

11 Objects, energies and curating resonance across disciplines

Katie Dyer and Lizzie Muller

Resonance, put simply, means “vibrating together”. In this conversation, we explore how a focus on the relationship between objects and energies in exhibition-making reveals resonances across disciplines. From physical energies such as gravity and electromagnetism to social energies such as ideology and spirituality, we consider how objects act as “resonant instruments” that express and amplify the forces that shape our world.

In the first half of the conversation, we discuss two exhibitions curated by Katie Dyer (and collaborators) that lay the groundwork for this idea. The first, *Objects and Energies* (2013), connects drawing processes with a feminist approach to perceiving and recording experience. The second, *Gravity (and Wonder)* from 2017, explores gravity as a unifying force of attraction that both literally and metaphorically draws together all objects on Earth. We extrapolate from this to consider how curators can strengthen the experience of attraction between objects and people in an exhibition. In the second half of the conversation, we discuss our collaborative attempt to create atmospheric installations in our co-curated exhibition *Human non Human* (2018). We consider the exhibition as an experiment in “materialising” new materialism – bringing contemporary philosophical ideas to life through sensory experiences. Through discussion of a robotic ceremonial dance machine made by Erub (Torres Strait Island) artist Dr Ken Thaiday with Jason Christopher, we turn our attention to the profound role of Indigenous knowledge in understanding the deep history of human/non-human entanglement.

Resonance offers a productive way to consider how objects and knowledge currently divided in museum classifications can co-exist in exhibitions, which has been a key concern for both of us throughout our careers. *Gravity (and Wonder)* and *Human non Human* drew extensively from the collection of the Powerhouse Museum in Sydney. We have both worked closely for many years with this collection, which contains transnational scientific, technological, design and craft objects spanning millennia.¹ Considering all these things as “resonant objects” provides a way to think across categories, integrate diverse perspectives, and imagine how a museum such as the Powerhouse may transform itself in an era beyond disciplines.

Objects and energies

LIZZIE MULLER Let's begin with *Objects and Energies*, since that exhibition so explicitly takes on the theme of this conversation. What were you trying to achieve with that project?

KATIE DYER *Objects and Energies* was an exhibition about the potential of art to make the invisible visible, and, in particular, it was about the expanded field of drawing as a way of observing and sensing the natural world. It featured three female artists who are inspired by natural phenomena to create objects and images that convey and shape our experience of the world. I had a curatorial history of working with drawing, and became interested in how drawing is a highly interdisciplinary code for communication and perception. Drawings often express thoughts or knowledge that sit beyond a straightforward definition of art; they appear in science, maths, music, engineering, design, etc. Their slippage between mimetic and symbolic is fascinating. I'm introducing this because the practice and uses of drawing opened up for me all these other experiences and perceptions of the world, and helped break down an idea of disciplinary containment in exhibition-making, i.e. "here is 'science' or here is an 'art form' or a 'mathematical proof'" – through drawings these categories could co-habit, creating assemblages of aesthetics, knowledge, and ideas.

At the time I curated *Objects and Energies*, I was directing the gallery at the National Art School in Sydney and we were presenting a touring exhibition of classic, observational, scientific drawings of the natural world. They were remarkably skilled examples from the eighteenth to twenty-first centuries. The emphasis in that exhibition was, of course, on realism, precision, and, to some extent, 'discovery', and unsurprisingly most of the work in the exhibition was by men.

I wanted to stage a companion or counter-exhibition that would offer a different way of thinking about nature, observation, and human perception. My strategy was to present drawings that broke free from an academic or observational mode and that used abstraction, while still relating strongly to the natural world and the thickness of the present. The exhibition featured Joyce Hinterding's work with electromagnetic fields, sound-waves, and drawing. While she experiments with a range of media through her ongoing investigations into the energy of the cosmos, her drawings function as sculpture, installation, sound, and performance objects, with graphite and carbon acting as media and antennae. Agnes Martin's drawings trace vectors of energy that convey her profound experience of being in the desert landscape. The minute fluctuations and the irregularities in the thickness and density of her lines on semi-translucent paper are her response to its expanse, to light, and to something beyond her own reach. I included Brooklyn-based artist, Linda Matalon, who turns paper into semi-fleshy objects by layering and erasing organic materials like beeswax and graphite.

