus cognitively grasped, a negative condition he links to the capitalist regime as the regime of absolute abstraction. Although he concludes with recent aesthetics practices that address the nuclear, Lütticken nevertheless puts art on guard. If it holds any potential to critically address and negotiate the nuclear, it should disregard the oft-encountered maxim of art just 'making visible the invisible'.

The essays that follow provide a starting point to address the dominant issues at stake in the burgeoning field of research that art in/of the nuclear

era is becoming.⁵ Tracing aesthetics and visual practices from the Cold War into the present, the issue spans a period of almost 80 years.⁶ Even though this introduction is organized in four sections, these delineations should be understood as loose, as many ideas overlap and run through several contributions. Throughout the editorial process, we found ourselves still conversing with the theoretical milestones of the nuclear pre-1991, such as Jean Baudrillard and Paul Virilio, but we also encountered more recent artistic practices such as VR installations and photography that incorporates data and algorithms in its visual language. What are the continuities (or lack thereof) of the nuclear legacy in the present? By combining a wide range of objects and entry points into nuclear things, *Kunstlicht: Nuclear Aesthetics* aims to offer new vantage points to the growing discussion on what nuclear aesthetics may look, feel, or sound like.

Nuclear Aesthetics in the Cold War

The period of the Cold War, with its imminent threat of nuclear apocalypse, gave rise to a multitude of artistic explorations of the topic. Several contributions gathered in the journal bring into focus the aesthetics and visual culture of the Cold War, by examining case studies that respond to the nuclear anxiety proper to the period. Jeroen van der Hulst and Esmee Schoutens, through different perspectives, offer a reflection on the bunker mentality with two essays commenting on the underground systems of the (British) nuclear state. Arguing that the constant signal emissions from the bunkers in the United Kingdom produced a permanent state of anticipation, Van der Hulst draws a suggestive parallel between these constant media transmissions and the experience of contingency centralized in experimental works that came out of the Fluxus movement by artists such as John Cage and La Monte Young. His text thus encourages us to think further about how nuclear military technologies and their impact on everyday life also resonate aesthetically in unexpected ways. Esmee Schoutens analyses the Situationist performance *Destruktion*, a ‘manifestation’ that aimed to subvert the invisibility of the underground shelter, theorizing a practice that remains overlooked by art historical research. She focuses on the Situationist *détournement* as an artistic strategy to distort nuclear anxieties, playing with the idea of the shelter as both family home and military refuge. Alluding to ultra- *détournement*—which refers to the tendency of *détournement* to intervene in everyday social life—Schoutens offers an insight into the subversive methods of the Situationists in their critique of the persistent nuclear threat of the period.

Lexington Davis’ contribution offers a perspective on the nuclear in terms of light and spectacle by juxtaposing the Nevada Test Sites with the bright city of Las Vegas. Drawing on a wide variety of sources ranging from postcards and oral history to film, Davis shows how

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See for instance: Ele Carpenter (ed.), and Umea Universiteit, Bildmuseet, *The Nuclear Culture Source Book*, Bildmuseet and Arts Catalyst, London: Black Dog Publishing, 2016.

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The essays in the issue stem, in part, from Sven Lütticken’s seminar on nuclear aesthetics in the frame of the *Critical Studies in Art and Culture* master’s programme at the Vrije Universiteit and from a workshop we co-organized with Anna Volkmar at the same university in May 2018 entitled *(In)human Time: Artistic Responses to Radiotoxicity*. The workshop gathered young scholars working in the field and gave birth to the Nuclear Aesthetics Research Network.

it was exactly the visibility of the atomic bomb tests which Las Vegas—only an hour's drive away from the test sites—capitalized on, and through which the nuclear became a part of the American national imaginary. In doing so, her text forms a remarkable counter case within the field of nuclear aesthetics, which often privileges questions of invisibility and incomprehensibility.

Radiant Images

Photography has been crucial in tackling the perceptual invisibility of radioactivity. In fact, the relationship between radioactivity and photography is a tangled one. Radioactivity was unveiled through a photographic process, when, in 1896, the French physicist Henri Becquerel accidentally discovered radioactivity by placing uranium salts over photographic plates. Hinting at Becquerel's (unintended) exposure without a camera, German artist Susanne Kriemann creates 'autoradiographs' out of pitchblende (uraninite) that was mined in the former German Democratic Republic. In her artist contribution deriving from *Pechblende (Prologue)* (2016), the autoradiographs appear next to images from scientific sources, spanning national archives to natural history museum collections. The high level of abstraction of the images is underscored by their juxtaposition to the jargon of scientific objectivity in the accompanying captions. Some images give off a ghostly quality, as silhouettes of animal bodies can be discerned: the elongated figure of a frog or close-ups of organic tissue let the viewer imagine the dark mechanisms that turn non-human bodies into mere scientific samples. Radiation assimilates bodies with measuring devices and photography is essential in that process.

