

# The 200 Year Continuum

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## ABSTRACT

*The 200 Year Continuum* is the producer, recorder, and exhibitor in Christian Kerrigan's advancing anthology of narratives. Central to Kerrigan's practice is storytelling and mythmaking as a means of engaging his audience. Kerrigan uses drawing as his primary mode of research into these narratives, which are consequently offered in the form of live internet-feed installations acting as ecological sites, scientific experiments introducing new organic technologies, and digital images of worlds unseen. Each addition acts as a "middle story" within *The 200 Year Continuum*. In his narrative, *The Amber Clock*, a ship is grown in the yew forest of Kingley Vale over a period of 200 years. The narrative explores the possibilities of time in relationship to technology and the natural world. In his narrative, artificial and wild systems are choreographed, and the natural production of resin is harvested from the yew trees as a way of measuring time.

## The Premise

The premise of my paper is to outline the form and function of *The 200 Year Continuum* as producer and recorder of a fictional visual narrative referring to society's relationship to emerging technologies and the natural world.



Figure 1. *Growing the Bow*, digital drawing. The mechanisms shown describe how the tree grows into the formwork to take the shape of the bow of the ship. The natural system can be artificially trained over time. © 2006 Christian Kerrigan.

For this paper, I will explain the construction of the fictional project of growing a ship in the real site of Kingley Vale in West Sussex, one of the last remaining (2005) yew forests. The narrative tells the story of *The Amber Clock*. Defined as a symbiotic fictive performance, growing a ship over 200 years displays the choreography between a natural system of growth and the artificial presence of manmade interventions. Using three-dimensional drawing technologies and historical references to the existing site, combined with professional dendrochronological expertise, I create an integrated description of this mythology. The fabric of the myth consists of the descriptive fictional

narrative told alongside drawings to contextualize the description by depicting typological characteristics for each stage of the mythology.

The narrative describes how the trees are shaped, using elaborate Bonsai techniques, to form the ship's structure. As the trees grow, the ship emerges in the forest. The shape of the ship inside the forest also alters the sound of the trees, making the ship an acoustic instrument within nature. Meanwhile, as artificial and wild systems are choreographed, the natural production of resin is harvested from the yew trees as a way of measuring time. In creating



Figure 2. *Bonsai Corset*, digital drawing. The designed corsets wrapped around the early growth of a tree trunk are used to create the extruded sections of the ship throughout the length of each tree. The corsets form various shapes using techniques of Bonsai within the copse. © 2006 Christian Kerrigan.

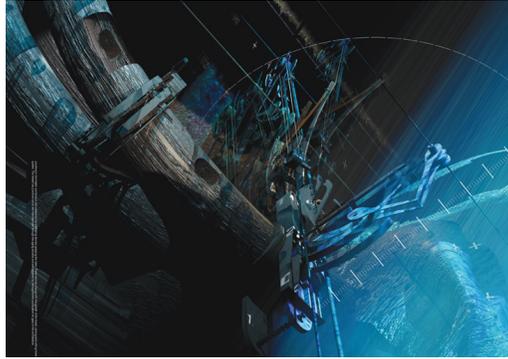
this fictional narrative, I explore the possibilities of time in relationship to technology and the natural world.

### The Process

The starting point of this work was a series of drawings in which I explored the worlds of artificial and natural systems, and developed the choreography of the forest as a metaphor for our relationship to the natural world. I chose the yew forest of Kingley Vale as a theoretical site for my intervention since it contained existing historical narratives and mythologies that form the background on which to construct my own narrative. I began to formulate my theoretical framework based on existing and imagined mythologies regarding humanity's relationship to

nature, as I wanted to use the narrative to speak of society's shifting focus and interpretation of its surrounding environment. From the assumption that nature remains, itself, a very slow-changing system, the narrative explains how natural and artificial systems could potentially work symbiotically to generate a new kind of dynamic architectural phenomenon, whose effect would be most clearly observed over an extended period.