Her post-minimalist drawings were concerned with capturing light, a way of marking time using the energy that emanates from materials.

In this exhibition, I was trying to give expression to the vitality of human and non-human forces. For me, the power and energy in these artists' objects and images doesn't lie in representation, but in their embrace of abstraction – translating and imagining what is in the mind as much as the possible worlds our bodies inhabit.



Figure 11.1 Joyce Hinterding *Simple Forces*, 2013, installation view with Richard Kean, *Objects and Energies* 2014, National Art School Gallery, Sydney, image courtesy of Sarah Cottier Gallery, Sydney, and © the artist, photo: Anthony Whelan.

LM Do you feel there is a female or gendered aspect to the way those three artists deal with energy?

KD There was a feminist approach, but it wasn't essentialist. I was looking at the potential for transmitting other experiences and ways of being in the world. There is a connection to the body materialism of feminism, and thinking about the *ecology* of things as a network of relations that is not necessarily harmonious. There was an expression of knowledge, quite technical and scientific information in the case, for example, of Joyce Hinterding, who was using theories like the Koch Snowflake and the Wunderlich Curve,² but there was an embodied and sensory way of bringing the audience into that knowledge through experience. The ability of those works to animate – to act – themselves and in relation to their positioning with each other produced effects that were subtle and dramatic.

LM It reminds me of Donna Haraway's idea of situated knowledges (1988), which supports the validity of a subjective voice that says "from this

position where I stand, and from my bodily encounter and experience of the world, I create a way to share with you this knowledge”, as opposed to “I tell you objectively the way the world is”.

KD Yes, the works demonstrate other kinds of questioning that manifest through seeking, experimenting, or introducing experiences which are more ephemeral, calm, or even sublime. There was a kind of a visual quietude in these works, as well as an impactful energy around and in them. They were channelling the minute fluctuations, oscillations, or vibrations in the world that we live with, that are amongst us, that are how the natural world is made up.

LM The drawings were all, in a sense, “resonant objects”.

KD Well, that is literally true – objects all have a natural resonant frequency. These artists were using paper and carbon or graphite as materials that transmitted waves or frequencies – light, sound, movement, either explicitly or implicitly. The resonant object idea could be actual in the case of Joyce Hinterding’s work, which transmits the vibrations of the gallery space and resonates with electromagnetic fields. Or resonance could be something more metaphorical as in Martin’s work, where the gentle repetitive movements across her lines are like an echo.

There is also a reaching for the transcendental or even spiritual in these works, or it may be more appropriate to talk about it as the sublime. Energy as an abstract property is defined by branches of physics. But there are other ways you can talk about it from the position of different knowledge systems or cultural practices – what are the energies that imbue human life? What are relations between human and other actants, be they objects and/or energies?

Thinking about the sublime puts an emphasis on the imagination and emotion, as distinct, you could say, from reason and the rational terms we rely on heavily when discussing science. I’m talking about the sublime in the modernist sense of something infinite and unknowable. This “unknowable” creates a sense of greatness that inspires a physical and felt experience of awe and wonder.

The artworks embody phenomena that can be described through scientific terminologies, but are experienced, at the same time, as sublime or wondrous – and the wonder can form its own kind of knowledge or understanding. These works already resonate across disciplinary boundaries, the dynamics between them extended the web of the associations, affinities, and contrasts in relation to perceptions of the natural world.

Gravity (and Wonder)

LM This is the key idea that you worked with in the next exhibition we’re going to discuss: *Gravity (and Wonder)*. A lot of things that were latent in *Objects and Energies* – like the relationship between art and science, the impact of natural invisible forces on our bodies and ourselves

– were re-explored and amplified, or made more explicit in *Gravity (and Wonder)*. That exhibition combined all kinds of objects and considered our relationship to probably the most powerful and famous of forces – gravity.

KD At the point that I curated *Gravity (and Wonder)*³ I had moved to the Powerhouse Museum, which has a vast collection across a wide array of human endeavour, time, and cultures. I wanted to propose curatorial strategies that could generate creative interpretations in relation to scientific and technological exhibitions.

