Re-Framing the Politics of Design

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Chapter 3. Ontologizing as a Political Attitude

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Abstract

The previous chapters made clear that designers can more consciously engage in the politics of their collective design work to better address the complex societal challenges they care about. This final chapter proposes that if designers want to address these politics, they should go a step further than developing their capabilities to reveal and translate radical interdependencies. They need to explicitly activate these interdependencies, between both human and non-human, spokespersons, and implicated actors, and embed them in the diverse set of institutions and collectives that can provide the necessary support for changes to occur. Based on the learnings from the current ontological turn in design, we will explore in this chapter the 'ontologizing' design attitude needed to design for and with radical interdependence with attention to its politics. In other words, we will focus here on how to ontologize the participatory design process, to design in a more life-sustaining way with and for the relations of radical interdependence between all possible human and non-human actors gathered around common matters of care. Based on the analysis of a new set of cases, we observed that to design with this ontologizing attitude requires four key capabilities: revealing, translating, activating, and embedding the radical interdependencies among and between (more or less ephemeral) collectives and (more or less stable) institutions.

Key concepts and questions

This chapter builds on the key concepts introduced in the previous chapters – among others, *matters of care*, situated practice, *translation* and decolonizing design – and adds three new ones: i.e. *collectives, implicated actors* and *ontologizing*.

- We will speak of *'collectives'* and not of communities or publics to stress the fact that designing around *complex matters* of care involves both human and more-than-human actors: built infrastructure, trees, animals, inhabitants (Latour 2005). Although terms like communities or publics (DiSalvo 2009) also take into account the more-than-human actors in collective work, we felt that the word collective is more open in relation to the kind of agents involved and is more apt to respect the mixed nature of assemblages of human and more-than-human agents (Tsing 2017) we are addressing here. Designing with collectives, or what Ehn (2002) and many other authors have called the core of what is called participatory design (PD), collective design or co-design (which we will simplify to the term PD), involves by definition the working together of humans and more-than-humans. It requires us to go beyond a use of language that labels reality (a tree as a 'tree', distinct from animals, infrastructures, and inhabitants), but rather to look at the deep relationality/interdependence between actors.

- To work with these collectives means to deeply acknowledge that some actors, such as trees (in case the needs of people get more attention) or some inhabitants (when nature gets more attention), are silent or silenced. It also means that designers need to look for ways to provide these actors with a voice, or at least to represent their voices when speaking is not possible. Following Clarke and Montini (1993), we call those actors '*implicated actors*'. This concept points to the various forms of political choices involved in working with and forming collectives in design processes: Which implicated actors do we give a voice to? Who do we choose to represent?

- To stress this political role of design in engaging with collectives, we here introduce the attitude of *'ontologizing' design practices*: i.e., to design with close attention for the radical interdependences between those actively taking part and those implicated. Or, to say it with Puig de la Bellacasa (2009) to design for/with *care*, to weave back the web of life. We see *ontologizing* as an ongoing (political) attitude that cares for articulating interdependencies and questioning polarizations and mystifying oppositions between social and environmental *matters of care*. We see it as a way to *design for complex challenges with diverse collectives interdependent with these challenges*.

This chapter explores the political potential of *ontologizing* PD practices, to consciously design with collectives of humans and more-than-humans, active and implicated voices, identifying their common matters of *care*, thus recognizing their intrinsic relationality/interdependence. It investigates which design capabilities support this *ontologizing* attitude.

To us, the term '*ontology*' refers to what is related to the real, *'the conditions of possibility we live with'*, as explained in the idea of *'political ontology'* by Mol (1999). The term *'politics'* underlines that these *'conditions of possibility'* need to be understood in an active mode, as a process of shaping that which is open and contested (Mol 1999, 75). According to Mol (1999, 75), this raises a series of questions: What is at stake? Are there real options? How should we choose? Who is implicated? What these questions make clear is that:

(1) *there are always options;*
(2) *if one thing is at stake, multiple other issues and realities are involved;*
(3) *the various performances of reality might be at odds with each other, but we need to see these in interconnection and not as a plurality of options to choose from; and*
(4) *if there is a choice, the question emerges which actor can choose between different options* (Mol 1999, 86–87).