French artist Agnès Villette provides a different angle on the intertwinement of photography and radioactivity. *Of All the Rivers*, her artistic contribution, emphasizes the slow, secretive violence of radiation that continuously operates as a veiled operation in different parts of the world. Are Fukushima or Chernobyl—temporally and spatially—over?⁷ Villette shows that nuclear disasters do not need to be explosive, like atomic bomb tests or catastrophes: more often than not they perpetually creep up on us, seeping into the waters and into our present. Combining prose and photography, she documents the pollution of La Hague, the area around a nuclear fuel reprocessing site in Northern France—the country with the highest percentage of civil nuclear energy reliance in the world. Her writing and images attune the viewer to the temporal politics of this landscape, and draw attention to practices of citizens' science: the pollution of the site has been documented online for over 15 years. Villette uses this available data and algorithmically transforms it into flares and burns that are imposed on her photographs so as to visually capture the radioactive landscape.

Nuclear Art in the Contemporary Moment

The contributions by Kriemann and Villette emphasize radiation's tendency to linger. Indeed, the traces left on our bodies and environments by the increased levels of

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For a recent reflection on the nuclear catastrophe as setting the paradigm for future catastrophes, see: Jean Luc Nancy, *After Fukushima: The Equivalence of Catastrophes*, New York: Fordham University Press, 2015.

radiation due to atomic tests are consequently named as one of the reasons that we are now living in the Anthropocene—a new geological era in which geological processes (most notably climate change, but also the makeup of earthly strata) are shaped by human exploitation of the Earth, the effects of which will persist for millennia to come. How, then, does (aesthetic) engagement with nuclear things in the past, and the cultural and material residues that they have left behind, extend into the present?

For example, the effects of the extensive nuclear testing in the 1960s are often only becoming clear today. Consider the lack of information surrounding British nuclear testing in Australia, that has been becoming a topic in scholarship only recently, in contrast to other national atomic test programmes.⁸ The interview with Australian filmmaker Lynette Wallworth around her virtual reality film *Collisions* scrutinizes precisely that: the legacy of nuclear weapon testing in the Australian ‘barren’ desert. Conceptualizing a landscape as empty and wiping away its history was (and still is) a way to conduct any sort of ‘dirty’ military operation. *Collisions* tells the story of Nyarri Morgan, an indigenous elder of the Martu tribe in Western Australia, who experienced an explosion without initially being prepared or having any context on the operation. What does it mean to experience the atomic bomb—the image of complete and utter destruction—in a land that has been inhabited and taken care of since the dawn of time? Thus, the interview casts light on the emerging area of research around nuclear colonialism, an aspect of the debate that remains inadequately addressed and is starting to surface as a field of study only in recent scholarship.

The effects of radiotoxicity on the body—as a hybrid entity, both material and conceptual—take centre stage in the conversation between Alison Sperling and Anna Volkmar. Taking the photographic series *Post Atomic* by Donald Weber as a starting point—a documentary work that explores the aftereffects of the nuclear disaster in Chernobyl—Sperling and Volkmar discuss how today’s nuclear condition can be aesthetically and ethically addressed in contemporary art and literature. What does it mean to live with the atomic today, how does impact our understandings of health and sickness, and where do the notions of responsibility and culpability come in? Their discussion is accompanied by work from the *Post Atomic* series, selected by Donald Weber himself after reading the dialogue as a visual response to the text.

Regarding scale, complexity, and longevity, nuclear waste may be considered the most challenging of all nuclear things. It raises at once ethical, practical, aesthetic and philosophical questions. Some types of nuclear waste remain radioactive for at least 10,000 years, thus projecting us into the (deep) future. This is the issue the journal concludes with, through Laura Pannekoek’s reflection on the Waste Isolation Pilot Plant, the only deep geological disposal currently storing transuranic waste. Pannekoek offers a fresh

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See the master’s thesis of Jacob G. Warren: “Towards A Nuclear Aesthetics: Maralinga and the Art of Jonathan Kuminjtjara Brown and Yhonnice Scarce”, MPhil Thesis. The University of Queensland, 2019. Also, his upcoming chapter: Jacob G. Warren, “Apprehending the Slow Violence of Nuclear Colonialism: Art and Maralinga”, in *Genocide Perspectives VI*, edited by Nikki Marczak and Kirril Shields. UTS ePress, NSW: forthcoming. Warren is an MPhil Candidate in Art History at The University of Queensland, Australia.

reading of the marker designs by architect Michael Brill, that were devised to prevent future human intrusion on the site, exploring the deep time of nuclear waste continuities beyond the Cold War. These sets of architectural proposals have frequently been criticized for their drive towards monumentality.⁹ Pannekoek takes a different angle, focusing on the materials used to build these designs and their potential as media of communication, an argument she links to the materialist turn of German media theory.