As I got to know the collection better, I was really struck by the abundance of instruments – instruments for measuring energy and matter, and generating power. From here, my research intersected with previous interests I had been exploring around invisible forces, particularly since we had some phenomenal astronomical instruments and artefacts.

Gravity invisibly governs the movement of the world, the shape of space, and the flow of time. As a subject, it can be approached through scientific investigation and poetic exploration. Ultimately, the project explored human fascination with these fundamental aspects of the universe, rather than a lesson in how to understand gravitational waves. The co-curator, Dr Lee-Anne Hall, had closely studied René Descartes' theory of wonder (1995) We knew we wanted to explore this across disciplines since, if you approach it a certain way, you can recognise there is something in science that also retains the romantic or mysterious.

LM Gravity is a very specific, big, important force. Can you talk a bit about why gravity is such a poetically productive force for an exhibition?

KD Gravity moves planetary bodies through the solar system, it impacts the tidal movements of the oceans, it determines the moon's orbit. Something vast and complex like this could be appreciated through Einstein's iconic formula $E = MC^2$. It's a rare example of a scientific formula that has translated into the public imagination: in this case, it describes that what we perceive as the force of gravity, in fact, arises from the curvature of space and time. But that doesn't necessarily override our sensory, emotional, or intellectual experience of gazing at the moon, or marvelling at the tides. These experiences create deeper resonances in ourselves in relation to our place in the world, our understanding of time and a sense of scale and humanity.

In the exhibition, we also considered the human urge to defy gravity. Overtly, in things such as space exploration, but also metaphorically in relation to bodies submitting to or resisting the laws of attraction. Gravity is understood and observed as a force of attraction between bodies of mass in proximity to each other – which is actually a useful framework for describing an exhibition. Defying gravity is a romantic notion; it encapsulates an idea

of escapism and something powerful. There's this lovely sort of melancholy idea that objects are bound to each other, that we are being pulled towards each other and held to the Earth's surface. Clearly, there is an energy in that and in our attempts to defy this.

LM So, we are held together by gravity. And when I say we, it's really the expanded "we". All the bodies, animate and inanimate, that inhabit the Earth – everything from toothpicks to glaciers – is held together by gravity. Your curatorial approach emphasised this idea of gravity as a unifying force of attraction. Through the visual, spatial, and conceptual relationships that you built between the objects, you emphasised how gravity is at work within and between all of them. Can you describe some of the objects and their relationships?

KD An important framing question for my curatorial approach for *Gravity (and Wonder)* was: What kind of knowledges can be translated by creating a "nature–culture–technology" assemblage, and is there a kind of energy – or relational liveliness – that can be achieved with this approach?

An example of this was a group of objects that included Mabel Juli's *Garnkiny Ngarranggarni* painting (2014), Richard Serra's *Prop* (1968), Amy Joy Watson's *Floating Sequence* (2012–2016), and the French electro-mechanical pendulum clock that was used at Sydney Observatory between 1918–1940 (Figure 11.2). Juli's painting depicts a monochromatic crescent moon and high hill, telling the story of the Moon man. This *ngarranggarni* (ancestral law) explores forbidden love, kinship, and the origins of mortality and time, as well as representing the phases of the moon. Serra's *Prop* utilises scale, mass, and volume in his highly codified minimalist visual language. A sizeable lead rod props up a large sheet of lead, the entire structure appears precarious. In this work, he is using competing forces of gravity and friction to create a tension between fixedness and slippage. And Watson's *Floating Sequence* installation created the illusion of gravitational forces and effects upon matter through her use of colourful and playful inflated balloons which were pulling at fragile objects.

The swinging pendulum of the clock governs the rate at which it measures time, and that rate is determined by the pendulum's length and local acceleration due to Earth's gravity. Pendulums demonstrate that the gravitational pull on objects varies depending on location, being weaker for objects higher above the Earth's centre. The Sydney Observatory clock was a highly technical instrument for measuring the time for the State of NSW but, in this group of things, through its very direct association with gravity, it developed a deep resonance with all these other art objects that are occupied with similar ideas or even functions. It became lively – or its liveliness was more readily experienced.

