

BILDMUSEET  
02/10 2016 -  
16/04 2017

ENGLISH

P E R -

P E T U A L

U N C E R -

T A I N T Y



# PERPETUAL UNCERTAINTY

## INTRODUCTION

*Perpetual Uncertainty* brings together artists who investigate experiences of nuclear power, radioactivity and the complex relationship between knowledge and the deep time of radiation.

The title refers to the limits of knowledge and the artworks discuss how nuclear power has influenced our interpretations of concepts such as archives, memory, knowledge and time. How can we understand and visualise the ungraspable timeframe of radioactive half-life? How can we archive and communicate knowledge about radioactivity from generation to generation, to future civilisations hundreds of thousands of years into the future?

Participating artists: James Acord, Shuji Akagi, Lise Autogena and Joshua Portway, Erich Berger and Mari Keto, Nick Crowe and Ian Rawlinson, Don't Follow the Wind, Finger Pointing Worker, Dave Griffiths, Isao Hashimoto, Erika Kobayashi, David Mabb, Cécile Massart, Eva and Franco Mattes, Yelena Popova, Susan Schuppli, Shimpei Takeda, Kota Takeuchi, Thomson & Craighead, Suzanne Treister, Andy Weir, Robert Williams and Bryan McGovern Wilson, and Ken + Julia Yonetani.

*Perpetual Uncertainty* is produced by Bildmuseet and curated by Ele Carpenter. The exhibition is accompanied by the *The Nuclear Culture Source Book*, published in collaboration between Bildmuseet, Arts Catalyst and Black Dog Publishing.

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ELE CARPENTER

The nuclear anthropocene describes how man-made radiation has contaminated the earth, forming a mark of human activity that will last for hundreds of thousands of years. Whilst 20th century fallout provides a time-stamp of the first nuclear age from nuclear weapons testing; the 21st century repositories for high-level radioactive waste will physically create a new geologic layer in the earth's fossil record. Looking beyond the modernist vision of a utopian nuclear age, contemporary artists are engaging with the lived experience of radiation through nuclear objects, architectures and landscapes. Investigating new forms of nuclear vernacular, folklore and rethinking the markers and archives.

*Nuclear Culture* is a curatorial research project in partnership with The Arts Catalyst and Goldsmiths College, University of London. The project creates a context for the visual arts to play an important role in the investigation of nuclear aesthetics through: organising artists field research to nuclear sites in Europe and Japan, commissioning new artworks, curating exhibitions and roundtable discussions, writing and public lectures. For more information see: <http://nuclear.artscatalyst.org>

Several new artworks will be presented in the exhibition. Six new commissions by Arts Catalyst and Bildmuseet investigating contemporary nuclear concerns include: Lisa Autogena and Joshua Portway, Nick Crowe and Ian Rawlinson, Dave Griffiths, David Mabb, Susan Schuppli, and Andrew Weir. In addition several artists have made new work presented here for the first time: Don't Follow the Wind, Yelena Popova, Eric Berger and Mari Keto, Eva and Franco Mattes.

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On the occasion of the exhibition *The Nuclear Culture Source Book*, is published in collaboration between Bildmuseet, Arts Catalyst and Black Dog Publishing.

Accompanying the exhibition is a program of film screenings, lectures, roundtable discussions and other events. Please see the separate guide. The *Art and Deep Time Radiation* Roundtable discussion on 19 November will bring together artists, scientists, and experts within the nuclear field to share their work and ideas. Contributing to the discourse on the conceptual and social processes needed to make better decisions on siting, monitoring, marking and archiving geological repositories for radioactive waste.

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BILDMUSEETS'  
LARGE ELEVATOR

*You Can't Kill the Spirit*, 2016  
Audio

This song is chanted throughout the women's peace movement, a refrain to keep steadfast in protest, walking, dancing, singing. A voice which connects generations of women within a cycle of time. Original words by Naomi Little Bear, additional lyrics by the women of Greenham. Sung by Ele Carpenter, 2016. Published in *The Greenham Song Book* (various editions 1981-1991).

FLOOR 6

Shuji Akagi,  
*Fukushima City*, 2011-2016  
Photographs

Japanese artist Shuji Akagi has taken thousands of photographs of his home city of Fukushima since the Great Eastern earthquake and tsunami, which caused the meltdown of the Fukushima Dai-ichi Nuclear Power Plant in March 2011. The city of Fukushima is downwind from the plant, and is within the residential green zone undergoing surface decontamination. Akagi's photographs depict the removal of topsoil and surfaces from the streets, gardens and public spaces of the city. Critics argue that the procedure is just to reassure residents. The decontamination process has no fixed timeline, and latest estimates go beyond the initial 40 years, and could take more than 100 years.

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## FLOOR 3, 4, 5, 6

### FLOOR 6

**Erich Berger and Mari Keto**  
***Inheritance Project, 2016***  
Jewellery, Radiograph

The *Inheritance Project* is a collaboration between Austrian artist Erich Berger and Finnish Danish artist Mari Keto. The project attempts to make tangible the immense time scales of radioactive decay of nuclear materials and waste, through the intimacy of inheriting family jewellery as a metaphor for inheriting nuclear waste. Many cultures have traditions of inheriting jewels that bind family affiliations as well as the distribution of family wealth over time. As such, family jewellery can be considered as a vehicle for personal identity and economy into the future.

The display cabinet presents a necklace, earrings and brooch set with Thorianite and Uranianite stones along with the materials and instructions for measuring the radioactive levels of the jewellery each time it is passed onto the next generation. The case is accompanied by a radiograph of the necklace, capturing its radioactive 'glow' on photographic paper.