By Way of a Conclusion: Nuclear Temporalities (Re)visited

While the continuities of nuclear waste in the farsighted future can only remain unknown, the intellectual exercise of grappling with these incomensurable timescales opens new perspectives. The temporality of nuclear events has been strongly linked to the eerie anticipation of the limit event that is the catastrophe of a nuclear attack. From the premonitory atmosphere in Hiroshima during the weeks before the bombing, as described by Robert Lifton, to the succeeding anticipatory mode of the Cold War, the nuclear has functioned as an omen.¹⁰ Throughout the different temporal manifestations of nuclearity discussed in *Kunstlicht: Nuclear Aesthetics*, the reader will find discussions on the inclination towards anticipation, the aftermath of the catastrophe and the deep time of nuclear waste.

The immediate and spectacular devastation goes hand in hand with tolls that unfold slowly over time, yet the temporal registers of the catastrophe itself remain strikingly absent. What temporal frames are apt to make sense of the moment of rupture that the catastrophe signals? In more recent decades, the nuclear has entered our presents through a series of deadly accidents, all stemming from civil energy nuclear sites. Especially the Fukushima Daiichi nuclear meltdown in 2011 brought about a series of images that shook the public, functioning as a bitter reminder of the consequences of the nuclear industry. Could the relative paucity of contemporary artistic accounts on the instant of the catastrophe be due to its temporal closeness? If so, what might be an alternative path to address the instantaneous nature of these images of catastrophe? A critical task for thought as well as artistic practice, and one that has not been undertaken extensively, is to find ways to engage with the immediacy of such images of the nuclear.

Our present moment is shaped both by the past and the future of the nuclear: the catastrophes that have already occurred and those yet to happen. It is this continuing impact, along with the uncontainable aspect of radiation, that point to the urgency of engaging with the nuclear that prompted us to the creation of the issue. In the following pages, the reader will thus encounter articles that grapple with nuclear aesthetics as essential to our understanding of the nuclear *tout court*. This issue especially wishes to outline the diversification of aesthetic practices on the nuclear from the outset of the atomic era to its persistence to the present day. Less than a century after we

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Peter C van Wyck, *Signs of Danger: Waste, Trauma, and Nuclear Threat*, Minneapolis, Minn., London: University of Minnesota Press, 2005. See also: Julia Bryan-Wilson, 'Building a Marker of Nuclear Warning'. *Monuments and Memory, Made and Unmade*, Robert S. Nelson and Margaret Olin. Chicago, London: Chicago University Press, 2003. pp. 183-204.

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Robert J. Lifton, *Death in Life: Survivors of Hiroshima*, New York: Random House, 1967. p. 17.

first split the atom, we remain unable to fully acknowledge and responsibly address the technological, financial, political, and ethical predicaments nuclear technology demands. We hope that the practices and gestures outlined above will be read as an invitation to navigate these perceptual, ethical, and aesthetic challenges.

Editing this issue was an invitation that would not have been possible without the hard work and willingness of the authors and artists present in the issue. We wish to thank them for making the effort to contribute to the advancement of the complex topic that is nuclear aesthetics and for our thoughtful exchanges. A special thank you goes to Susanne Kriemann for supplying the cover image from the series *Gessenwiese, Kanigsberg* (2017). We also want to express our sincere gratitude to the Environmental Humanities Center, especially to Katja Kwastek, for supporting our launch event. A final word of thanks goes to the editorial team of *Kunstlicht* for their initial invitation, their trust along the way, as well as for their keen editorial input throughout these last months.

Kyveli Mavrokordopoulou and Ruby de Vos

Kyveli Mavrokordopoulou is a PhD candidate in contemporary art history and theory at the École des Hautes Études en Sciences Sociales, Paris. Her dissertation considers expanded notions of time in contemporary land-based art that deals with environmental degradation. She is a co-founder of the Nuclear Aesthetics Research Network.

Ruby de Vos is a PhD Candidate at the Institute for the Study of Culture (University of Groningen). Her research explores the embodied temporalities of radio- and chemical toxicity in contemporary literature and art. She is a co-founder of the Nuclear Aesthetics Research Network.