LM That combination of objects demonstrates that it is not only the scientific instruments which are “instruments” – but the artworks themselves are, too. All the objects in the show could be thought of as instruments that tell us about gravity. They are “extra-sensory” instruments that can register the impact of energies that we might perhaps not ordinarily notice in the same way we register sound with our ears, or light with our eyes. But they are also “resonant instruments” – in that they not only register energies, but transform or amplify those energies into a powerful experience for the audience.

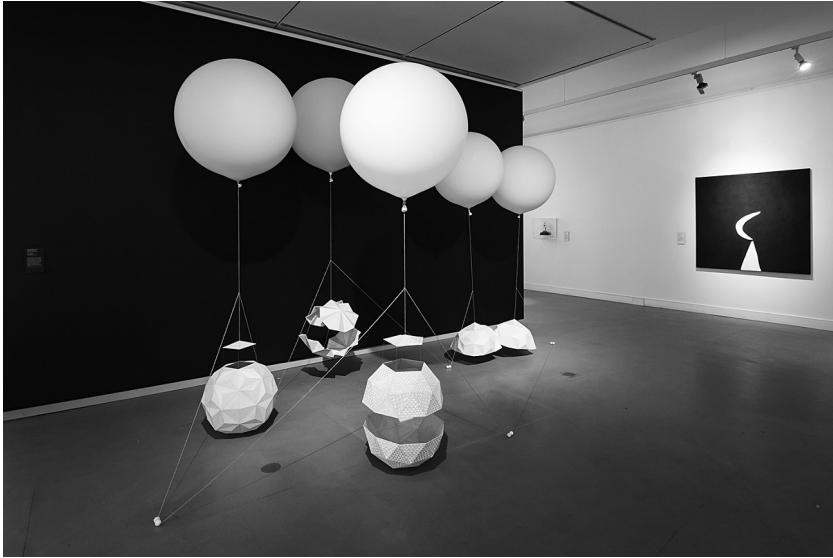


Figure 11.2 Amy Joy Watson, *Floating Sequence* (2012/2016) (foreground) with Mabel Juli's *Garrnkiny Ngarranggarni* (2014) and the Powerhouse Museum's French electro-mechanical pendulum clock (background), installation view from *Gravity (and Wonder)*, 2016, Penrith Regional Gallery, image courtesy and © Museum of Applied Arts and Sciences, photo: Ryan Hernandez.

KD A good example of that kind of resonant instrument is Marley Dawson's *Circle Work (rocket assist)* (2013). It consisted of a 190 cm steel and aluminium circular armature and rocket structure attached to the wall which could be ignited and set in motion. When ignited, it behaved as it must, accelerating at great speed away from the force that propelled it. It wanted to take off, to accelerate into the sky but it was pinned to the wall, so it spun around and around wildly trying to loosen itself and fly off. In its spinning, it created a perfect round circle, a charcoal line drawn onto the wall. When it finally sputtered out and became kind of inert, it had left a deep, rich, charcoal trace on the wall of the energy that had been expended. So, it also marked time and space. *Circle Work* operated in a different way than the clock ticking time and being gently

worked on by gravity. The artwork was an aesthetic “instrument” of imagination and experimentation and physics; it was a big, exploding energy of fire, and heat, and residue.

LM One of the interesting things about that artwork is it’s a frustrated energy. It shows how artworks are very specific kinds of instruments. They’re not just telling us about the impact of energy, they’re telling us about the failures or the feelings of energy. The valences and emotional palette of energy, which isn’t just about, as you say, a clock ticking, but it’s about how time can make us sad. In that work, potential energy is translated into kinetic energy. And the mark that’s made is created through charcoal, which is a kind of burned energy made material. So, there’s a lot of transformation of energy happening through that instrument.

KD Potential and kinetic energies were concepts I was more broadly interested in, in terms of thinking about exhibition-making, object relations, and liveliness. It had developed from my not very rigorous understanding of physics, but I was drawn to those terms as ways to figure curatorial ideas around objects, processes, and relations, to gain insight by thinking beyond disciplinary language and definitions.