**Instructions:**

- Choose a dry day for the ritual.
- Let your elder explain the ritual of measurement.  
If there is no leaf in the electroscope then mount one from the spare leaves.
- Put tray with the jewellery on the electroscope base plate, then close the electroscope.
- Rub the glass rod with the fur and transfer its electrostatic charge onto the electroscope until the leaf reaches maximum horizontal deflection.
- Use the timer to measure the time until the leaf is back in the original vertical position.
- Repeat the measurement without the jewellery.

-If the measured time with the jewellery is shorter than the time without, then the jewellery is not ready for use, and you should:

-Take care of the box and its contents.

- Update this plate with your current language if it becomes difficult to read.

- Store the box in a safe place until the next generation's attempt.

If both measurements produce similar time results, the jewellery is ready for wearing and the ritual of measurement never needs to be performed again.

FLOOR 6

**Dave Griffiths**

*Deep Field [UnclearZine], 2016*

Microfiche-fanzine

British artist Dave Griffiths is researching the use of microfilm, employing this archaic media in his own artwork. During 2016 Griffiths has gathered archive images from the HADES test laboratory for geologic storage of radioactive waste in Belgium. Collaborating with the science poet Sam Illingworth and illustrator Matt Girling, Griffiths has created a micro-zine about HADES and the nearby town of Mol, developed using his own black/white photo-processing techniques. Microfiche compresses information onto microfilm that can be easily read using a bright light and a magnifying lens to expand its contents. Certain types of microfiche are durable for up to 500 years if kept in the right conditions and may outlive many of its digital counterparts, as an analogue solution to digital insecurity. Griffiths' creates an imaginary media for future anthropologists, speculating on the potential of a geologic repository and the kinds of myths and folklore we want to communicate to future generations, as today's human cultures and technologies will inevitably develop beyond recognition.

The work was produced in collaboration with Arts Catalyst, Z33 House of Contemporary Arts and the Belgium waste management agency, NIROND/NIRAS.



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FLOOR 6

**Isao Hashimoto**

**1945-1998, 2003**

Video, 14:25 min

Japanese artist Isao Hashimoto has created an animated map of the 2053 nuclear explosions that took place between 1945 and 1998, beginning with the Manhattan Project's\* "Trinity" test near Los Alamos and concluding with Pakistan's nuclear tests in May of 1998. Each nation is marked with a flashing marker on the map whenever they detonate a nuclear weapon, with a running tally. Hashimoto, who began the project in 2003, says that he created it with the goal of showing the fear and folly of nuclear weapons. The map is based on the report *Nuclear Explosions, 1945-1998* by Nils-Olov Bergkvist and Ragnhild Ferm, co-published by the Swedish Defence Research Establishment (FOI) and the Stockholm International Peace Research Institute (SIPRI) in 2000.

\*The Manhattan Project was the code name for a research and development project led by the USA in collaboration with the UK and Canada that created the first atomic bomb.

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**Erika Kobayashi**

***Half-Life Calendar: Radium 226, 2014***

Print on paper

Japanese artist Erika Kobayashi uses narrative strategies to make visible, and thought-felt, the materiality of radiation through manga novels and drawings. *Half Life* originally consisted of 1601 calendar-posters, a number which represents the half-life of radium 226. The double-sided poster is presented on the wall of the gallery.

On one side *The Story of Mothers* maps the discovery of radium through the generations of the artists family; whilst the other side provides a calendar to count down the half-life of radium from the date it was discovered by Marie and Pierre Curie, until its half-life is reached in 3035. The poster presents the story in Japanese and English, and a Swedish translation is provided in the gallery. Design in collaboration with Mina Tabei.

## FLOOR 6

### **David Mabb**

#### ***A Provisional Memorial to Nuclear Disarmament, 2015***

Sculpture installation

British artist David Mabb investigates the aesthetics of William Morris designs within contemporary political culture. William Morris (1834-1896) was an English designer, poet, utopian novelist and socialist. Extraordinarily, Morris's Rose fabric was used to upholster the interiors of British nuclear submarines from the early 1960s to the mid 1990s. In response to a visit to the HMS Courageous submarine, Mabb created a new series of works to investigate the Navy use of the Morris print to furnish the Vanguard class nuclear-powered ballistic missile submarines. As a socialist and an anti-imperialist, William Morris could never have anticipated that his designs would become the symbol of English homeliness in a nuclear submarine.

Prompted by the work of British historian EP Thompson, whose biography of Morris was republished in the 1970s when he was a leading intellectual in the Campaign for Nuclear Disarmament, Mabb re-appropriates Morris fabric from the Ministry of Defence, bringing the designs into conjunction with a range of anti-nuclear protest signs and slogans. The sculpture utilizes fifteen late 20th century film projection screens, and a public seat using fabric reclaimed from a submarine. A selection of reference materials is presented in a vitrine.

#### **Rose Mattress Cover from HMS Tireless, 2016**

William Morris *Rose* fabric,

#### **Atomkraft? Nej Tack, acrylic paint, 2015**

William Morris *Windrush* fabric, projection screen with tripod

#### **Scrap Trident, 2015**

Acrylic paint, William Morris *Fruit* fabric, projection screen with tripod

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**Ban the Bomb, 2015**

Acrylic paint, William Morris *Strawberry Thief* fabric, PVC oil cloth, projection screen with tripod.

**Campaign for Nuclear Disarmament Symbol, 2015**

Acrylic paint, William Morris *Rose* fabric, linen, projector screen and tripod.

