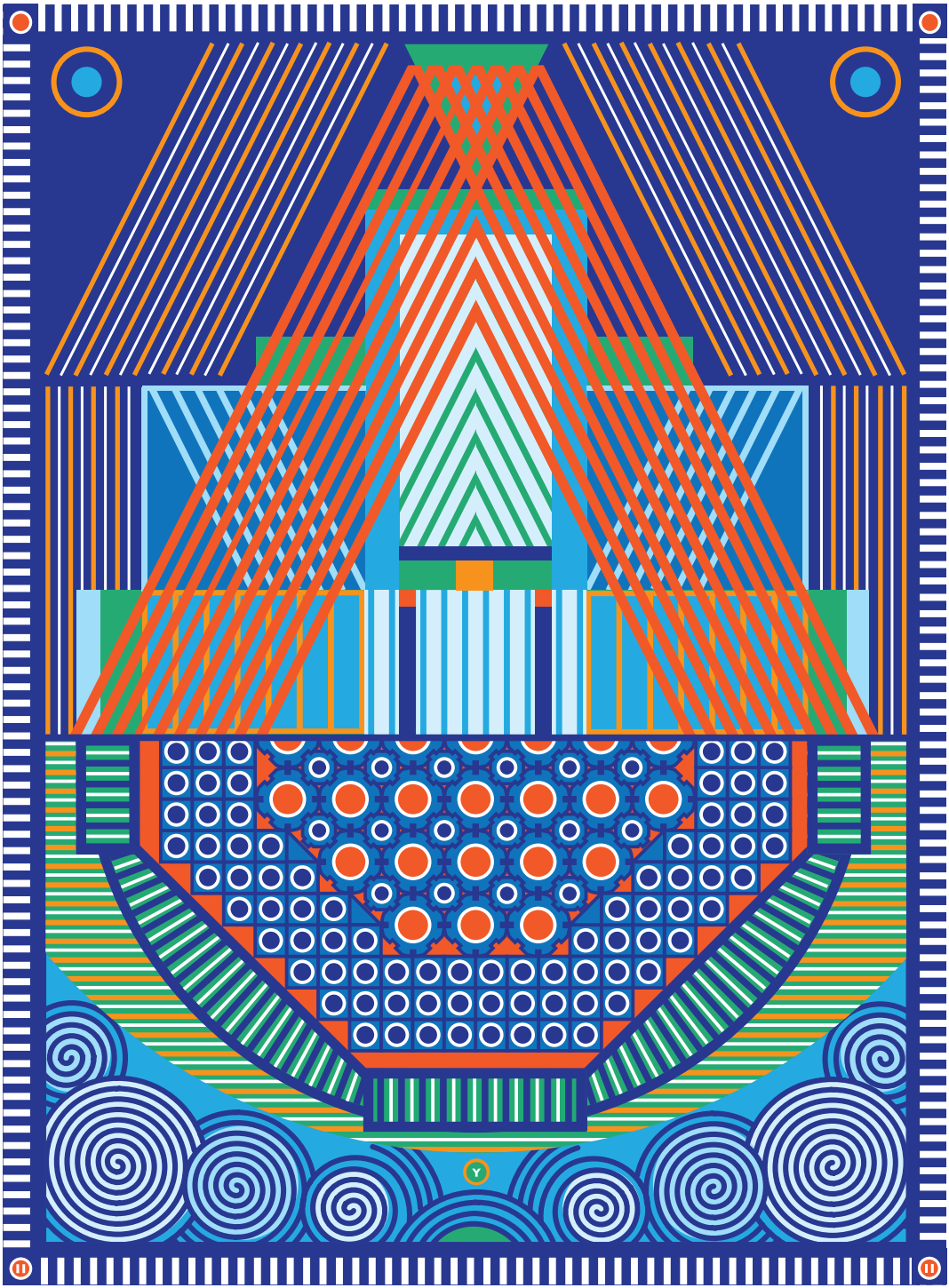


THE HOLDEN GALLERY

The Scholar Stones Project
By Yelena Popova

6th February –
27th March 2020

Yelena Popova, *Keepsafe (I)*, design for Jacquard woven tapestry, 2019

Introduction

Zoe Watson

The Scholar Stones Project was initiated on Christmas Day in 2018, with a walk along the beach in Suffolk, a short distance down the shoreline from Sizewell nuclear power station. This place piqued Yelena's interest in the surrounding landscape, the earth and stone. She started to collect stones, and question what they might be able to tell us about the environmental and industrial history of a place.