My production process involved successive drawing, which choreographed the narrative and generated direction for the complete body of work. Joseph Beuys described the focus on drawing and image as a convergence of thought and space on which to create a dialogue. My drawing



**Figure 3. *Growing Holes*, digital drawing.** The mechanism shown describes how the tree is articulated to take the shape of the bow of the ship and how the natural system can be artificially trained to grow holes so that the pieces may slot together.  
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process involved mapping, using 3D modeling, various spaces within the forest. The making of these three-dimensional drawings organized the spatial and visual language for the space-time continuum and provided a visual “test space” for the narrative to exist and play out in situ. As the narrative displays a time-based continuum, the act of drawing has the ability to record the process in a forward-looking scenario. The recording of my manipulation of the initial spaces, through drawing, was, in a sense, the “dialogue” Beuys denoted, as it informed the decision-making process at theoretical junctions within the narrative. Thus, the mythology played out.

This process was further informed by research into the art of Bonsai and the input of relevant real-world scenarios offered by Martin Bridge, dendrochronologist at the Institute of Archaeology, University College London. He described the body language of trees and pre-empted how the natural system will cope within my narrative. However, as the narrative is set over 200 years, it is the use of drawing, within the virtual landscape, that provides the facility to stretch beyond real-world experiments and logic. To again herald Beuys, I quote a passage on the artist by his chief photographer, Caroline Tisdall:

The widening of language is the key to the process of change in thinking. For Beuys the widening of language came through drawing. Drawing becomes a way to reach areas which are limited by speech or abstract thinking alone, to suspend all notions of limits or limitations of a field so that it encompasses everything. The widening principle means the pulling together of man's experience through time. [1]

I am heavily influenced, in my work as a whole, by Joseph Beuys, for the way he tackled his working practice through a constant deciphering of the relationship between man and matter, and also, perhaps, for his avid interest in alchemy, botany, ecology, literature, philosophies, mythologies, and shamanism! In the conception of *The 200 Year Continuum*, I have aligned myself with artists and practitioners such as Charles Avery and Neil Spiller. In Avery's project *The Islanders*, texts, drawings, installations, and sculptures depict a fictional topology and cosmology of an imagined island. In creating all these parts, and in his dedication to the aesthetic, to humour, and to the “spirit of philosophical proposition” [2], Avery propagates an exploration into a philosophical conundrum by enticing the viewer to assemble the whole and recreate the Island in their own minds.

Neil Spiller has spent the last 20 years developing a personal architectural language that rejoices in the surreal poetics of contemporary technology. Spiller's work explores the "harvesting of cybernetic, genetic and cyberspatial space-time vectors and their transmission, transmutation and growth, to dissolve the old dichotomy of what defines the architectural and landscape." He has developed associated tactics of representation that illustrate his research into open-ended architectural systems. Spiller's world is full of vacillating objects, sensing mechanisms, and poetic "Pataphysical swerves" [3].



Figure 4. *The Amber Clock*, digital drawing. An "amber clock" is strapped to the tree trunk to keep track of passing time. The resin from the tree bleeds into the 200-year hourglass. Much like Egyptian water clocks, the hourglass slowly fills and, when full, the clock stops, signaling the end of the system. © 2006 Christian Kerrigan.

### The Narrative

The narrative defines a spatial and time-based metaphor for future scenarios in which our society may find itself. With advancing technology, new mythologies will emerge, and our society will inhabit newly imagined worlds that can only be navigated through human extension by technological means. I start the narrative by citing where society is in the history of dialogue between technology and the natural world, and follow this by presenting the existing historical mythologies surrounding Kingley Vale. These mythologies have fascinated generations and have reflected our changing perspective on what our nature is, thus making this forest an ideal backdrop to begin my own metaphorical fiction.

#### 1. Hidden architectures find niches as moist technology

We have reached a point in our evolution where we are now capable of creating design criteria to manipulate natural growth and development. Through stem-cell research and fabrication at the nano-scale, the spectrum of opportunity now open to the exploration of complex systems has reinterpreted our existing understanding of the natural world and our relationship to mortality.

