

Abstract

The products of tomorrow will be shaped and controlled by the emerging technologies of today. In their current state these technologies can be complex, chaotic, unkempt and unpredictable. Comfortable in the hands of the scientists and engineers responsible for their development but wholly unready and inappropriate for domestic application. The journey of a technology from the laboratory to the home is long and arduous but ultimately happens in quite predictable ways. The majority of products have a lineage that goes back through countless generations, each one a small iteration of the previous. By accepting this lineage, design fictions can do two things:

1. Project current emerging technological development to create *Speculative Futures*: Hypothetical products of tomorrow.
2. Break free of the lineage to speculate on *Alternative Presents*.

These fictions effectively act as cultural litmus paper, either offering tasters of how it might be to live with the technology in question or challenging contemporary applications of technology through demonstrable alternatives.

This presentation will focus on how these two types of fiction are created, how they differ from science fiction, other modes of future thinking and technological critique. More specifically how both methodologies utilise designed artefacts. What informs the development, aesthetics, behaviour, interactions and function of these objects? Once created, how and where do they operate? How can we gauge and understand their impact and meaning?

Keywords

Speculative design; critical design; aesthetics; evolution of technology; design futures

Alternative Presents and Speculative Futures

Designing fictions through the extrapolation and evasion of product lineages.

“All inventions and innovations, by definition, represent an advance in the art beyond existing base lines. Yet, most advances, particularly in retrospect, appear essentially incremental, evolutionary. If nature makes no sudden leaps, neither it would appear does technology.”¹

Just as technology advances in small iterations, so do the products that contain it and present its public face. It is extremely unusual for revolutionary, conceptually original products to enter the market successfully.² Many of the concepts behind contemporary products have a lineage that can be traced back to the beginnings of the last century and beyond. Initially these objects provided clear improvements to the human condition and therefore their value was obvious and their introduction unquestioned.³ Now, many generations later we find ourselves very far from where we started but as a consequence of the incremental nature of this progress, it has mostly gone unnoticed. To employ a simple culinary analogy: We are like lobsters long since plunged into a pot of cold water and slowly but surely the temperature is rising as we begin to boil in our own juices. This metaphor is perhaps over dramatic and erring towards the negative but it does fairly describe our relative unawareness of the technological journey we have found ourselves on. There are still few discernible methods for questioning this journey outside of the traditional philosophical routes⁴ and whilst these are undoubtedly valuable their activity rarely breaks through the walls of academia.

Speculative design and the fictions born of it is one attempt to facilitate a more democratic and accessible method through which to explore and question technology and its application in our everyday lives. This application and the research behind it have become so entwined with market forces, shareholders, notions of efficiency and political agendas that the original values, motivations and meaning of its progress have become obscured. The primary function of many modern products is to make profit, and whilst there is obviously a relationship between its potential to do that and the quality of the artefact, more complex influential factors have come into the equation such as brand worship, status symbols and the role of fashion. The modern designer sits somewhere in the middle of these factors, juggling with micro-trends, brand identity, rapid increments in technological capabilities and the fundamental need to play to market forces.⁵ This is design fact.

Design fiction can remove these commercial and real-world constraints to re-imagine our technological developments as free⁶ from shareholders, brands, politicians and the well-trodden conservative paths that have brought us to where we are today. It can be a space for dreaming, challenging and awareness raising:

Existing paradigms can inform design fictions: ‘Speculative Futures’ imagine, through the extrapolation of contemporary systems, near future products and services. These

¹ Heilbroner, Robert: Do Machines Make History, Essay in Kaplan 2004

² There is some debate about the truth of this statement; for some inventions come through the labour of individual geniuses such as Edison and Ford. For a convincing argument for this case see: Basalla 1988.

³ There are exceptions such as in the Amish community, see Kraybill, 1999.

⁴ Philosophy of technology as practiced by the likes of Heidegger, McLuhan, Ellul etc.

⁵ There are obvious exceptions, but here we talk predominantly about designers in the employ of large companies responsible for producing the majority of available contemporary products.

⁶ Of course design fictions can also exist within the commercial context but here there is by necessity a positive spin on the technology, changing the fundamental motivation and therefore the freedom of practice.

are intended to act as a form of cultural litmus paper, testing potential products and services before they exist.

'Alternative Presents' are design proposals that utilise contemporary technology but apply different ideologies or configurations to those currently directing product development. Here we break free of lineages to question why things are the way they are.