This moment inspired her subsequent investigation around other nuclear sites across the UK, engaging her ongoing fascination with nuclear histories and materiality. This process of first-hand, embodied research has been integral to the project, as it has developed over the last year. It has brought an element of discovery to Yelena's work, with the found stones acting as semi-mystical artefacts from their remote, coastal homes. However, there has also been an openness to Yelena's approach, as she has invited people to join her on her walks, including local residents, artists and members of the Nuclear Culture Research Group, an interdisciplinary group of artists, curators and academics. It was through these shared conversations and insights into the local area that Yelena made discoveries in her fieldwork. This led to particular aspects of production within the exhibition, such as the two commissioned tapestries, which were inspired by the decommissioned Magnox reactors. Although these reactors are no longer active, there is still no clear plan for the deconstruction and storage of their contaminated graphite cores.

Yelena has shared her findings throughout the yearlong project online, collating all her research through the #scholarstonesproject hashtag on Instagram, with the first image being the stone she found on Christmas Day, 2018. This open way of working has allowed viewers to observe Yelena's process, seeing the impacts on her practice in real time.

This project has been kindly supported by Pangaea Sculpture Centre's Sculpture Production Award, and the Arts Council England.

yelena_popova Admiring this #scholarrock #Gongshi #suiseki found today on a beach few miles north from #sizewellnuclearpowerstation and meters away from a body of a dead seal #nuclearculture #boxingday #walk #scholarstonesproject

The Scholar Stones project

Yelena Popova

A traditional ‘scholar stone’[1], one you might find in a Japanese rock garden, or on the desk of a Chinese scholar, or, these days, in an auction house or an Asian art dealer’s showroom, is typically an intricately weathered limestone with cavities and perforations, one which makes a sound when gently hit - a miniature landscape, a found object for contemplation, a piece of nature and evidence of her actions. In the summer of 2019, I set out to find my own scholar stone. As the UK sought to ‘Brexit’ itself from Europe and our geological nuclear waste storage facilities are still in the planning stages[2], I travelled to a selection of decommissioned British nuclear power plants to gather nuclear histories, stones and soil from the coastline[3].

Some found stones.

[1] Scholar stones (also known as gongshi) are appreciated for their aesthetic qualities and are often the focal point of traditional Chinese gardens and paintings. They are known for their asymmetrical form and their resemblance to mountain landscapes. Formed within the process of natural erosion, the water-soluble rock (usually karstic limestone) is dissolved leaving a thinned, opened and wrinkled presentation of hollow perforations.

[2] If Brexit talks fail to deliver an agreement on nuclear regulation, the ‘return of waste to its country of origin’ may take effect accordingly through the uncertainty of nuclear cooperation.

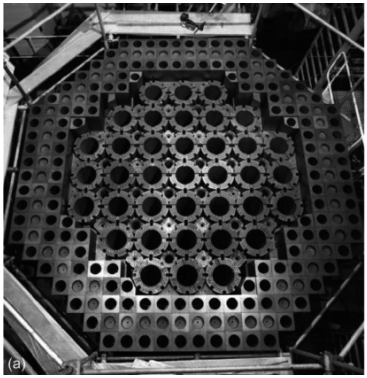
[3] These were decommissioned Magnox plants, which use natural uranium and graphite as the moderator and carbon dioxide gas as the heat exchange coolant. These plants include Calder Hall, Chapelcross, Berkeley, Bradwell, Hunterston “A”, Hinkley Point “A”, Trawsfynydd, Dungeness “A”, Sizewell “A”, Oldbury, and Wylfa.

To date I've visited decommissioned nuclear power plants at Sizewell, Wylfa, Dungeness, Trawsfynydd and those adjacent to the River Severn estuary (Olbury, Berkley and Hinkley Point A).

Google images of nuclear power plant sites visited. From top left clockwise: Hinkley Point, Oldbury, Sizewell, Wylfa.