#### 2. Walk down the chalk road past the meadows

On the chalk downland of North West Chichester is Kingley Vale, one of the last surviving natural yew forests in existence. The forest covers roughly 300 acres in a combe facing towards Chichester, just outside of London. In the heart of the wood, the oldest trees stand at around 900 years, and the rest of the forest landscape is approximately 500 years old. Legends say that many of the trees were planted to commemorate the death of Sygbert, King of the West Saxons, who was stabbed to death there by a swineherd in 894. The mythology regarding the planting of the forest tells the tale of a marauding Viking war band that came to attack Chichester in the 9th Century. While the attack was furious, most of the warriors were killed by the defenders of the town. The trees in Kingley Vale descend from those planted as a memorial on the site of the

battlefield, and four large barrows were built from the surrounding trees over the graves of the leaders on the ridge above the forest. The story is further embellished by the idea that the Danes, before attacking the Chichester men, first buried treasure in the form of a golden calf in an Iron Age hill fort known as The Trundle, which lies to the east of Kingley Vale.

In adding my narrative to this already dense mythology, I introduce three key players: Nature, Technology, and Time.



Figure 5. *The Figurehead*, digital drawing. The figurehead is a carved ornamental and painted figure erected on the bow of a ship, as an iconic symbol of its time. In this project, the figurehead evolves from the splitting of the yew tree as an iconographic piece between nature and technology. © 2006 Christian Kerrigan.

I interpret Nature as being the natural system of growth for the newly planted yew trees at Kingley Vale. The planting, insertion, and evolution of this site choreograph Nature and its hidden architectures. From the ancient use of the tool to the digital age, the forest, as a symbol for our complex environment, has been an extensive source of information. It presents clues as to how our society could begin to understand new interpretations of Nature.

Woodlands are wild places that often generate a sense of infinity through time. In my narrative, it is the engagement of Time that makes the yew forest a unique site for new spatial fields. In a society organized increasingly on a short-term basis, the slow maturing of distance and time evokes a powerful sense of technology as longevity. The mythology carried through 200 years extends a life cycle beyond that of the human life span. If we trace the relationship between man and landscape, positing architectures that last beyond their generation creates a natural sustainability for the architectures to self-organise.

Technology is understood as an artificial system that is created to fulfill a given task, in this case creating an imaginary world inside the natural forest. Technology generates the narrative for the system to alter and steer Nature into producing a hidden vessel. The artificial system is calibrated by a sequence of changes within the artificial devices.

Over time, the choreography displays the curvature of the ship. The mechanisms call upon the tree as live formwork to contain the hull of the ship. Across the lake, the silhouette of the ship within the forest evolves as a hidden piece of mythical architecture.

### 3. No one is ever seen entering or leaving

The form of the ship is controlled by individual corsets wrapped around the trunk of the tree,

manipulating the growth of separate parts of the vessel. As the tree grows through the corset, the shape of the designed armature controls the extrusion. The Macresco harvests the growth imperative of trees; it is structuring the launching pier, hull, and rudder as the wet system grows dense (Figure 1). As the ship ages inside the forest, hybrid systems interact with the object. The cell structure at the nano-scale alters, while natural ecosystems in the forest find new relationships to the growing object.

The rudder, located within the body of the tree, exists as a hidden section within the forest (Figure 2). This section of the tree is trained by tensioned cables that act as counterweights to the growing system. As the mechanistic piece for the corset shapes the tree, it later becomes embedded to become part of the ship's rudder. The geometry of the vessel is a combination of extrusion and tension, which sets up the complex system of interdependencies of natural growth. Climatic changes, both globally and in the microcosm, act as an added force in defining the ship's evolution, since the forest itself weathers and ages.

In ancient Japanese culture, nature is seen as an extension of the people themselves. As an ancient union of art and nature, Bonsai is an example of how people order nature and their surroundings. The tree is alive and continually changing. The slow manipulation, through wiring, of Bonsai trees to attain desired shapes, is a simple gesture in a relationship of two systems of organisation. The control the Japanese exert upon nature is meant to evoke the essential spirit of the plant being used. The manipulation of nature is seen as a way of provoking a new perspective on society's surroundings. The art of Bonsai performs an ongoing cycle throughout the life of the tree, plying the mind to believe in a greater possibility of the tree and its individual manipulation.