Potential energy depends on an objects’ position relative to other objects, so that is a really nice way to think about Marley’s work and its relationship to the objects around it. *Circle Work (Rocket Assist)* was installed next to several historical drawings by the inventor and engineer Lawrence Hargrave, who was a remarkable nineteenth-century pioneer of flight in Australia. The Powerhouse Museum holds his archive and I included a few drawings such as his *Diagram for a flying machine* (1889). It is a technical drawing, but it is also an inventive, inspirational study that was communicating both knowledge and imaginative musings about how to gain the velocity necessary to defy gravity. There’s a transformation of energy between and within Hargrave and Dawson’s works. With both telling multiple intersecting stories about flight, invention, and frustration. Dawson’s sculptural work has actual movement, actual liveliness – it is trying to get velocity and take off, but it is resisted and, in fact, unable to because of the museum/gallery context.

LM It’s fascinating what you say about the museum context being the source of the frustration for Dawson’s rocket. In editing this volume on lively objects, co-editor Caroline Langill and I have talked together, and with other authors, about potential and kinetic energy in terms of museum objects. We’ve speculated that collection objects contain potential energy, which can become kinetic energy when they are displayed. But that often – even when they are on show – their energy remains latent or frustrated due to their curatorial treatment. Can you reflect on this idea of frustrated energy and its relationship to the museum?

KD It's very relevant to my current work at the Powerhouse, as the museum collects and displays the history of technology, and technological objects *do things*. They're functional, they've calculated, they've produced thermodynamic energy, they've transmitted telecommunications and they've flown. For me, there's a kind of provocation to think about all the knowledge that they embody that is stymied because they're not doing the thing that they're supposed to do. I'm interested in how that knowledge can be revealed by artistic or creative interpretations. By co-existing across disciplines, I wonder if artworks and other objects can support each other to become more "active" experientially or conceptually, even when they are physically restricted.

A good example from the exhibition is the relationship between a nineteenth-century French orrery and the *Banumbirr* or Morning Star Poles made by father and son artists Gali Yalkarriwuy Gurruwiwi and Paul Buwang Buwang from Galiwin'ku (Elcho Island, Arnhem Land, NT). The orrery is a mechanical model of the solar system which is hand-cranked to demonstrate how planets orbit around the sun at different rates. For conservation reasons, the orrery couldn't be manipulated by the audience. For me, objects like this become slightly melancholic because the knowledge they hold is intended to be conveyed through the "doing". In their "not doing", they become aesthetic objects of partial information.

The Morning Star Poles are traditionally sacred objects and instruments for knowledge related to the customary practice of the *banumbirr* ceremony. I included several poles all roughly between 100 and 180 cm tall. The poles are made of wood with *raki* (string made from bark fibres and human hair) wrapped around the poles and painted with designs of black, red, white, and yellow ochre bands. Lengths of feathered strings and gorgeous *pul pul* (bunches of feathers) and feather tufts representing the morning star (Venus) are attached to achieve the transcendent beauty of the poles. Ceremonies involving performances with the Morning Star Poles are held annually, marking the passage of the morning star in the heavens. In sacred Yolngu law, the morning star is the bridge between the two halves of the universe – day and night – the star's light touching many clans and sacred sites in its arc.

The nineteenth-century orrery speaks about the movement of the planets in one kind of scientific form. The Morning Star poles in the exhibition are more contemporary works – in the sense they were made recently, but they are based on ancient knowledge – that also convey understanding about the movement of planets. Both are separated from their actual function and physical connection with humans now as objects for display, but as objects in dialogue with each other and the viewer, I feel that they re-animate one another. I hoped that they could inform each other, but also work with the audience to potentially support each other in generating further connections around creativity, ideas, and materiality.

- LM What you're saying makes me think of the way a technical instrument is very much embedded in its discipline. To use a slide rule requires a tacit knowledge of units of measurement and agreed repertoires of calculation. In *Gravity (and Wonder)*, you remove objects from their disciplinary home and question how they continue to signify when separated from their active context. I think you're right that, in some ways, they become aesthetic objects – both beautifully abstract and impoverished in some respects. But then, curatorially, you find more relational ways into those knowledge systems through comparison and association. This strategy flips the knowledge-instrument relationship around. Rather than relying on disciplinary knowledge to understand the instrument, the instrument becomes a kind of metonym for the discipline – standing in for it in a larger conversation about the phenomenon (in this case gravity) with other ways of knowing and understanding.
- KD Right, and through that conversation they reveal something deeper about the reason they were made in the first place. Shared reasons – across disciplines and cultures – around aspiring to learn something or communicate something. In the same way that all of these objects are held together in the world by the force of gravity, they're also conceptually held together by our desire to understand gravity and its effects.