Most of the locations look quite similar: concrete buildings behind a wire fence, set at the perfect intersection of water, land and sky. The visitor centres are welcoming and helpful. I learned about the decommissioning process for Magnox reactors. Apparently, the reactor's contaminated graphite core must remain in its location for up to 80 years before it can be dismantled or moved. So, all of the decommissioned reactors from the first generation of power plants in England and Wales are still in situ and will remain so until the end of this century. The half-life of the man-made contaminated graphite within, Carbon-14[4], is approximately 5,000 years, around the same amount of time from the Neolithic age to present day.

One of the goals for my research expedition to nuclear sites was to find a scholar stone for contemplation, a material object with a relation to deep time and geology, which might represent the 'invisible' nuclear industry and its connection to the landscape. The central images of the two new tapestries in this exhibition refer to the graphite cores of the first generation of Magnox reactors and the later advanced gas-cooled reactors (AGR). The tapestries are shown together side-by-side at The Holden Gallery, Manchester, where Edward Burne Jones' tapestry Adoration of the Magi, 1894, was originally displayed. So, my provisional title for the tapestries, Examination of the Magnox, was a cheeky reference to that. However, I decided to call the tapestries Keepsafe (I and II), 2019, a take on 'keepsake' with a warning woven into it, a verb directed to the future rather than focused on the past. I used the idea of a mausoleum in its drawn architectural form - as an elevation and a plan. It seems to me that is what the Magnox decommissioned reactors have become, mausoleums covered up, but not buried or taken apart until the end of the twenty-first century. Very much like Lenin's mummy mausoleum on Moscow's Red Square: dead, but not buried[5]. A spiral pattern borrowed from a Neolithic stone carving represents the surrounding waterscape.



Graphite components of United Kingdom advanced gas-cooled reactor (AGR) assembled with block-and-key construction before fuel insertion. Reproduced from Holt (2010). Copyright EDF Energy; used with permission.

[4]Carbon-14, or radiocarbon, is often associated with carbon dating, a method for determining the age of an organic object containing this isotope. The amount of carbon-14 in the atmosphere and biosphere dramatically increased between 1955 and 1980 as a result of above-ground nuclear tests. This effect on the natural environment, caused by humanity, is a signifier of the Anthropocene, which is said to have begun in 1945 with the first detonation of nuclear weapons.

[5]Lenin's Mausoleum is located in Moscow's Red Square and serves as the final resting place of Vladimir Lenin, former leader of the Soviet Union. His body has been preserved and on display since his death in 1924.

The Holden Gallery c.early 1900s with *Adoration of the Magi*, designed by Edward Burne-Jones and woven by Morris & Co in 1894.

Lenin Mausoleum in Red Square in Moscow (Arch. A.V.Shchusev) is the tomb of V.I.Lenin, and is one of the masterpieces of the Soviet architecture.

I hope my proposition stimulates public curiosity into the yet undecided further decommissioning process of these early reactors, by highlighting the problem of nuclear waste and its geological depository. These reactors also mark the history of the Cold War and the dual role these 1st- generation reactors played as producers of electrical power and plutonium-239 for nuclear weapons[6]. The nuclear reactors in my home-town Ozyorsk[7] in Russia are of the same type (graphite moderated reactors), as well as Chicago Pile-1 and other reactors of the Manhattan Project[8]. Interestingly, the first reactor in the USA: Reactor B at the Hanford Site, near Richland, Washington was given the status of National Historic Landmark in 2008.

Neolithic stone carving image. Photo image: Julian Thomas.

Ozyorsk coat of arms with the Graphite moderated reactor core pattern included.