Orienting design processes towards a *political ontology* thus implies shifting the focus from choosing between options towards understanding tensions and interconnections (and interdependencies) between options and actors; both those who make the choice and those who bear the implications; those who

raise their voice and those implicated (the ones who choose to remain silent or are silenced); those who are directly implicated, and those whose implication is not directly visible.

This consciousness of political *ontologies* is very present in the design field today. Authors such as Fry (2003), Willis (2015) and Escobar (2018) have invited participatory designers to redirect their practices towards a *'relational ontology'* (Benjamin 2015). This *'ontological turn'* (Escobar 2018) is today intensely discussed in design in relation to offering a place to silenced/silent humans and more-than-humans in design processes. They make a plea for a move from a patriarchal *ontology* where humans occupy the centre (as traditionally in most of Western philosophy) to an a-hierarchical *ontology* where humans are just one of the many players and where all actors (humans and more-than-humans) are acknowledged in their interdependence.

We interpret *ontologizing* PD processes (designing for and being aware of implicated human actors) as a double call towards participatory designers to de-anthropocentrize and decolonize design practices. To stress the active attitude implied by this call, we use *'ontologizing'* as a verb: an active political and *careful* PD attitude that supports revealing and possibly redesigning in a more life-sustaining way the relations of radical interdependence between all possible human and more-than-human actors gathering around common *matters of care*.

In this chapter we start exploring what it might mean in practice to *'ontologize'* PD practices. More specifically, we will explore here: *Which design capabilities do designers need to strengthen to adopt an ontologizing attitude that reveals and actively works with the politics of designing with and for collectives' interdependencies, also with implicated actors who remain silent (either because they are tired of the long PD process or because they do not want to or cannot raise their voice)?* To start answering this question, this chapter presents five practice-based design cases.

The case studies

The selected cases illustrate how designers can, in a variety of contexts and each using their own theoretical frame and design approach, *'ontologize'* participatory processes, taking radical interdependence and *care* into account. Each case discusses how designers translate and bring the voices of all participating and implicated actors (human and non-human ones) into a dialogue, identifying their common *matters of care*. Each case explores what these *matters of care* might mean concretely within the diverse situated contexts tackled in their projects, being either the urban redesign of road infrastructures, circular economies, nuclear waste, or an urbanized water valley.

The case of the *Koolmijnlaan* looks back – again from a different angle than the related case descriptions on the bicycle library (CHAPTER 1) and the Meulenberg area (CHAPTER 2) – at the collective redesign process of a contested regional road. The authors discuss how the introduction of mapping practices and the creation of platforms supported ongoing, open-ended processes of collectively tracing radical interdependencies among nature organizations, bicycle associations, schools, an entrepreneurial network, the municipality, mobility experts, etc.

In the case of *Circular Centrum-Zuid*, the role of urban imaginaries is explored as a tool to reshuffle ideas on circular economy thinking. The article revolves around a *matter of care*, being the colonization of nature that considers the products of the earth as the products of labour that are subordinated to human-driven markets. The urban imaginaries acknowledge earth and its natural resources as the fundamental framework for more balanced human and more-than-human collectives.

The case of *Circle Sector* approaches circular economy as a collective endeavour on a regional scale. *Circle Sector* considers the region of Genk as a radical interdependent ecosystem of (implicated) materials, expertise, and infrastructure. By mapping resources, organizing labs to experiment with the mapped resources and setting up pilot projects that test and implement prototypes of circular products, services and systems, the project both traces and opens up to these regional ecosystems.

The *Pazugoo* case addresses the complex interdependencies among collectives in the global and contested area of nuclear waste. The article discusses how the collective production and burying of 3D-printed demon artefacts is used to connect multiple planetary scales of toxicity and care. The project proposes nuclear waste as future relics, raising questions such as how the hazardous toxicity of nuclear materials could be communicated to future generations of people, or even how such long-term futures could be imagined from a present perspective.

The case of the *Stiemer Valley* explores an urbanized valley as a collective of human and more-than-human agents and argues that the re-naturalization of this controlled and 'colonized' piece of landscape needs to take the radical interdependence of these agents as a starting point. The case introduces two new actors that emerge from this interdependence – a parallel creek and linear gardens – and illustrates how these intensify the agencies of human, more-than-human and hybrid collectives in the gradual redesign of this valley.