**Protest and Survive, 2015**

Acrylic paint, William Morris *Compton* fabric, linen, projection screen and tripod.

**How I am become death, destroyer of worlds, 2015**

Acrylic paint, William Morris *Cray* fabric, cotton duck, projection screen with tripod.

**(Japanese) No Nukes, acrylic paint, 2015**

William Morris *Windrush* fabric, projection screen with tripod.

**Screaming Radiation Head (after Munch), 2015**

Acrylic paint, William Morris *Trellis* fabric, projection screen with tripod.

**Peace Bird (after Picasso), 2015**

Acrylic paint, William Morris *Fruit* embroidery fabric, cotton duck, projection screen with tripod.

**No More Fukushimas, 2015**

Acrylic paint, William Morris *Lodden* PVC oilcloth, projection screen and tripod.

**No Nukes, 2015**

Acrylic paint, William Morris *African Marigold* fabric, projection screen with tripod.

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## **Over Our Dead Bodies, 2016**

Acrylic paint, May Morris *Honeysuckle* fabric, projection screen with tripod.

## **March from London to Aldermaston, 2015**

Acrylic paint, William Morris *Willowboughs* PVC oilcloth, projection screen with tripod.

## **Crossed out radiation symbol, 2015**

Acrylic paint, William Morris *Golden Lily* fabric, cotton duck, projection screen with tripod.

## **Campaign for Nuclear Disarmament Symbol, 2015**

Acrylic paint, William Morris 'Rose' fabric, linen, projector screen and tripod.

## **No More Hiroshimas, 2015**

Acrylic paint, William Morris *Fruit* fabric, projection screen and tripod.

## **Materials in Vitrine:**

E. P. Thompson, *William Morris: Romantic to Revolutionary*, Updated edition, Merlin Press, London, 1977

E. P. Thompson, *Protest and Survive*, Second (revised) edition, Campaign for Nuclear Disarmament, 1980

*HMS Courageous: A veteran of the Cold War*, Courageous Society, 2013, p 52-53 "Officers in the Wardroom" with William Morris *Rose* fabric on the seating

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**Cécile Massart**

***Laboratories*, 2013**

Prints on wood

Belgian artist Cécile Massart has been researching radioactive waste sites around the world for over 25 years. Her drawings, films, books and exhibitions investigate the formal aspects of modernist architecture of the sites, exploring how this 21st century archaeological stratum is being inscribed in the landscape. By working with nuclear agencies in Belgium and France she has an in-depth understanding of the semiotic and future-archaeological challenges in marking waste sites across the generations, and the need for continuing responsibility.

The *Laboratories* series of prints form a conceptual proposition for working laboratories, to be located within the perimeter of radioactive waste storage sites. Massart proposes that these places should facilitate multidisciplinary research on nuclear issues in the world of tomorrow. The laboratories form an architectural marker in the landscape updated by each new generation of scientists, artists, archaeologists and biologists to pass on the knowledge and memory of the place. The labs aim to bring many different perspectives together to experiment with new ideas for the safety of the living world, whilst reflecting the need to maintain a connection with past civilizations. The drawings presented here relate to archaeological sites and other specific places that Cecile has visited and photographed. The prints are also featured in Massart's book *Cover*, 2009.

## FLOOR 6

**Cécile Massart**  
***Yucca Mountain, 2016***  
Installation

Massart has created an installation of drawings and materials collected during her visit to Yucca Mountain in 2013. Yucca Mountain is a mountain range in the Nevada Desert, near to the Nevada Nuclear Test Site, USA. In 1987 Congress approved the mountain for a proposed deep geological repository for spent nuclear fuel and high level radioactive waste, but after several years of tunnelling the project was finally dropped in 2011, due to political pressure, legal challenges, and concerns about how to transport waste to the site. Massart is interested in the mythical status of the site, and its geology.

By 2008 Yucca Mountain was one of the most studied areas of geology in the world. The main tunnel of the Exploratory Studies Facility is 8 km long and 7.6 m wide, but the final repository designed for 77,000 metric tons of radioactive waste would have required 64 km of tunnels.

Massart is interested in the temporality of language and the need to embed cultural activities to pass on knowledge of radioactive sites over generations. Here, radiation creates the need for new kinds of ritual, or rather the urgency of listening to older forms of storytelling and mythology inscribed in the landscape.

FLOOR 6

**Susan Schuppli**

*Delay Decay, 2016*

Pravda Newspapers on Duratrans, Video

Today if you enter the date 26 April 1986 into a search engine it will refer you to the nuclear accident at Chernobyl. But when Susan Schuppli searched for the first public announcement of the accident, she noted a time lag. Her research led her to the microfiche of the Soviet newspapers Pravda and Izvestia. They reported about the major nuclear accident 19 days after it had taken place. Although an orbiting American satellite took night-time images of the reactor explosion and meteorologists and scientists recorded extraordinarily high levels of radioactivity within days of the meltdown in Sweden and Germany, this information was not linked to Chernobyl for almost three weeks since Mikhail Gorbachev and the Central Committee largely withheld news of the disaster.

By severely underplaying the gravity of the situation, tragically delaying reports that a substantial nuclear explosion had taken place and downplaying the potential for contamination, a tragedy of far greater consequences ensued. Schuppli's installation comprises of a video recording of Gorbachev's television announcement of the event accompanied by 19 front covers of Pravda have been re-photographed for this exhibition to create a new high resolution archive of the time delay between the event and its public acknowledgment and visibility.