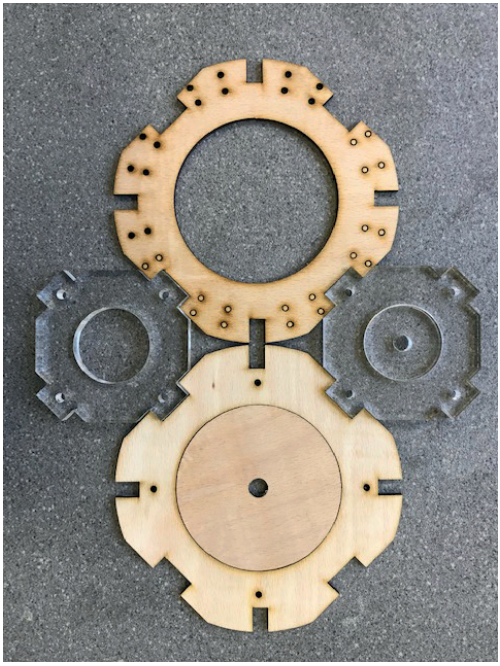
[6]The Cold War was an ongoing political rivalry between the United States and the Soviet Union. The geopolitical tension began not too long after World War II ended in 1945 and lasted until the collapse of the Soviet Union in 1991.

[7]Ozyorsk is a closed city with a population of 82,164 (2010 census), and the birthplace of the Soviet nuclear weapons programme following World War II. It remains closed due to the Mayak plant, a former source of plutonium during the Cold War that is currently used to process nuclear waste.

[8]The Manhattan Project was a collaborative programme between the U.S. government and the scientific sectors during World War II. The research lead to the creation of the first atomic bombs, signalling the arrival of a frightening new atomic age; demonstrated in the catastrophic bombings of Hiroshima and Nagasaki in 1945.

The display structure for the found scholar stones is also based on the first reactor's graphite core. I've tried to incorporate a question of recycling into the making of the piece.

The elements of the structure are laser-cut boards taken from gallery leftovers and ex walls. I imagine the piece to be quite versatile, so different display configurations could be made for different stones and exhibition spaces. I was also looking at how patterns found on Neolithic burial pots could become kerf patterns for bending MDF. So potentially my two-dimensional images (tapestry designs) could become templates for three-dimensional forms and objects.



Kerf design plinth (working model) with two flints from Suffolk.

Amongst my growing scholar stones collection, flint stones are the most fascinating. Easily found on beaches in the South East coast of England, they vary from tiny gems to larger knobble forms, reminiscent of modernist sculptures. Set among layers of sedimentary rocks these nodules are casts of organic life: marine vegetation, corals or molluscs. Their chalky skin and the waxy flesh-like insides make these rocks seem so body-like. Flints also played their part in the history of early humans' technical progress - they were our first tools and fire-making devices.

Large flint 'Limb' from the beach near Sizewell.

My ongoing interest in the materiality of painting has led me to forage my own pigments. I've discovered that wood-ash and soil are the easiest to obtain and work with. They are the most primal (and primitive) painting materials: ochre, umber, sienna, terracotta are the names of different shades of iron rich soil, used for cave paintings. My post-petrochemical painting[9] series started in 2017 and was an attempt to revisit medieval painting recipes and materials, but also an eco-conscious decision not to use products of the petrochemical industry in my work. The lithic term 'sedimentary' could be applied to my paintings - layers upon layers of matter, a slow and organic growing process: a composition building itself through a course of precise gestures. I hoped that paintings made from soil, taken from the land around decommissioned nuclear power plants, will carry its geological fingerprints. The locations I visited and gathered soil from are all open to the public - the nuclear power stations are usually in close proximity - visible and present. A curator once mentioned a wish - to slide a Geiger counter over the surface of these paintings. I thought it might be more interesting to take a reading of our walking boots. But, in any case, even if we hear an alarming Geiger's rattle what would it change? For us? For the land?

Yelena Popova, Nottingham
December 2019.

Low Parkamoor, 200 meters above the east shore of Lake Coniston, Cumbria, 2018-2019. Post Petrochemical Series 2017 - ongoing. Soil & wood ash distemper. 153x117cm, (60x46inch).

[9]Petrochemicals (also known as petroleum distillates) are organic chemicals which are typically extracted during a refining process. The chemicals derived from petroleum or natural gasses are used to manufacture thousands of different products that people use daily, including most of the manufactured paints.

This publication follows the exhibition, Yelena Popova, The Scholar Stones Project at the Holden Gallery, Manchester, UK, 7 February to 27 March 2020.

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Yelena Popova, *Keepsafe (II)*, design for Jacquard woven tapestry, 2019