Case 4. Pazugoo and nuclear waste as alienating future relic

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Keywords
Deep time, speculative design, ontological design, nuclear waste

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Abstract

Within the complex materials of radioactive waste, where toxic half-lives can extend for millions or billions of years, deep timescales of past and future are bound up with environmental catastrophe in the present. Alongside the question of what to do with ever-growing masses of waste are questions of responsibility to and imagination of futures far beyond a single human lifespan. A history of design that ‘marks’ sites of buried waste, for example, has focused on communicating danger to future generations for safety purposes. It is argued via this case description, however, that this is problematic. In restricting itself to these locations and assuming an unchanged future addressee, it affirms a heroic story of future salvation, missing questions of who may be excluded from managed anthropocentric narratives of the future. Further, it doesn’t account for scales of deep time that insist on unearthing more critical questions of relations between humanity, waste, and natural environments. This case description proposes instead a more speculative approach to the context through the Pazugoo work. This project adopts a distributed format of collectively produced and buried 3D-printed demon artefacts, aiming to connect multiple planetary scales of toxicity and care. Through this work, it proposes nuclear waste as a future relic, not communicating to a future but instead reflecting back and critically alienating what counts as ‘human’ in the present.

Situating the Project

Nuclear energy production worldwide has created the problem of what to do with its legacy of high-level radioactive waste. This waste, increasing at a rate of around 12,000 tonnes a year, is dangerous to humans and the environment, and so must be contained for durations up to hundreds of thousands of years, or longer. For instance, Uranium-238, the most prevalent isotope in uranium, has a half-life of 4.5 billion years (IEER 2021). Alongside technical questions of nuclear waste storage, such ‘deep’ timescales also raise questions such as how the hazardous toxicity of these materials could be communicated to future generations of people, or even how such long-term futures could be imagined from a present perspective. Such questions have been approached by designers since early 1990s proposals for monumental ‘markers’ of long-term nuclear waste storage sites.

Landscape of Thorns was one of a series of 1992 proposals for marking the site of high-level radioactive waste storage at the Waste Isolation Pilot Plant (WIPP), Yucca Mountain, US.

It aims to communicate the danger of the site to future generations of people, warning against hazardous intrusion. These monumental claims to speak to future people have been influential on the contemporary imaginary of the industry's RK&M project, which addresses questions of transferring knowledge across generations, while they have also been criticized (Wilson 2010). What the Pazugoo project proposes here is that critique can be expanded beyond these specific designs to the whole idea of 'marking' nuclear waste sites in general. This is to question the more general claim to communicate to future people who they have saved from the environmental nuclear catastrophe. These proposed WIPP markers stage the drama of some humans saving the future for others, obfuscating questions such as: Which humans? Saved from and for whom or what?

While nuclear catastrophe is staged as 'over', many around the world remain exposed to dangerous levels of radioactivity (Hecht 2018). As current discussions critical of the Anthropocene have shown, humanity cannot so easily be separated from its waste and damaged environments, while what counts as *care*, harm, nature or indeed human in this context are questions for debate rather than assumptions in a message to be passed on (Yusoff 2018). The *Pazugoo* project addresses something lacking in such designs as a connector between the local site of the buried waste and its broader ecology. This can be understood in terms of both space (considering spatially distributed ecologies of toxicity around the planet) and time (where the timescales at stake invite a more critical rethinking of humanity's relations to its environments). The half-life of Uranium-238, which makes up the majority of spent nuclear fuel, for example, is 4.46 billion years. The site opens up multiple scales of transformation and extinction, forcing current forms of life to confront their contingency in relation to longer scales.

PAZUGOO, DUST AND MATERIALITY OF RADIOACTIVE WASTE

A possible response to such problems is to focus not on monumentalizing the storage landscape, but instead on the radioactive waste itself. This process acts as a counter-narrative to the imaginary of *'indefinite quarantine'* (Smudge Studio 2012), the sealing away of waste from future intruders within a language of invisibility. Instead, it draws attention to the materiality of the waste as a specific object. This shifts the focus away from the sublime magnitude of deep time to emphasize its entanglements in power relations, conflict and colonial extraction of resources, technologies, and spirits of capitalism. It connects a range of timescales, from deep times of extraction through to industrial labour, toxic decay, and planetary exhaustion, traversing mythologies and future timescales of harm and *care*, including its encounter in the present. At the same time, it challenges the narrative of nuclear toxicity as a solely 'local' problem. Instead, it suggests the importance of threading together different scales