## FLOOR 6

**Jon Thomson and Alison Craighead**

*Temporary Index, Chernobyl Reactor #4, Ukraine, 2016*

Totem projection

On 26 April 1986 the Chernobyl Nuclear Power Plant near the city of Pripjat, Ukraine, suffered a catastrophic accident. An explosion and fire released large quantities of radioactive particles into the atmosphere that spread over the USSR and Europe, including Sweden. The Chernobyl reactor 4 was enclosed in a concrete sarcophagus to try and contain the radiation. This temporary index is a marker for the entombed reactor, counting down 20,000 years of radioactive decay in 631138519494 seconds, starting from the day of the accident in 1986.

The totem operates as a signpost, mapping the distance between the museum and the Chernobyl reactor, tracing the downwind path of radiation that contaminated lichen in northern Sweden, and led to the culling of thousands of reindeer. Temporary index publically presents invisible data through a numeric counter which counts down the probabilistic decay of radioactive materials in seconds. The design of the counter demonstrates how human measurement of time is a process of linguistic and pictorial language. The result is an animated object of contemplation; a representation of time that far outstrips the human life cycle and provide us with a glimpse into the vast time scales that define the universe in which we live, and also represent a future limit of humanity's temporal sphere of influence.

Temporary Index was commissioned by Arts Catalyst, and developed during a residency at HUMlab in partnership with Bildmuseet, Umea University, 2015. Courtesy of Carroll/Fletcher.

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### **James Acord**

#### ***Roundtable***

Reconstruction of table, photographs

James Acord (1944-2011) was an American artist who campaigned for openness and cultural engagement in the long-term dangers posed by nuclear materials. He built a roundtable in his Hanford studio, to bring together nuclear scientists, engineers and environmentalists for a frank and open discussion about the possibilities and dangers of working with nuclear material. The table is a focal point of the exhibition, a resource for public reading, research and discussion. For more information about Acord's work, see the text by Nicola Triscott, Director of Arts Catalyst, in *The Nuclear Culture Source Book*.

### **James Acord**

Photographs, 1990s

#### **Photos Left to Right:**

James Acord, portrait at the Hanford site

A roundtable discussion in the artists Hanford studio

Acord at the Fast-Flux Test Facility (FFTF) Internationalisation Symposium, Richland, Photo: Courtesy US Department of Energy.

Thanks to Art Catalyst

## FLOOR 5

**Lise Autogena and Joshua Portway**

***Kuannersuit; Kvanefeldet, 2016***

Video installation, 24:26 min

Danish artist Lise Autogena and British artist Joshua Portway spent the summer 2016 travelling in South Greenland, meeting residents, politicians, sheep farmers and government officials at a time when the country is deeply divided about the mining at Kvanefeld. The site is one of the richest rare earth mineral resources in the world, and also home to one of the world's largest deposits of uranium.

Some see the mine as a means of gaining national autonomy, social progress and financial independence. Whilst others feel the mine is a major threat to the natural environment, and the culture and health of the population. The artwork portrays a region where pristine nature and traditional ways of living from the land and the sea do not sit easily with the government plans for big investments from foreign mining companies. It examines the difficult decisions and tradeoffs faced by a culture seeking to escape a colonial past and define its own identity in a globalised world.

The work was produced with funding support from Danish Arts Council, Sheffield Hallam University - Art and Design Research Centre, Arts Council of England/ British Council, The National Academies/ Keck Futures Initiative

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**Nick Crowe and Ian Rawlinson**

*Courageous, 2016*

Video, 7:20 min

British artists Nick Crowe and Ian Rawlinson filmed aboard the decommissioned British nuclear submarine, HMS *Courageous*. The Submarine Dismantling Project includes 27 decommissioned nuclear powered submarines and their reactors that are currently laid up in Rosyth in Scotland and Devonport, Plymouth on the Southwest coast of England. HMS *Courageous* is the only submarine of its class being preserved as a museum, and is accessible to the public. The artists' film explores the submarine as an object or body, moving beyond the familiar historical narratives of functionality and social context. Instead the film captures the unknown 'self' of the submarine, breathing, thinking, listening, a space of being that is difficult to grasp. The film considers the submarine as an emblem of hearing and silence, an icon through which to consider the un-knowability of the nuclear.

Director of Photography: Martin Testar. Runner: Paul Hillon. Commissioned by Arts Catalyst. With thanks to Mark Portman, Alan Jones, Devonport Naval Heritage Centre, Submarine Dismantling Project.

## FLOOR 5

### **Don't Follow the Wind**

#### ***Material Witness, 2016***

Mirror, carpet, spade, bench, clock, light-bulbs, sign,  
toilet roll holder, calendar

“Don't Follow the Wind” is a collective of artists and curators working with former residents of the Fukushima exclusion zone in Japan. They have created an exhibition inside the restricted radioactive zone surrounding the Fukushima Daiichi Nuclear Power Plant, that will be inaccessible for an undefined period of time. In exchange, Don't Follow the Wind is presenting a series of decontaminated objects from the exclusion zone within the *Perpetual Uncertainty* exhibition. Everyday objects and furniture encourage visitors to contemplate the everyday challenges of living with radiation and its uncanny affect. The objects have a strong affinity with the imperceptible nature of radiation. Whilst the objects are visible in Sweden, the exhibition in the exclusion zone will remain unseen until the area is open once again for the residents and public in potentially 10, 60, or 500 years. Don't Follow the Wind project initiated by the Japanese art collective Chim Pom with Eva and Franco Mattes, and developed with curators Kenji Kubota and Jason Waite.