Human non Human

- LM I want to turn to our final exhibition example now, which extends the investigation of energies that impact us to consider their political nature. That exhibition is *Human non Human*, which we curated together at the Powerhouse Museum. In these first two examples, we've talked a lot about the physical sciences but, in *Human non Human*, we also engaged with the social sciences. We moved beyond the physical energies of light, gravity, or electromagnetism into socially constructed energies such as ideology, capital, patriarchy, spirituality. The big force that we were looking at was technological change but, within that, there are many other forces at work, such as the military or economics. Technology has many drivers – desire, fear, profit – but, no matter what drives it, it seems to continue like a force of nature. Could you describe our approach to the show?
- KD *Human non Human* looked at the impact of accelerating technologies on how we might adapt in the future. But our core concern was really the idea of entanglements between humans and “non-humans”, and the fact that liveliness is not specific to the human, or even to the animate – that liveliness spreads around. To really emphasise this sense of entanglement, we tried to create environments where objects felt held together within specific “atmospheres”. We worked with four artists to create four immersive zones or “worlds” based on what we thought of as fundamental aspects of human experience – Liam Young on “work”,

Maria Fernanda Cardoso on “sex”, Lindsay Kelley on “food”, and Dr Ken Thaiday and Jason Christopher on “belief”.

LM So far in this conversation we’ve been looking at energies and their impact on humans. But in *Human non Human* we expanded that to consider this impact or influence as multi-directional, i.e. how humans and our environment and everything that we’re involved with are in a constant process of bringing each other into being through interaction. As you say, it was really about how liveliness is shared out or spread amongst those relationships. And the four worlds or atmospheres were intended to create a way to immerse audiences in those relationships.

KD It was a continuation for both of us of our interests in the different knowledges that can apply not only to our existence in the world, but to the exhibition-making process.

Both of us have worked on this question in respect to art, science, and technology, but we also became very interested in other kinds of knowledges or positions – for example, Indigenous knowledge became very important. The ethical dimensions being explored by the works also became much more prominent.

LM At the time, we were reading and listening to Rosi Braidotti and Donna Haraway.⁴ So this contemporary discourse around human, post-human, and non-human relations was very much in our mind. That made us question, if liveliness is shared out, what are our ethical responsibilities in relationship to those other lively objects? What are the consequences of de-centring the human – both on a species level, but also in terms of the kinds of exhibitions and museums we make? How can an exhibition honour or communicate that relational liveliness? How do we bring that into people’s experience?

Exhibitions are particularly suited to do that because, unlike a book, they’re not linear. They’re not just happening in your head. They’re happening in space, they’re happening relationally, they’re happening with other people, they’re happening materially. I think we both felt there was a contribution that curating could make to this discourse of the post-human by creating an exhibition that tried to bring relational messiness to life.

KD We selected artists who could move knowledge into a sensory experience. That’s one of the things that art can contribute to this discourse – knowledge through aesthetic perception and the senses, which is different than other forms of textual or oral knowledge exchange. But we were also very mindful of trying to move outside of an entirely Western paradigm and that’s why Dr Ken Thaiday’s work was so central to our process.

LM Dr Ken Thaiday’s robotic *Beizam*, was the first work we decided on for the exhibition. It was emblematic for us in the way it combined ancient

knowledge systems with a major movement forward into adapting to technologies of our time. Can you describe it?