Image 53.
Pazugoo Perimeter Marker 1 (2018), polished bronze, 18 cm x 9 cm x 6 cm. Image by Andy Weir

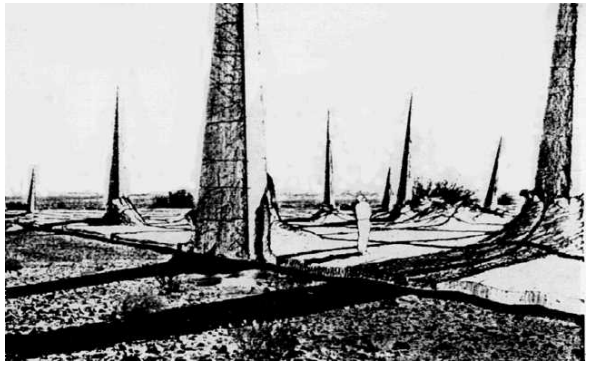

Image 54.
Landscape of Thorns, from Sandia National Laboratories Report, *Expert Judgement on Markers to Deter Inadvertent Human Intrusion into the Waste Isolation Pilot Plant* (1991) Image by Michael Brill (design) and Safdar Abidi (illustrations)

of political imaginaries and action, drawing attention to occluded human and non-human actors within the design collectivity.

Opposite the sealed and saved imaginary of the deep geological repository is a conceptualizing of radioactivity through its ongoing contagion via particles of dust. The materiality of dust is not only a problem in legacies of nuclear disasters but is also inherent to planetary nuclear production cycles and its residues (Hecht 2012). Fukushima and its surrounding area, for example, had to deal with the accumulation and dispersion of radionuclide particles, dangerous when inhaled or ingested, causing widespread contamination (Itoh et al. 2014).

Shaped by climatic flows, dust is continually ungrounding and forming new territories. This recalls philosopher Reza Negarestani's descriptions in *Cyclonopedia* of the *'earth itself composed of dust particles and fluxes ... its terrestrial bedrock, its concrete ground, is progressively eroding and degenerating into dust'* (Negarestani 2008, 88). While writing from very different perspectives, Hecht's Being Nuclear and Negarestani's *Cyclonopedia* share an image of the Sahara as a global dust pile. Negarestani's dust narrative combines with Hecht's sociological analysis as an apt figure for an ontology of the nuclear, attuned to its flows as 'hyperobject' that escape and exceed repository locations, temporalities, and the regulatory frameworks of nuclearity. Interestingly, in *Cyclonopedia*, dust is given agency through the conceptual persona of its scavenger, Negarestani's reading of the Sumero-Assyrian demon of epidemics, Pazuzu: *'Pazuzu specialises in scavenging the stratified earth and its biosphere in the form of dust, which is then uplinked to alien currents flowing in the universe'* (Negarestani 2008, 113). This demonic figure becomes a dust carrier, connecting the materiality of the ground to the cosmic continuum it inhabits. Pazuzu is described through a detailed morphology that emphasizes its excess of wings and the quality of 'double-flight'. It can be understood as a mythic navigation between overlapping scales of time and space. As a figure of contagion against the fantasy of containment, it draws on traditions of understanding catastrophic climate change through methods of personification (see, e.g., Hulme 2009 who discusses non-Western traditions of personification of climate as attuned to cultural practices of climate). Its flight connects the localized dust of the earth to its universal horizons, figure for a spiralling journey to the ends of radiological deep time which loops back to unground thought and experience in the present.

The *Pazugoo* project draws on this invocation of a ritual navigational figure for the interscalar as a shift to practice. This is understood here as a form of *ontologizing*, with dust as coalescing agency for the silenced human and non-human interdependent voices inherent to the design *collectivity*. To do this, a distributed mythology for nuclear waste is proposed. This is created by producing and burying demon figures at sites connected to waste and its storage, a kind of underground marker connecting moments in the uranium cycle in a different way to the monuments described at the start of this study.