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### **Finger Pointing Worker**

*Pointing at Fukuichi Live Cam, 2012*

Video, 24:50 min

Artist Kota Takeuchi is the agent for the 'finger-pointing worker' who worked at the Fukushima Nuclear Power Plant following the meltdown of the reactors. The worker filmed himself pointing at one of the many webcam's positioned around the plant, pointing directly into the camera. In the film, the worker is positioned within a visual loop of image capture: the worker can see himself pointing via the streamed webcam on his

mobile phone. Whilst viewers could follow the performance in real time and then circulate it online, inserting themselves into the media mythology around the event. The work is also described as a reference to the American performance artist Vito Acconci's performance to camera *Centers*, 1971.

## FLOOR 5

### **Eva and Franco Mattes**

#### ***The Last Film, 2016***

Reconditioned 35mm film

This is the last film shown in the Pripjat Cinema before the Chernobyl disaster in April 1986. The history of radiation and film are intertwined, from Henri Bequerel's discovery of the exposure of Uranium salts on photographic paper in 1892, to the bleaching of Kodak paper by the US nuclear tests in the 1950s, and the wiping of digital hard drives by radiation released from the Fukushima Nuclear Power Plant accident in 2011.

Artists Eva and Franco Mattes have visited the Chernobyl site on several occasions to make their film *Let Them Believe* (see the Film Programme), and were aware of this roll of film lying near the Pripjat Cinema for several years before they brought it back to New York to be restored. It is difficult to identify the radiological and environmental causes of the films' deterioration. However, radiation usually causes a fogging or spotting of photographic film, bleaching colours and even depicting minute traces of radioactive particles moving across the surface.

Courtesy of Carroll/Fletcher London.

FLOOR 5

**Yelena Popova**

**Untitled from *Human Study* series, 2016**

Mixed media on linen

For Yelena Popova invisibility is both a potent political issue and a formal device capable of capturing the attention of an audience exhausted by an image-saturated culture. Her work explores the quality and effects of radiation in terms of visible light and its ability to illuminate and reflect the most subtle images and surfaces, and in terms of Soviet experiments with high frequency radioactivity. In her new series of Human Study paintings abstract forms take on ambiguous characteristics of the human body. These perfectly balanced forms reveal that certain parts of the human anatomy are more densely absorbent or reflective than others, echoing the way in which different kinds of radiation are reflected away from or absorbed into flesh and bone.

**Yelena Popova**

***Unnamed*, 2011**

Video, 17 min.

Popova's Unnamed video essay is a personal account of the history of the artist's hometown in Russia. The film combines personal and archival footage to relate the story of Ozyorsk, a 'secret' town built to house the workers of a plutonium plant that helped to create the Soviet Union's first atomic bomb. The film describes how, in 1957, the plant was the site of a major disaster. As the film develops, the representation of the disaster becomes a central metaphor for the 20th century. By alluding to Maurice Blanchot's *L'écriture du désastre* (1980) the failure of science is compared to understanding (the comprehension of details) as opposed to knowledge (the awareness of consequences and coherence). As the title suggests, this video-essay reflects on the question of how invisibility of both the history of the town and a radioactive event can gain a form of sensuous perceptibility so that it can be faced and considered.



## FLOOR 5

**Susan Schuppli**

***Trace Evidence, 2016***

Video, 50:27 min

*Trace Evidence* investigates how the material evidence of radiation is sensed at remote distances from the release of radioactive isotopes into the biosphere that occurs during a nuclear accident. Exploring the radiological landscapes of Chernobyl (Ukraine), Forsmark (Sweden), and Fukushima (Japan), the film explores an expanded understanding of the material traces of events at an environmental scale. Landscapes and ecological matter are transformed into transmitters of the encoded histories of nuclear events. Through a close technical understanding of events within the landscape, the film uses theoretical and aesthetic domains to trace evidence of airborne contaminants and the technical means by which they are captured, registered and tracked. The film also considers crucial role that institutions play in making visible such radiological events. Schuppli's essay "Trace Evidence: A Nuclear Trilogy" is published in *The Nuclear Culture Source Book*, 2016.

The work was produced with support from Arts Catalyst, Arts Council of England, Bildmuseet, Daiwa Foundation and Goldsmiths University of London.

Direction	Susan Schuppli
Script	Susan Schuppli
Editing	Susan Schuppli
Sound Creation	Philippe Ciompi
Narration	Shela Sheikh
Cinematography	Susan Schuppli
Cinematography Sweden	Rasmus West
Aerial Footage Sweden	Simon Öhman Jönsson
Field Recordings Sweden	Linda Näsström
French Narration	Francesco Sebgreodi
Voice Recording	Old Street Studios
Gamma Camera Animations	Samaneh Moafi
Colour Grading	Simone Rowat

**Source: Archival Images**

KH-7 Mission 4038, US National Archives & Records Administration, 11.06.1967  
Igor Kostin, Chernobyl, 26.04.1986  
US Geological Survey / NASA Landsat, 29.04.1986  
Forsmark Media Collection, 28.04.1986  
Dr. Keld Alstrup Jensen (Oklo, Gabon)  
TEPCO Photos & Videos Library, 22.05.2011 & 09.06.2011