- KD Uncle Ken's work was the "belief" component of the *Human non Human* exhibition: we were questioning how beliefs inform the relationship communities have with science and technology, as well as ethical, spiritual, ecological, and social practices. The work that formed the central element of this section is called *Beizam Triple Hammer Head Shark* (2016). *Beizam* means "shark" in the Meriam Mir language of the Eastern Torres Strait Islands where Uncle Ken is from (he was born on Erub Island). This *Beizam*, which he made with Jason Christopher, is a robotic interpretation of the traditional ceremonial dance mask. It consists of a very large central shark's head mounted on a robotic arm, three smaller shark heads are mounted on to this large head, they dance and move according to choreography that was set by Uncle Ken and Jason. Usually, such masks are worn on the body of a dancer, to transform the human body into their totem. In this case, *Beizam Triple Hammer Head Shark* was re-imagined as a robotic dancing machine made with aluminium, steel, Perspex, electrical components, and computer systems. It stood alone, requiring electrical energy to animate it, instead of physical, human energy. Its "performance" was accompanied by an audio track of Uncle Ken singing.

It represents a huge cultural leap, and I think caused a lot of discussion in his community about embracing and experimenting with technology, because art and culture always has and, I imagine, always will. But it also moved that totemic experience off the body and into a machine, it's a really fascinating move in terms of a cultural adaptation.

- LM We've talked a lot about adaptation in relationship to technology in *Human non Human* as a future-focused process but, in this case, Uncle Ken is asking "How can we adapt a very ancient traditional culture using technology so that it can survive?"

- KD In making this work, Uncle Ken was moving across disciplines himself, he was mixing cultural knowledges. He had been making dance masks for years – the kind that were worn on the head – that reflected Islander traditions and clan identity. He called these objects "mobilised artefacts", recognising their transdisciplinary nature. There is a kind of generosity in his practice – of connecting times and cultures, and ways of thinking and existing. It's also relevant that he stopped being able to dance himself, which is maybe not so well-known. He lost the ability to dance and so he made a machine that could dance for him, so it's about personal resilience and continuity as well.

- LM That object, the robotic *Beizam*, has so many kinds of liveliness overlapping in it. As you say, all those kinds of liveliness are animating, or being animated by, the knowledges that co-exist within it. There's a strong connection in that object between how liveliness and different

kinds of knowing come together. The traditional *beizam* that you wear as you dance doesn't *represent* the shark. You *become* the shark. There's a very deep merging between the human and the non-human in that tradition. Then, in the robotic version, there's engineering, electronics, computer coding. There's also a whole load of Western cultural references at work – Transformers, super heroes, other kinds of science fiction cyborgs. And they all come together in this extremely complicated object that connects with both extremely ancient and extremely futuristic ideas. In fact, there's a sense in which the further forward you go, the closer you find yourself to an ancient way of knowing the world, which does not differentiate as sharply between humans and non-humans as we have become used to doing. There's a sense that our moving forwards is bringing us back to an older way of knowing.

KD What was central in that work, and why we think of it as this emblematic object in the exhibition, was that it provides an alternate history of the future. Amidst a growing interest in posthuman discourse and the transhuman idea of leaving the body behind, Uncle Ken's work shows that, at least in Torres Strait Islander culture, the use of objects to transform your body and leave your human form has been practised for hundreds of generations⁵. So, we were trying to put those ideas and manifestations of materiality into dialogue with each other.

LM Another work that connected history to speculative futures was Lindsay Kelley's *Ballistic Bundts*. Kelley's research connects food and



Figure 11.3 Lindsay Kelley, *Ballistic Bundts*, 2018, installation view from *Human non Human* 2018, Powerhouse Museum, image courtesy and © Museum of Applied Arts and Sciences, photo: Marinco Kojdanovski.

feminist technoscience. Her installation resembled a futuristic kitchen where she displayed objects from the Powerhouse collection that connected to food technologies, and a number of beautiful, elaborate, moulded jellies made from ballistics gel. Kelley had made these lovely transparent objects herself in her own kitchen and taken them out to a remote part of rural Australia where they were shot with different calibre rifles. So, once again, those objects are lively in so many complicated ways.

KD Ballistics gel is made to replicate human flesh in the testing of weaponry. It was important not just because of its connection to the political military forces that drive technologies, but also because gel is both an ancient and futuristic technology for preserving food. Gel-based foods feature as emergency foods, as humanitarian foods, and as our space exploration foods.