This project develops through the format of group workshops which imagine demons for nuclear waste, produced through contemporary technology of deep-time pestilence, the 3D printer. The *3D Additivist Manifesto* (Allahyari and Rourke 2015) draws attention to 3D printing's deep-time origins, the technology shaping *'plastic derived from petrochemicals boiled into being from the black oil of a trillion ancient bacterioles'* (Allahyari and Rourke 2015, paragraph 1). Heather Davis has written on plastic as the 'substrate of advanced capitalism, proliferating future detritus disseminated around the world as non-biodegradable *'recalcitrant matter'* (Davis 2015,

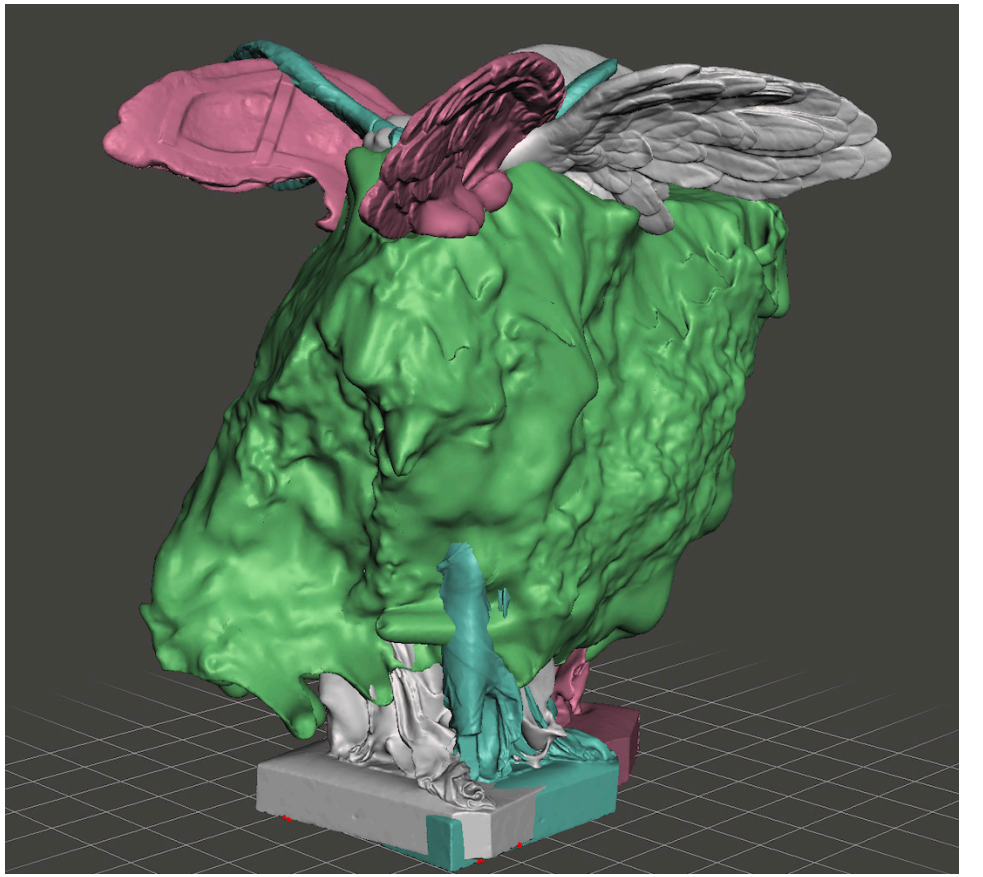

Image 55. Composite *Pazugoo* design from workshop (2016).
Image by Andy Weir

348). The 3D printer, in other words, becomes an agent for channelling oily prehistory into polluted deep futures of trash matter, outliving its makers. Consider also Negarestani's description of oil as a lubricant for coalescing dust particles (Negarestani 2014, 88), an agency taken up by the printer.

These workshops become a space to open up critical questions around deep geological repository marking while designing new composite demons. These demons have no fixed form but are composed from online object scans of museum artefacts, reconfigured according to guiding morphologies, combining Pazuzu's flight with localized traditions and mythologies. Formed through the gooey materiality of molten plastic, these figures are named *Pazugoo*. Workshops draw on descriptions of characteristics of Pazuzu to build multiple new *Pazugoo* figures that mutate through contact with local myths and sites. As art historian Anna Volkmar has argued, 'where traditional marker designs envision members of the public as bystanders, *Pazugoo* redefines them as accomplices' (Volkmar 2018, 4), bringing elements of co-design and discussion into the process.

