

## SPECULATIVE OBJECTS: MATERIALISING SCIENCE FICTION

Lizzie Muller, Faculty of Design,  
Architecture and Building, University of  
Technology, Sydney, Australia.

E-mail: [lizzie@lizziemuller.com](mailto:lizzie@lizziemuller.com)

### Abstract

In this essay I propose the idea of the 'speculative object' as a way of understanding how some artworks and artefacts function in human experience as philosophical tools. I explore the way in which objects materialize science fictional structures, in particular the way they provoke and support speculative thought.

**Keywords:** Speculative objects, Science fiction, Curatorial practice based research, Awfully Wonderful: Science Fiction in Contemporary Art, Performance Space.

### Awfully Wonderful

This paper is based on curatorial practice-based research surrounding the exhibition *Awfully Wonderful: Science Fiction in Contemporary Art*, which took place at Performance Space, Sydney in 2011 [1, 2]. This exhibition, which I co-curated with Bec Dean, brought together an eclectic mix of science fictional artworks with scientific and technological objects from the collection of the Powerhouse Museum of Science and Design, Sydney. In this paper I propose the idea of the 'speculative object' as a way of understanding how both the artworks and artefacts included in the exhibition function in human experience as philosophical tools that provoke reflection about scientific and technological change, and the relationship of the present to possible futures and alternate pasts.

Science fiction is usually thought of as a narrative genre, primarily experienced through film, television or print. Whether we locate its origins in the Enlightenment or in the Industrial Revolution, there is general agreement that science fiction dramatises our deeply ambivalent relationship to the discovery of knowledge about our environment (science), and the means to influence it for our own purposes (technology) [3]. We both fear and revere the immensity of the universe, just as we both desire and revile the augmentation of our own powers through science and technology. Science fiction has surfed the waves of this oscillation, dramatising utopias and dystopias, helping human beings to think through the ontological and ethical implications of new technological discoveries [4].

Science fiction does this through extrapolation and speculation – that is, it projects from the known into the unknown. It opens up alternative perspectives – whether temporal, spatial, political, interspecies or intergalactic – from which we can see and interrogate our own situation in a new light. In this essay I examine the way in which some objects use or activate this same speculative structure. I ask what happens when science fiction is materialized, when speculative fiction becomes speculative objects (5). To do this I reflect upon a selection of objects from the exhibition *Awfully Wonderful* – both artworks and techno-scientific artefacts – and try to explain the different ways in which they generate or support speculative thought.

### Visualisation and viscerality

Investigating contemporary art (alongside other objects and artefacts) as a materialization of the process of speculation also represents a move away from the question of how science fiction visually represents scientific and technological objects and themes. But it is not necessarily a move away from the rich visual inheritance of science fiction imagery. Curator and critic Patrick Gyger wrote in the *Awfully Wonderful* catalogue of the historic interplay between visualization and science fiction, and of the particularly strong and lasting influence of the graphic imagery of the science fiction pulp magazines from the mid twentieth century [6]. In an acknowledgment of this inheritance, we commissioned artist Deborah Kelly to make a series of works in response to the collection of science fiction pulps held in the Fisher Library of the University of Sydney.

In her collage-based practice Kelly has frequently worked with the imagery of the B movie. Her work offers a feminist critique of the futuristic excesses of our visual imagination, without suppressing what is compelling and attractive in these images. What we (and what Kelly herself) expected to emerge from this commission, were popesque images of alien creatures and women in seductive space outfits. The results however were a much more subtle and transformative response to science fiction's figurative tradition. Figure 1 is one example of a series of 8 collages Kelly produced for *Awfully Wonderful*, collectively titled *Dream of a common language in the disintegrating circuit (with thanks to Donna*

*Harraway)*. They are delicate and exquisite concoctions formed from glamour magazines, erotica, botanical and aquatic imagery. Kelly's artist's statement accompanying the collages connects the fetishized female body of the pulp – in which "lush alien ladies" in "skyscraper heels and skintight spacesuits" teeter into the arms of "reassuringly virile, scientific white men", to a deep history of female transformation and objectification:

*I see fear of monstrous fecundity projected across human millennia from treacherous man-eating seawitch siren lairs through fearsome fairy- and folktales and onto the impossible physiques of fertile future babes.*

**Fig. 1. Deborah Kelly, *Dream of a common language in the disintegrating circuit (with thanks to Donna Harraway)* (2011) (© Deborah Kelley. Photo © Performance Space.)**



The speculative structures of Kelly's spliced images move both forward and backwards in time. They point backwards to myths of human transformation into other kinds of creatures, either through magic, or divine intervention. They explore biological possibilities that are both atavistic and futuristic: invoking our evolutionary inheritance from primordial aquatic forms, and the potential transformation of the human to the post-human through bio-technology. Kelly herself describes them as both pre- and post-mammalian.