**Source: Archival Footage**

US Department of Energy, Nuclear Test Film-Trinity Shot, 16.07.1945  
National Film Board of Canada / Normétal, Gilles Groulx, 1959  
National Film Board of Canada / The Universe, Roman Kroitor, Colin Low, 1960  
Interference Microscopy of Living Cells in Tissue Culture,  
British Medical Association  
ABC World News Tonight, Chernobyl Nuclear Disaster, 28.04.1986  
Chernobyl: Chronicle of Difficult Weeks, Vladimir Shevchenko, 1986  
Kiev, 1989, Alexandr Sokolov  
Niger: La Bataille de l'Uranium, Nahan Siby, Frédérique Denis, Stéphane Manier, 2008  
National Cancer Institute, 2009 Alarm im Schwedischen AKW Forsmark,  
08.06.2011  
PBS Nova Japan's Killer Quake, 02.27.2013  
Radioaktiva Nedfallet Spårades i  
Forsmark, Nyheterna TV4, 26.04.2016

**Source: Archival Audio**

INA France, Actualités Méditerranée, Annonce du Magazine Économique sur la Centrale du Tricastin, 02.11.1974  
CBC, Disaster at Chernobyl, 28.04.1986  
BBC Radio, 28.04.1986  
Uranium: L'Héritage Empoisonné, Dominique Henneguain, 2009  
Histoire et Défis du Nucléaire Civil, Podcast Science 99 Gabon The Impact of Uranium Mining, France 24, 28.01.2011  
25 Years After Chernobyl / How Sweden Found Out, Sveriges Radio / Radio Sweden, 22.04.2011  
Guardian, Tuna contaminated with Fukushima Radiation found in California 29.05.2012  
NHK World News, Radiation Detected in Canada, 02.07.2015  
Dr. Ken Buesseler, "Radioactivity In Our Ocean: Fukushima & Its Impact On The Pacific" Vancouver Aquarium, 14. 09.2015

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## FLOOR 5

### **Shimpei Takeda**

*Trace, 2011*

Fotografier

Shimpei Takeda is a Japanese artist working with analogue photographic techniques that are rapidly in decline. In 2011 he felt it was important to capture a physical record of one of the worst man-made nuclear accidents in history. A photograph can be created by electromagnetic radiation other than light. Radiation and visible light are both forms of energy; they just travel in different wavelengths. Using camera-less processes Takeda captured the radiological state of places around the Tohoku region in Japan, by directly exposing photo-sensitive material to traces of radiation emitted from contaminated particles in the environment. Through visualizing the traces in visible form, the resulting images communicate to us beyond the photograph, and will be a valuable form of knowledge for future generations.

#### **Images from left to right on the wall:**

Former Kasumigaura Naval Air Base

Air: 0.415 $\mu$ Sv/h | Ground: 1.007 $\mu$ Sv/h

Nihonmatsu Castle

Air: 1.910 $\mu$ Sv/h | Ground: 4.299 $\mu$ Sv/h

Asaka Kuni-tsuko Shrine

Air: 1.152 $\mu$ Sv/h | Ground: 3.780 $\mu$ Sv/h

Iwase General Hospital

Air: 0.363 $\mu$ Sv/h | Ground: 0.560 $\mu$ Sv/h

Lake Hayama (Mano Dam)

Air: 1.848 $\mu$ Sv/h | Ground: 6.438 $\mu$ Sv/h"

FLOOR 5

**Kota Takeuchi**

***Take Stone Monuments Twice, 2013-***

Photographs, book

Japanese artist Kota Takeuchi has made a series of works about the human act of marking sites between stone and digital media. 'Take Stone Monuments Twice' draws from a book by Ichiro Saito called *Economic History in the Modern Age of Iwaki* (1976) documenting stone monuments and makers in the region. In 2013, Takeuchi started to follow Ichiro Saito's guidebook, retracing his steps and re-photographing the stones in the southeast coastal region of the Fukushima Prefecture. The resulting ongoing series of images deals directly with the distinction between monument and site marker, where the marker has some urgency about communicating a message for the future, rather than simply remembering the past. Whilst a monument is important as a site of remembrance, when there is no-one left to remember it becomes a historical artifact rather than part of contemporary culture. The monuments often record military fatalities or environmental disasters, especially high tides and breaches of the sea wall.

**Top row, from left to right**

**Toyoma Seawall Monument (1914)**

The seawall at Toyoma Beach has been rebuilt repeatedly since it was first constructed in the Meiji period (19th century). This monument commemorates the rebuilding of the wall after it was damaged by a high tide in 1914.

**Monument to Air-raid Victims (1955)**

A monument to the lives of three teachers killed in an air-raid at the elementary school in Taira during the Second World War. In the 1990s it was revealed that this air raid was a rehearsal for an A-bomb.

**Hisanohama Seawall Monument (1936)**

To commemorate the seawall construction at Hisanohama. The monument describes the damage caused by a high tide and the history of the embankment.

**Pagoda of Ryujin-maru Accident (1949)**

This tower was built at the resting place of twelve victims killed when a small fishing boat was sunk near the beach during the Second World War. The boat was engaged in secret patrols of foreign ships, and due to military secrecy the deaths were handled as a mere accident at sea. It took until 30 years after the war for the victims to be recognized as losing their lives in the course of active duty.

# BILDMUSEET

## **Middle row, left to right**

### **Monument of Banetsu-East-Line Accident (1944)**

A monument to mourn the victims of a train derailment on the side of a ravine in 1935.

### **Monument to an American Warplane Accident (1949)**

A monument mourning the crew of fifteen aboard a U.S. military plane which was going to drop relief supplies on a captive and crashed on Mount Yu-no-Take in September 1945, just after the end of the war. The monument was built halfway up the mountain.

### **Monument to Land Restoration Project (1974)**

To commemorate the restoration of farmland which was damaged by land subsidence after closing the Dai-Nihon huge coal mine.

### **Pagoda for Related and Neglected Spirits (1909)**

The Pagoda enshrines miners who died in mining accidents, including those who had no family or relatives to accept their ashes.