Dynamic technologies choreograph a sustainable system of shifting geometries and densities. In the work "Helimeter For the Deaf and Dumb," Salvador Dalí explains:

It was an instrument of high physical poetry formed by distances and by relationships between these distances; these relationships were expressed geometrically in some parts, and arithmetically in others; in the centre, a simple indicating mechanism served to measure the saint's death-throes. The mechanism was composed of a small dial of graduated plaster, in the middle of which a red blood clot, pressed between two crystals, acted as a sensitive barometer for each new wound. In the upper part of the helimeter was Saint Sebastian's magnifying glass. This was at once concave, convex and flat. [4]

In *The Amber Clock*, a corset wrapped around the tree trunk is used to bleed resin to generate the clock's momentum (Figure 3). *The Amber Clock* acts as the calibrating device between the tree's timescale and the artificial system, and it acts as an artifact for a generation 200 years from now to find, reconstruct, and add to the system's history. The apertures slowly create holes within the pieces of the ship. As the growing material ages, the calibrating devices co-ordinate so that the pieces of the ship may eventually slot together. Neil Spiller explains the site as vacillating objects:

Our technologies have developed a series of interlinked spatial fields, each with differing qualities and with blurred boundaries. The objects that inhabit those fields are becoming schizophrenic.... An object will have many selves, many simultaneous forms. Technology is forcing the object to become a subject, partial and anamorphic. The anamorphic object changes form when viewed from different viewpoints, in different fields or in distorted mirrors. [5]