Kelly's images imaginatively materialise the potential consequences of

contemporary biotechnology, such as genetic modification, biomimicry, and reproductive technologies. Apart from Donna Haraway, Kelly cites Shulamith Firestone as a key influence in these visual experiments. Firestone's extreme and controversial vision of female emancipation entailed the necessity of "wombless" reproduction. To be truly free, she argued, women would have to jettison that reproductive aspect of female biology.

One of our interpretive strategies for the exhibition was to create an audio guide, based on interviews with scientists, that would explore the scientific realities connected with the artworks. In Kelly's case we interviewed Professor Stuart Bunt, the co-founder of SymbioticA research laboratory for Bio-Art. Whilst Firestone's position may seem extreme, Stuart Bunt claimed in the audio guide that "wombless" reproduction is a significant goal in reproductive science, and that current research with calves and mice is relatively close to bringing a live foetus to term outside of the body. In the case of Kelly's works and many other works in the exhibition, what seems like extreme science fiction is actually surprisingly close to science fact, and perhaps more importantly, to scientific developments that are outpacing our capacity for ethical consideration at a societal level.

One of the roles of these speculative objects is to raise these ethical questions that concern our bodies in a bodily or visceral way. Their concrete physical existence demands a physical reaction. How do we feel about these objects, what do they make us want to do? Do we want to go towards them, or do we shy away from them? As such they become tools for embodied reflection on our own attitudes. Kelly herself described her images as visual scenarios, connecting them to influential methods of strategic future planning used in both business and design [7]. Unlike verbal or narrative scenarios, however, they emphasise instinct and ambiguous possibility over explanatory sequences of cause and effect.

### The World of Things

Figure 2 shows another object that deals with the shifting ground of scientific knowledge, medical practice and ethics in regard to the human, and particularly female body. The object on the right is Dr Bodkin Adam's electro-massage machine, c 1930, from the Powerhouse

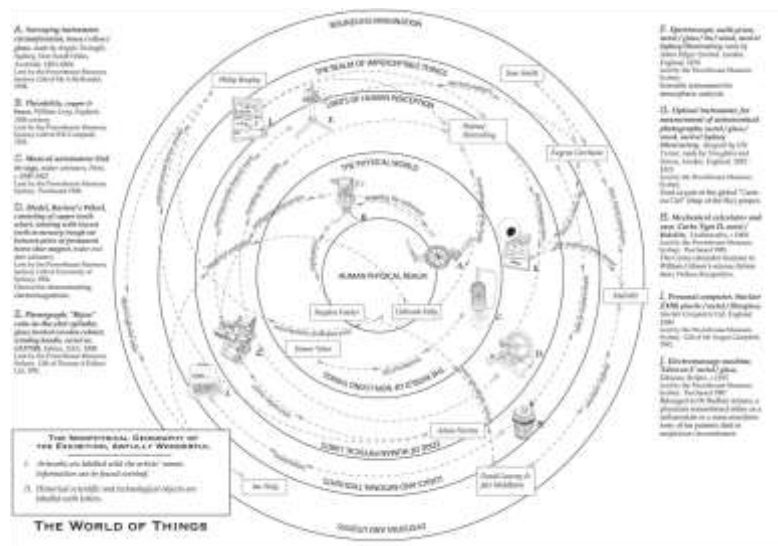
Museum collection. This device was widely believed to cure numerous ailments, including female "hysteria", by the application of vibration. One of the uses of this type of machine was probably as an early portable vibrator. This object, like many of the artefacts in the exhibition, speaks eloquently of the scientific fictions of the past, and the way these beliefs are manifested in technologies and practices that can come to seem out-dated at best, and barbaric at worst. It also tells another, more personal story. Between 40 and 160 of Dr Bodkin Adam's patients died under suspicious circumstances in the 1940s and 50s. He was named in the wills of 132 of them. Recent historians are fairly unanimous in describing him as an unconvicted mass murderer, though many at the time believed him to be euthanasiast.