## **Bottom row, left to right**

### **Monument of the Peasant's Revolt (1951)**

The monument tells the story of the terrible horrors experienced by peasant farmers in the feudal Genbun Age (18th century). The monument honours nine brave Gimin, men who led large-scale peasant revolts due to famine and oppression, and were jailed and executed.

### **Monument of the Natsui-River's wall restoration (1935)**

The river's history of flooding and the wall constructions are written on the monument, which commemorates the completion of the construction of the extension of the wall in 1933.

### **Yotsukura Fish Market Monument (1913)**

To commemorate the establishment and the prosperity of the fish market in Yotsukura Port. The market is being restored, after being severely damaged in the 2011 earthquake and tsunami.

### **Inoue irrigation Canal Dam Monument (1950)**

The monument documents the flooding of the river, the construction of the water dam, and the moving of the monument, which was built to commemorate the completion of the dam in 1950.

Thanks to Seiko Maeyama and Snow Contemporary.

02/10 -  
16/04

## PERPETUAL UNCERTAINTY

FLOOR 5

**Kota Takeuchi**

*From the Moment of Recording, It Became Peeping, 2011*

Video, 92 min

During the Fukushima Nuclear Power Plant meltdown Takeuchi recorded the unfolding events as reported through multiple online media on his computer desktop including official new channels in Japan, international and social media. Consciously viewing a real time media-stream, through which to observe the catastrophic events taking place nearby.

Watching this footage five years later in Sweden, adds another layer of distance between the event, its location and delayed or filtered consumption as visual media. The work reveals the difficulty of obtaining pertinent information about a nuclear accident directly following the event.

Thanks to Snow Contemporary

FLOOR 5

**Andrew Weir**

*The Plureal Deal, 2014*

Video, 9:10 min

British artist Andy Weir presents a short film on the material history of Plutonium-239 told through a loose re-make of the 2013 Toyota car advert 'The Real Deal'. Instead of taking a scientific approach to compartmentalising individual nuclear technologies, Weir attempts to map the global nuclear cycle from its origins to its consequences.

The film traces the cosmic origins of Uranium and the geology of Uranium deposits, Soviet mining in Kazakhstan, referencing the conversion to Plutonium in the radiation process, and the powering of cloud computing infrastructures, browser interfaces and promotional videos. The film speculates on long-term storage of radioactive materials in repository sites, and current workshop-based and computational-based future scenario planning, anticipating its deep futures.

## FLOOR 5

**Andrew Weir**

***Pazu-goo: 3D Printable Marker for a Future Posthuman  
Palaeoarcheologist (ca. 700 BC - 4,6 x 10<sup>9</sup>AD, 2016***  
Poster

Pazu-goo is a collectively modifiable Uranium-glowstick waving version of Pazuzu, the Assyrian-Babylonian demon of contagion, epidemic and dust. The Pazu-goo character is proposed as a marker for the Deep Geological Repository project, addressed to the future. The project is based on the search for cultural forms that can communicate ideas across hundreds of generations.

Religious and secular belief systems are a significant part of the debate about nuclear semiotics and how to communicate important knowledge into the deep future (Sebeok, 1984). Weir's project creates a thread of digital mutation through replicating the figure of Pazuzu who warns against dangers as intangible as dust and viruses, highlighting the invisibility and mutating force of radiation through a physical modification of the 3D model. Andy Weir will run a workshop for participants to create glitched 3D models of glowstick-waving Pazu-goo for the exhibition using 3D digital scanning and printing. See the Bildmuseet Public Programme for details.

02/10 -  
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## PERPETUAL UNCERTAINTY

FLOOR 5

**Suzanne Triester**  
*NATO, 2004-2008*  
Watercolours

British artist Suzanne Triester has created a series of watercolours that relate to the NATO classification of nuclear materials, artefacts and architectures. NATO's codification system allows it to describe and classify large parts of the world around us. Items as diverse as candles, submarines, false teeth and nuclear reactors, are ordered and represented in a way that make them comprehensible and accessible to the NATO so that they can be articulated and used by the military. The NATO Supply Classification (NSC) uses a four-digit coding structure: the first two digits identify the Group, eg. Group 77 Musical Instruments, Phonographs, and Home-Type Radios, whilst the last two digits identify the classes within the Group, eg. 7710 Musical Instruments (complete).

Triester has created an encyclopaedic series of watercolours using these 4 digit NSC codes. NSC 4470 Nuclear Reactor (all types) includes nuclear reactors around the world. The project references the Western tradition of systematic ordering and understanding of the world, combined with the art history of watercolours as an illustrative tool. By conjuring these histories and narratives of representational painting within the taxonomies of the military, the work brings them into the matrix of unease that constitutes our understanding of the world today. The work demonstrates how the most innocuous objects can be articulated as part of the military industrial complex.



## FLOOR 4

### **Robert Williams and Bryan McGovern Wilson**

#### ***Cumbrian Alchemy, 2013***

Installation (Photographs, Drawings, Archival Cabinets)

Artists Bryan McGovern Wilson (USA) and Robert Williams (Britain) have produced an archival exhibition of their performative research into the relationship between Cumbria's nuclear industry, landscape, archaeology and folklore.