LM Yes, so gelatine or jelly is itself a kind of lively object, that is emblematic of human/non-human entanglement. Jelly is traditionally made from rendering down animals, so it's an ingestible form of an animal that doesn't look like an animal at all. And, of course, we are what we eat. So, the work references the way new kinds of food technology become domesticated and commercialised, and then become our food. They become us (Kelley 2016: 2–4). This is about forms of energy that transform us through ingestion, through metabolism.

KD There are multiple levels of interspecies violence in those objects, but the human-to-human violence is very striking. These glistening, beautiful jellies that actually convey forces that are quite dark, quite violent. They had some direct biographical impetus for Kelley because her interest in making these cakes and thinking about the body, developed during the US-led war in Iraq when her cousin was deployed as a pilot. She speaks about baking cakes to send to him, and this very personal experience being a kind of index connecting emotional resonances around food to larger geopolitical forces.

LM It brings us back to the idea of potential and kinetic energy, as these objects took a very kinetic form of energy – a bullet being fired – and froze that energy, so that it can be seen. The bullets are lodged sometimes in the gel, sometimes you just see their entry and exit wounds, but you see that process of damage, that explosive violent moment visibly frozen in time. One thing that interests me about that frozen violence was the reaction of the audience. People were fascinated and drawn to it.

KD There was an interactive area of the installation where you could feel several of the bundts. They are extremely tactile and alluring objects, but their density is surprising. You think you're going to touch something wobbly, but it's actually quite firm – like the flesh of a well-trained marine, in fact. It presses back on you when you press on it and it's quite uncanny. People loved touching them, but we were a bit shocked by how violent people were towards the bundts. Within the first 24

hours of being in the installation, the first bundt cake was quite torn apart and its display stand had been ripped out of the floor. It was a weird transference of energy, or maybe a metaphor for the circulation of violence and power. The audience was acting that out. It was fascinating and unnerving.

- LM So, the poor bundt that was destroyed also became a stand-in for all the other bundts that were preserved. I was very interested in that reaction. Anyone who works in any kind of interactive museum setting knows that visitors' interactions can be quite forceful – when there's a button to press, they press it until it breaks. But it also makes me reflect on what we were trying to achieve curatorially in that exhibition. It's an interesting point to end on, this question of the audience's reaction. Because we have raised this question of ethics. We've raised this notion of creating atmospheres for experiencing energies, and questioning our own sense of responsibility and our entanglement with the world. Did audiences come out with a deeper sense of the way liveliness is shared or relational? Or their role in that relationship?
- KD Perhaps that deep sense of the way liveliness is relational can also be understood as a kind of resonance. Thinking of resonance as “resounding” or “sounding out together” – it is not only the objects that vibrate together in these assemblages, the audience is part of those resonant relationships, too. It makes sense for those relationships to have the full range of emotions, attraction, anger, fear, violence, delight. Those are some of the energies we're really trying to bring to the fore in exhibitions, they're the really lively forces.

Notes

- 1 Katie Dyer is Senior Curator, Contemporary, at the Powerhouse Museum where she has worked since 2015. Between 2004 and 2007, Lizzie curated the experimental exhibition venue “Beta_space” within the Powerhouse Museum, and since then has curated two further exhibitions using its collection: *Awfully Wonderful: Science Fiction in Contemporary Art* (2011), with Bec Dean, and *A Working Model of the World* (2017–2018), with Holly Williams.
- 2 The Koch snowflake is a mathematical curve and one of the earliest fractals to be described. The theory was published in the 1904 paper titled “On a Continuous Curve Without Tangents, Constructible from Elementary Geometry” by the Swedish mathematician Helge von Koch: see Clapham and Nicholson (2013). The Wunderlich Curve is a plane filling fractal based on the repetition of a set form or shape: see Sagan (1994).
- 3 The exhibition was co-curated with Dr Lee-Anne Hall, Director of Penrith Regional Gallery at the time. It was primarily on view at Penrith Gallery, and included a small-scale display at the Powerhouse Museum, artist and scientist residencies, and a symposium.
- 4 Rosi Braidotti delivered the University of Western Sydney *Thinking Out Loud* lecture series held at the Powerhouse Museum in 2018, which we attended together as part of our research for the exhibition. We also read and discussed Donna Haraway's *Staying with the Trouble*.
- 5 See Brunt and Thomas (2012: 104).

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