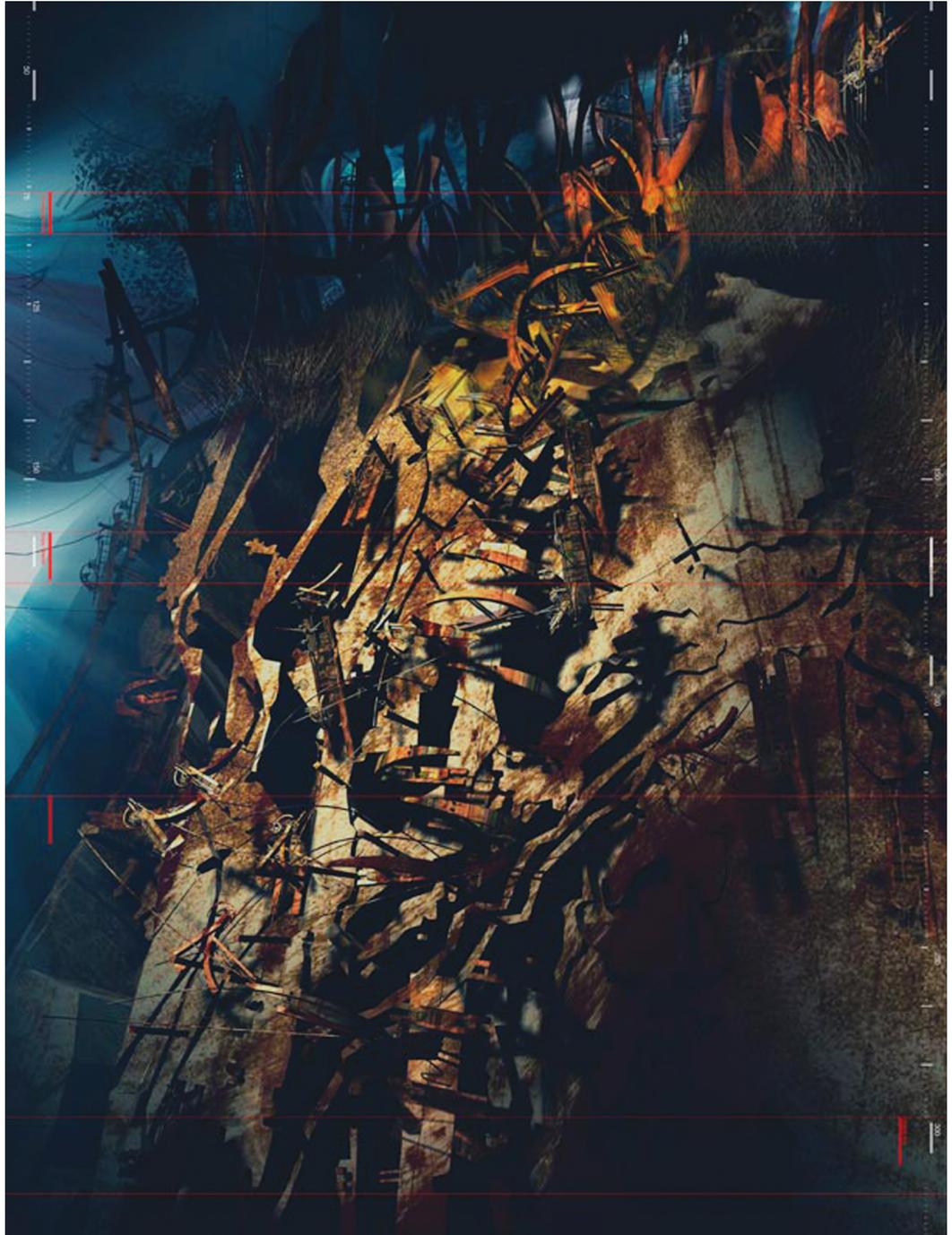


Figure 6. *The Amber Forest After 150 Years*, digital drawing. The forest landscape, shown from above, is manipulated to take the curvature of the ship as the forest evolves. The ship becomes consumed within the body of the trees and will act as an artifact for future generations 300 years from now to reconstruct the system's history. © 2007 Christian Kerrigan.

#### 4. The myth, the symbol, and the amber

The yew tree has played an important role in the formation of human culture and consciousness. It has provided wood for shelter, tools, and weapons, and foliage and bark for every medicine bag. Its greatest influence on culture was its myriad spiritual associations with goddess, afterlife, and immortality.

Although the yew tree was revered in nearly every culture of the northern temperate zones, yew

trees were destroyed for their utility. Today, their remnants are threatened throughout the world because yew bark and foliage provide taxol, the most promising new anti-cancer drug in 30 years. With stem-cell research, manipulation in society is extending to our human interior.

The ship growing from the yew trees is the ship from the “Rime of the Ancient Mariner.” A poem of death and immortality of human existence, it relates a story of “supernatural” events experienced by a mariner on an epic, life-changing voyage at sea. The story is told as the mariner stops a man who is on his way to a wedding ceremony and begins to recite his tale [6].

The Mariner’s tale begins with his ship leaving harbour; the ship is driven off course by a storm and driven south to Antarctica. An albatross appears and leads them out of the threatening waters; even as the albatross is praised by the ship’s crew, however, the Mariner shoots it with a crossbow. The other sailors are angry with the Mariner and blame him for the change in weather that subsequently occurs as he killed the bird that was leading them to safety. This crime arouses the wrath of supernatural spirits who then pursue the ship; the south wind which had initially led them from Antarctica now sends the ship into uncharted waters. When the weather becomes misty, the sailors change their minds and hail the Mariner for killing the bird that brought the fog. Eventually, the ship encounters a ghostly vessel, which murders the ship’s crew. The Mariner manages to pray, the albatross which is hung from his neck for his act of slaughter, falls and his guilt is partially redeemed. The bodies of the crew, possessed by good spirits, rise again and steer the ship back home, leaving only the Mariner behind. In penance for his deed, the Mariner is forced to wander the earth and tell his story.

The Mariner’s tale loses touch with the world of ordinary existence and slips into the realm of the imaginary. This ship, navigating its path, is an image, for many, of lives passing towards mortal death. It is part of our human obligation that we are condemned both to hear out our fellow human beings in their extremity and to recognize, in their stories, potential stories of ourselves.

Technology does not presume to act on mere practical reasons but to facilitate new human conditions of interaction. The Amber Clock is strapped to the tree trunk to keep track of passing time (Figure 4). The resin from the tree bleeds into the 200-year hourglass. Much like Egyptian water clocks, it slowly fills and, when full, the clock stops, signaling the end of the system. The passing of fluid from the natural system into the artificial system of the clock monitors the time passed relative to the growth of the tree. Harvesting resin production as the forest matures allows the Amber Clock to slowly keep time.