In practice, this involves a process of prototyping through workshops and discussions, with the production of SLS-plastic prints, bronze, and resin casts. These are buried at specific sites emerging through research into material histories of the nuclear waste cycle, embedded into the long-term decay processes of radiological deep time. Bringing debates into the present, 'index' figures occupy museum collections, referencing the buried objects as a kind of archive of the work in its distributed format, connected mythologically through the figures in the earth. Besides these sculptural objects, videos, drawing, and diagrams play the role of speculative imagining of deep-time futures, exhibited with figures through exhibition installations. Mutated through the gooey materiality of molten plastic, drawn from the depths of the earth, the combinatorial *Pazugoo* figure draws on Negarestani's claims for 'double flight' to the ends of the universe, flying to the ends of radiological deep times on an excess of wings. Figures are proposed as navigational devices for mythic flight to universal deep-time horizons and back to thought in the present, connecting sites of toxicity through a topography of pestilence.

Through this work, sites of nuclear waste are addressed not as isolated problems, but as networks on a planetary scale, including the exhibition, the viewer and artist as part of a deep-time ecology of toxicity, rethinking the exhibition and the art encounter in this context. By shifting focus from marking the contained site to tracing and personifying the materiality of the waste itself and using this to develop a mythology through burial in contaminated earth, Weir proposes that the narrative of apocalypse and salvation in the waste marker imaginary can be challenged.

Buried objects have the potential to be exhumed, but whether discovered by future lifeforms or not, we now in the present become relics for something unknown, indifferent, and alien. Adopting this shift means understanding the demon artefacts not only as alien objects but also as *alienating*, catalysts for the ungrounding or making-alien of the present moment of its experience. The viewer of the future-relic becomes its object, alienated from the conditions that structure its understanding in the present. Against the imaginary of saved futures implicit to the legacy of designs such as *Field of Thorns, Pazugoo* demons look back at us from unknown and unfinished futures in the earth. Against an idea of communication with people like us in deep-time futures, this burial and mythic double-flight suggests a critical process of alienation in the present, the ethical call of more-than-human futures in the now.

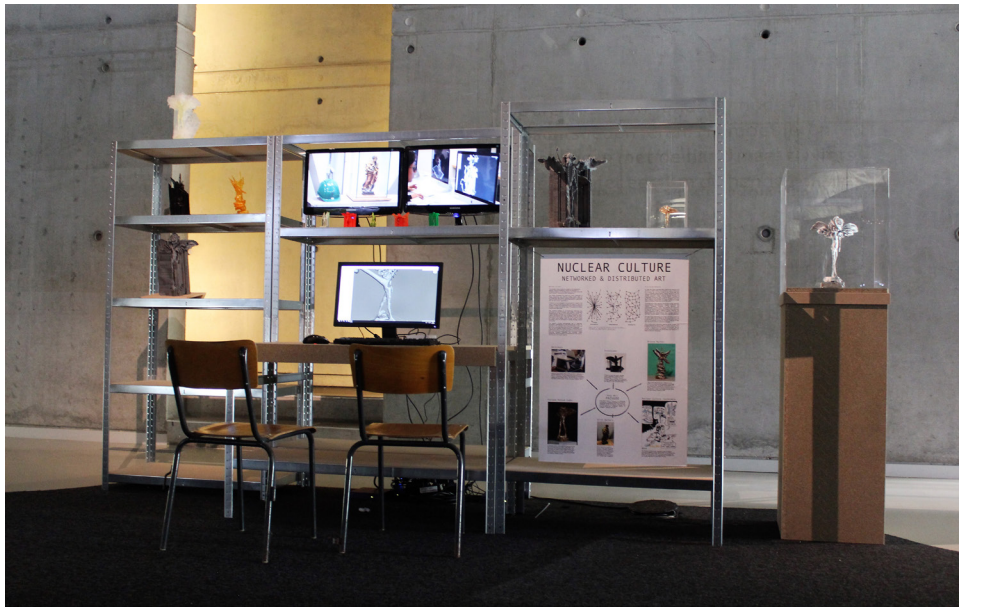

Image 56. Image from Pazugoo Taranaki Marker, collaboration with Jacob Warren (2018). Image by Andy Weir

Image 57. Installation view, Neuhaus, Het Nieuwe Instituut, Rotterdam, 2019. Image by Andy Weir