The installation includes a series of drawings, photographs and archives that explore complex and speculative relationships between objects, humans, materials, landscape and beliefs overtime. The works brings together artefacts that form a time line of nuclear folklore, from the region's pre-nuclear history and megalithic monuments to speculative nuclear futures. Thomas Sebeok's proposal for an 'Atomic Priesthood' is performed on the Cumbrian Hills, evoking the need for powerful ritual to pass knowledge onto future generations. The archival drawers each contain a set of objects and documents that focus on different historical intersections between the nuclear industry and popular culture, from super-heros to ancient monuments, and multifarious forms of nuclear heritage from industry information pamphlets to an archive of public consultation and protest.

The work incorporates visions of local scientific luminaries such as: the originator of modern atomic theory John Dalton; physicist Michael Faraday; and Sir Richard Owen, founder of the Natural History Museum, London.

FLOOR 3

**Ken + Julia Yonetani**

*Crystal Palace: The Great Exhibition of the Works of Industry of all Nuclear Nations, 2013*

Chandelier frames refitted with uranium glass and UV lights

Ken and Julia Yonetani created the Crystal Palace artwork in response to the Fukushima Daiichi nuclear disaster in Japan in 2011. The title of the work references the grandiose building designed for the Great Exhibition of 1851 in London, hinting at the tension between human ambition, technological development, and its costs and consequences. The whole work is comprised of 31 chandeliers representing each of the nuclear nations in the world. The size of each chandelier roughly corresponds to the number of operating nuclear plants in that nation, and the design is influenced by the decorative arts tradition of each country. The *Perpetual Uncertainty* exhibition includes fourteen chandeliers representing Belgium, Brazil, Bulgaria, Canada, Czech Republic, Finland, Japan, Mexico, Russia, Spain, Sweden, Switzerland, United Kingdom, and the Ukraine.

1: United Kingdom

2: Brazil

3: Belgium

4: Russia

5: Spain

6: Japan

7: Ukraine

8: Switzerland

9: Finland

10: Canada

11: Sweden

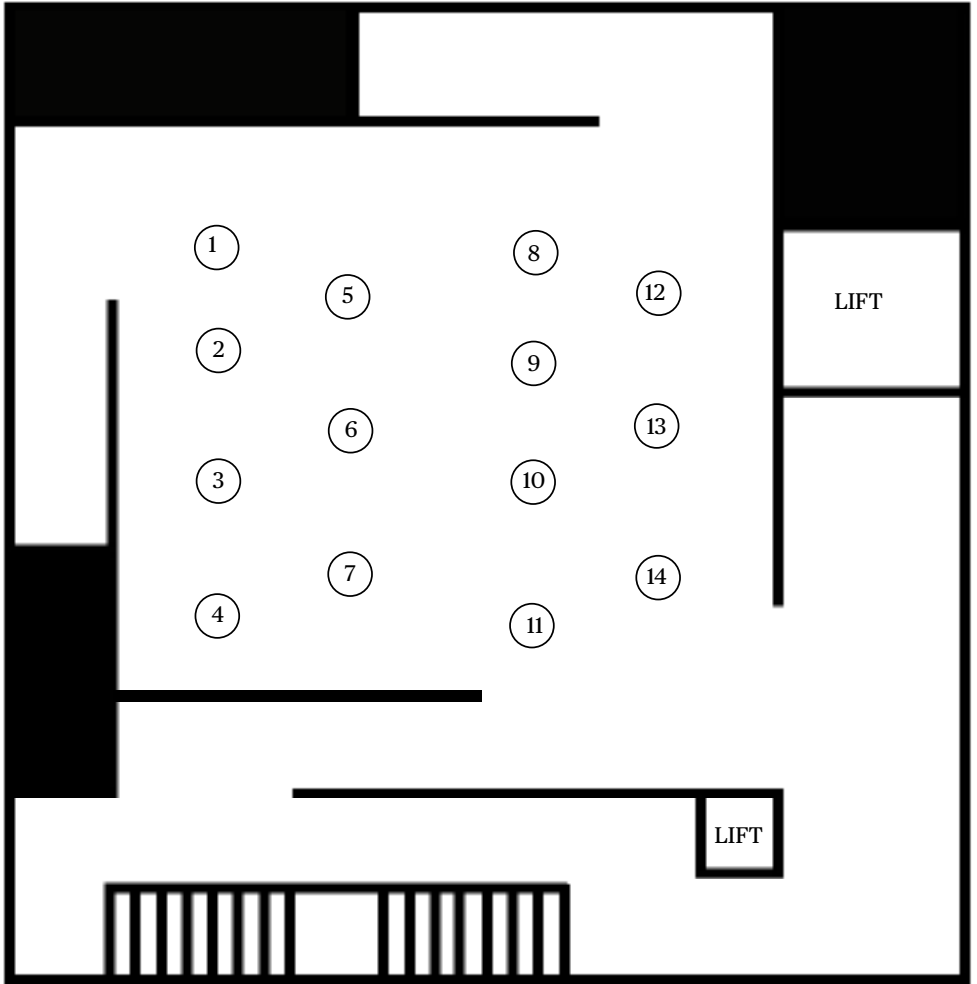
12: Czech Republic

13: Mexico

14: Bulgaria

Japan chandelier courtesy of Collection of Belinda Piggott and David Ojerholm.  
UK chandelier courtesy of Kenneth Choe & Mizuma Gallery

BILDMUSEET  
FLOOR 3



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PERPETUAL UNCERTAINTY  
02/10 2016-17/04 2017

5

PERPETUAL UNCERTAINTY  
02/10 2016-17/04 2017

4

PERPETUAL UNCERTAINTY  
02/10 2016-17/04 2017

3

PERPETUAL UNCERTAINTY  
02/10 2016-17/04 2017

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BILDVERKSTAD  
CREATIVE WORKSHOP

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RECEPTION  
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