Each of the yew trees fitted with an Amber Clock informs the tightening devices how much they are to calibrate. This incremental alteration within the system informs the Amber Clock as it measures the passing of time. This time-based exhumation evokes an algorithm based on tree growth as the amber hourglass registers the ship’s evolution. The clocking can register the longevity of the system and tweak the degree of tension according to the maturing of the forest. As the hourglass fills over time, the resin slowly hardens and the clock begins to jam. Ultimately, the volume of the hourglass is filled, the clock stops, and the system is complete.

Dalí saw the benefit of “useless” objects that perhaps have other meanings than the overtly mechanistic and functional: “The museums will fast fill with objects whose uselessness, size and crowding will necessitate the construction, in the desert, of special towers to contain them. The doors of these towers will be cleverly effaced and in their place will be an uninterrupted fountain of real milk, which will be avidly absorbed by the warm sand” [7]. Poetic and metaphorical

objects can thereby occupy worlds and will the spaces around them to change geographically.

The resin clocks are consumed as a fossilized fragment of the system, creating a time capsule of the ship's evolution in the past 200 years. The ship's figurehead, a carved ornamental and painted figure erected on the bow, is an iconic symbol of culture. In my narrative, the figurehead evolves from the splitting of the yew tree as an iconographic piece between time and technology (Figure 5). As the yew tree ages, the centre of the tree splits as it begins a new life cycle, sending a live shoot down through the trunk of the tree. The rotting outside protects the new growth to maintain the time-based evolution of the forest.

#### **5. Tuning trees for an acoustic ship**

Trees have a natural frequency specific to their type of wood. The system calibrates the density of the trees and, in the process of growing the ship, the acoustic frequency of the forest changes. As the shape of the ship begins to emerge within the forest, the yew trees take on unnatural forms. With this alteration, the acoustic properties throughout the forest begin to heighten. As with the forest's natural resonance, a higher density of mature wood will articulate a lower intonation. By manipulating the density of the trunks, the alteration of the forest begins to take on the acoustic resonance of a ship, and the system produces an instrument within the forest. Each tree becomes an individually tuned, natural instrument within the body of the forest, and will play new acoustic frequencies as harmony to the rhythm of the woodpecker's tapping.

The hull within the forest begins to embody a languorous high-density wood as it drifts through the yew landscape, while the sound of the ship's furniture adopts a variable lightness compared to the acoustic dampening of the heavy stern (Figure 6). The evolution of the forest can then be traced as feedback sound that, in turn, records the frequency of the wood. An acoustic resonance technique detects deterioration in trees with the sound of decaying hollow tree trunks. The acoustic feedback acts as a register, with the frequency outlining the edges of the system.

#### **6. Obelisk in the forest**

Coming to the end of its system, the armatures have the potential to alter, again, the geometries of the copse. Spliced into the hull of the ship, these armatures deal with the new end of making the ship's own cargo. As the ship leaves the edge of the forest, it reconfigures itself to take root in granite fields as it engages in the time-based carving of its own obelisk. In certain cases, the parameters of the obelisk exist hidden within the forest, as the process moves to completion.

#### **The Conclusion**

Having completed the narrative, I posted the 3D drawings from the project and a short blurb defining the objective. I received a response from a father and his young son who had gone to visit Kingley Vale in search of my growing ship. "We spent hours," he wrote, "roaming the forest looking for this... any clues?"

*The Amber Clock* began as a project seeking to describe a complex system through the use of detailed drawings and text. The striking and unanticipated conclusion to the creation of the project, and, indeed, this paper, is in the reaction of this man and his son. By offering the narrative to a public forum, and in so doing, blurring the boundaries between reality and fiction, it turned an architectural vision into a mythology. Storytelling has been used throughout history

to teach, through the use of metaphor and abstraction, new visions and morals of the world. Each time I speak of the Amber Clock, even now, in this paper I present to you, I am perpetuating the myth. In so doing, my primary objective, to speak of the idea of environmental and manmade interactions as a means of communicating a new disposition to future natures or synthetic ecologies, can be realised. This conclusion, in the aftermath of *The Amber Clock*, led to the inception of *The 200 Year Continuum*.

#### Acknowledgement

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