We commissioned artist Jo Law, whose practice engages with the legacy of the Cabinet of Curiosities and the nature and display of objects, to arrange the scientific and technological artefacts that appeared in the exhibition. She placed Dr Bodkin Adam's massager next to an electromagnetism demonstration device called a Barlow's Wheel, which can also be seen in figure 3. There are numerous resonances and connections between the two objects. Like many of the artefacts displayed, they share material and formal properties such as their polished metal and wooden parts and elaborate cursive inscriptions, which are redolent of "antique" technologies. Law constructed bespoke cabinets for the objects with mirrored bases and sides creating infinite reflections that receded into the distance. This optical effect

**Fig. 2. Barlow's Wheel Electromagnetism Demonstration Device (date unknown), Dr Bodkin Adam's Electromassager (c 1930), Collection of the Powerhouse Museum. (Photo © Performance Space)**



**Fig. 3. Jo Law, The World of Things (2011) (© Jo Law. Photo © Performance Space.)**



heightened the experience of the formal and visual echoes that resonated between objects and artworks in the exhibition. It also emphasized, through its repetitive abstraction, the ‘objecthood’ of the artefacts. Separated from their traditional explanatory contexts (un-labeled and a-historically placed), the objects’ relationships to function and period were mysterious. Intriguing, but opaque, they became the focus of aesthetic appreciation and a source of speculation. By begging the question ‘what might this object be?’ the artefacts invited audiences to engage their knowledge of the history of scientific thought and technological apparatus.

As well as arranging the objects, we also invited Law to create an interpretive map, *The World of Things* (Figure 3.), which charted both the physical and the metaphysical terrain of the exhibition. The map provided details of the official provenance and purpose of all the objects in the show, and also situated them in a speculative taxonomical structure. The map moves outwards in concentric circles from the Human Physical Realm at the centre through two axes: The Physical World, The Limits of Human Perception, The Realm of Imperceptible Things and, finally, Boundless Imagination on one axis, and The World of Non-Living Things, The Edge of Human Physical Limits, Logics and Rational Thoughts and Utopias and Dystopias on the other. Thematic trajectories criss-cross the map, connecting disparate objects. The theme of Technologies of the Body connects Dr Bodkin Adams’ massager with Deborah Kelly’s collages, and the theme of Electromagnetism connects the massager with the Barlow’s Wheel and with *The Clodbusters* (numbers three and four, see Fig.4) by David Haines and Joyce Hinterding that I will discuss next.

### Myth makers and busters

The *Clodbusters* are re-creations of an outlawed technology created by the controversial American Psychiatrist Wilhelm Reich. Like the electro massager and the Barlow’s wheel, *The Clodbusters* speak of the provisionality of scientific truth, the role of performance and belief in science and medicine, and the power relations between expert, amateur and audience that are concentrated around technological artefacts. Reich’s published works, including *The Mass Psychology of Fascism* (1933), and *The Sexual Revolution* (1936), were

significant texts in the development of left-wing political and social thought. Reich developed the theory of Orgone Energy, which was both widely influential and also widely condemned as a fraud. Reich described Orgone energy as a life force that connects all the beings in the universe together. He attributed to it powerful properties, including the capacity to cure illnesses and influence the weather. The Clodbusters, which are intended to seed rain, are part of a suite of machines Reich developed, which were supposed to concentrate Orgone energy in particular ways for particular purposes. The American Food and Drug Administration, a deeply conservative organisation in the 1950s, banned the Orgone machines, burned the books that contained instructions of how to make them, and eventually prosecuted and imprisoned Reich for contravening an injunction preventing the distribution of the machines and associated literature.

Haines and Hinterding, whose collaborative practice often includes the manifestation of unseen forces, have recreated these machines from instructions and remaining documentation of the originals. They are to all intents and purposes functioning Clodbusters. The speculative capacity of these objects derives in part from their ambiguous status. Are they tools or sculptures? Are they functional or fantastic? In eluding clear categories these objects question fundamentally the role of belief, respectability and politics in relation to science and technology. They raise the question: what are we *allowed* to believe?

As with Kelly’s collages, the questions raised by the Clodbusters resonate powerfully with contemporary debates about progress, science and technological change. The Clodbusters speak particularly to the politicization of climate change science and the environment. Geo-engineering (the cause of numerous science fiction apocalypses) is becoming an increasingly likely response to climate change. The idea of engineering interventions to change weather patterns was particularly relevant in Kellerberrin in the Western Australian wheat belt, where these works were made in 2008, as Australia was in the grip of a long drought. Like Kelly’s collages these objects raise these fraught issues with a provocative and, I would argue, productive ethical ambivalence.



**Fig. 4. Haines/Hinterding, Clodbuster Number Three: Orgone Energy Cloud Engineering Device (The Black Ray) 2008/2011. Clodbuster Number Four: Orgone Energy Cloud Engineering Device (Starlight Driver 3.1) 2008/ 2011 (© Haines/Hinterding, Photo © Performance Space**

### Macguffins and story engines

All the objects that I have described in this paper vibrate with numerous stories. They act as fulcrums for the intersecting narratives of scientific history, both personal and global. This capacity to generate stories is a key feature of the speculative object. They operate, in Alfred Hitchcock’s term, as “Macguffins” the “mechanical element” (as Hitchcock describes it), which propels forward the action of a narrative. The Macguffin has always played an important part in science fiction narratives. Generic science fictional Macguffins include the “BDO” or Big Dumb Object, a thing that inspires awe and wonder through its presence, whilst remaining mysterious (the obelisk in Stanley Kubrick’s *2001: A Space Odyssey* is a classic example), and the Novum [8], a fictional innovation that is cognitively plausible, and signals the narrative’s inhabitation of a world different from that inhabited by the reader. Some of the objects included in

*Awfully Wonderful* were physical examples of Macguffins related to famous sci-fi stories – the Curta Calculator and Sinclair personal computer, for example, are the main object-protagonists in William Gibson’s novel *Pattern Recognition*. It is notable that both of these objects are associated with rich real-world stories, and Gibson’s invocation of them in his novel created a compelling mixture of truth and fiction within the text.

We commissioned artist Simon Yates to materialise, through his signature hand-made wood and paper robots, a particularly famous and provocative science fiction Macguffin – *Futura*, the evil, seductive, female robot from Fritz Lang’s *Metropolis* (Fig.5). Supported by helium balloons Yates’ fragile and delicate contemporary version of *Futura* drifted, spectrally around the exhibition. This once powerful and fearful creation was revived in the exhibition as kind of geriatric ghost in the machine. Her haunting presence was a poignant reminder of the way in which the future ages.

**Fig. 5. Simon Yates, *Futura* (2011) (© Simon Yates. Photo © Performance Space.)**



### **Anthropocene**

Whilst many of the objects and works destabilised our view of the past, others offered destabilising views of the future. Apocalyptic, dystopian and post-human visions are familiar terrain in science fiction narratives, and several of the works materialised this terrain in startlingly physical ways. Hayden

Fowler’s work *Anthropocene* (Figure 6.), speaks to the possibility of post-human consciousness, and the relationship that such a consciousness might have to human beings. The Anthropocene is the name recently given to the geological time period during which human activity has had a significant impact on the earth’s ecosystems. The very act of naming this period implies its finitude, and Fowler’s installation allows us to speculate on the possible fate of the human. The work consists of an island covered by grass with a rudimentary cave shelter on top of it. Fowler inhabited the island during the exhibition, wearing a pelt and accompanied, if you looked closely, by three rats.

**Fig. 6. Hayden Fowler, *Anthropocene* (2011) (© Hayden Fowler. Photo © Performance Space.)**



The installation suggests, at first, a museum diorama of a pre-historic dwelling. It looks like an idealisation of a pre-technological, pre-modern form of existence. When you get closer, however, you can see the complicated technological systems that are maintaining this simple inhabitation. The food Fowler is eating comes from tin cans. CCTV monitors show surveillance views from within his cave, wires trail beneath the exposed wooden structure of the island. There is a complex technological infrastructure that supports this primitive way of life.

The rats, which audiences may catch a glimpse of, suggest a hint of an ecosystem, but also a laboratory experiment. Whether this is a zoological or museum exhibit, or an experiment, it suggests that the human inhabiting the island is the subject of scrutiny, perhaps even the cause of wonder and enjoyment for another consciousness. What is

looking at this exhibit? Something stands in relation to this human in the same position that we humans stand in relation to cave men, zoo animals or laboratory rats. In terms of speculative projection, this is an incredibly humbling perspective to adopt.

### **Conclusion: From speculative fiction to speculative objects**

Considering the experience of Hayden Fowler’s island illuminates one of the key questions raised by the idea of the speculative object as a materialisation of science fiction. Is the experience of looking at, smelling, moving around and contemplating *Anthropocene* different from the experience of psychologically inhabiting a science fiction narrative?

The Marxist literary critic Frederic Jameson argues that the “deepest vocation” of science fiction texts is “over and over again to demonstrate and to dramatise our incapacity to imagine the future.” This incapacity is “not owing to any individual failure of imagination but [is] the result of the systemic, cultural and ideological closure of which we are all in one way or another prisoners.”(9). Speculative Fiction is, for Jameson, a mirror reflecting our situation but closed off from it, unable to penetrate or shift our reality (10). In *Awfully Wonderful* science fiction made a three dimensional, and experiential entrance into our own world. The exhibition was filled with objects, like *Anthropocene*, that suggested alternate realities, but at the same time inhabited, with concrete physicality, our own. It is not by any means the aim of this essay to argue for the superiority of physical over textual artworks, but it is interesting to note that

the nature of the experience generated by the speculative objects I have described offers a possible counterpoint to the impasse identified by Jameson. The experience of speculation provoked by these objects is visceral and ambiguous. In the interplay of their impossibility, obsolescence and liminality with their tangible existence, these objects act not only as mirrors of our own reality, but also as portals that allow us, if only fleetingly, to move beyond it.

essay who suggested the following references to support this point:

Lin K, Fu-Hsing T, Hui-Min C, and Liang-Te C (2013). "Effects of a science fiction film on the technological creativity of middle school students" *Eurasia Journal of Mathematics, Science and Technology Education* 9(2):191-2.

Spicer Arwen. (2005). *Towards Sustainable Change: The Legacy of William Morris, George Bernard Shaw, and H. G. Wells in the Ecological Discourse of Contemporary Science Fiction*, PhD Thesis, University of Oregon

## References and Notes

1. *Awfully Wonderful: Science Fiction in Contemporary Art* took place between April 15 and May 14 2011. This paper develops ideas first introduced in my short essay in the exhibition catalogue, entitled: *Speculative Objects And The Total Perspective Vortex*.
2. For a discussion of my particular approach to curatorial practice-based research see Muller, L. (2011), 'Learning From Experience: A Reflective Curatorial Practice' in Candy, L. & Edmonds, E. (eds), *Interacting: Art, Research and the Creative Practitioner*, Libri Publishing, Faringdon, Oxfordshire, U.K, pp. 94-106.
3. See both Anne Cranny Francis (20-24) and Andrew Frost (24-27) in Dean, B. and Muller, L. (Eds) *Awfully Wonderful: Science Fiction in Contemporary Art*, Performance Space, Sydney.
4. My argument here builds on previous work I have done in explaining the aesthetic experience of interactive digital art, which draws on the pragmatist philosopher John Dewey, see Muller, L. (2009) *The Audience Experience of Media Art: A Curatorial Study*, PhD Thesis, University of Technology, Sydney. In *Art as Experience* (1934), Dewey argues that the "work" of art (as verb rather than noun) is to help human beings adapt to the constant changes that we cause and undergo, as humanity cycles through rhythms of challenge, adaptation and growth within our environment. Science fiction, like digital and interactive art, are both concerned particularly with the changes wrought by science and technology.
5. The term "speculative fiction" is used to describe the family of literature that includes both science fiction and fantasy fiction. This essay, and the exhibition it is based on, are concerned particularly with the nature of science fictional speculation that engages with the implications of scientific discovery and technological change.
6. Gyger, Patrick (2011) "In a Strange Land: A Tour Through the Worlds of Science Fiction Art", in Dean, B. and Muller, L. (Eds) *Awfully Wonderful: Science Fiction in Contemporary Art*, Performance Space, Sydney, pp. 27-31.
7. One of the most influential users of future scenarios is the Shell Oil company, who have famously been producing energy related scenarios since the 1970s. Since 2000 the Intergovernmental Panel on Climate Change IPCC's Emissions Scenarios have been hotly debated, showing speculation on future events as a powerful ideological battleground.
8. Suvin, Darko (1979) *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre*, Yale University Press, New Haven and London.
9. Jameson, Frederic (2005) *Archaeologies of the Future – The Desire Called Utopia and Other Science Fictions*, Verso, London pp. 288-289.
10. It is perhaps unsurprising that, as the embers of Marxist revolutionary politics fade, Jameson should claim that it is structurally impossible, within a fictional text to represent an alternative future. Other critics have more recently pointed to the practical and measurable effects of science fiction on individuals and society. I would like to thank the anonymous reviewer of this