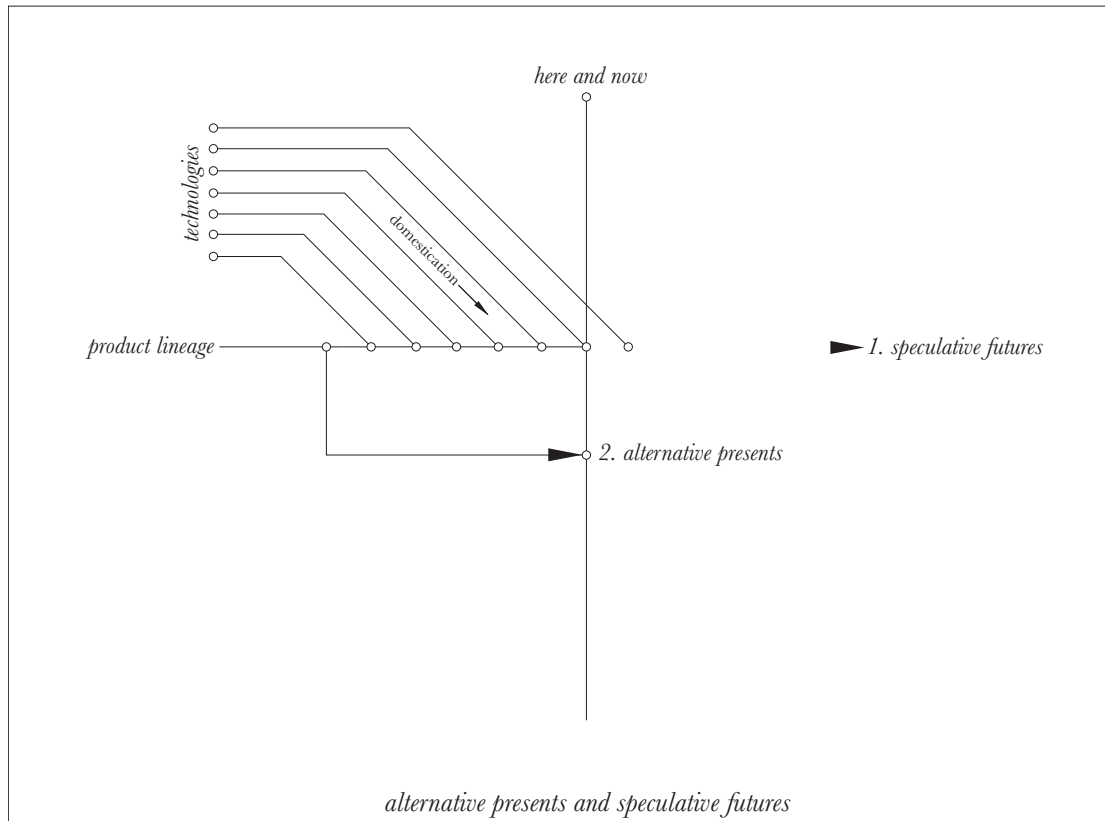


Fig.1: Alternative presents and speculative futures.

At the origin is the here and now; everyday life and the real products that are available on the high street. The lineage of these products can be traced back in time to where the technology became available to iterate them beyond their current form. The technology element on the left hand side represents research and development work, the higher the line the more emergent the technology and the longer and less predictable its route to everyday life (domestication). As we move to the right of the diagram and into the future we see that speculative designs exist as a projection of the lineage, they are developed using a methodology that focuses on contemporary public understanding and desires and extrapolates these through the imagined appliance of an emerging technology. Alternative presents step out of the lineage at some poignant time in the past to re-imagine our technological present. These designs challenge and question the existing systems and objects that arise from current modes of manufacture.

Speculative Futures and Alternative Presents: A design methodology.⁷

How do we design compelling and believable fictions and what differentiates these from other disciplines such as science fiction, technology fairs and concept exhibitions? Here I will list a few of the key methods, observations and tools used in the design process, exemplified by personal case studies⁸. Firstly though it is necessary to briefly mention the semantic issues surrounding this space. Foremost it *is* a design discipline; this has been challenged by some who would argue that design, by necessity, should focus on solving problems and bringing products to market. To this we counter that design must also be reflective and capable of questioning itself and its role in shaping the products that mediate our lives.

More importantly the design label is tactical, here Tony Dunne describes a critical design methodology but the point remains the same:

‘Critical Design needs to be closer to the everyday, that’s where its power to disturb comes from. Too weird and it will be dismissed as art, too normal and it will be effortlessly assimilated. If it is regarded as art it is easier to deal with, but if it remains as design it is more disturbing, it suggests that the everyday as we know it could be different, that things could change.’⁹

Secondly, we use the qualifiers (critical, speculative, fictions) carefully and dependant upon the audience to whom we are presenting. By labelling a designed object or service ‘a fiction’ or ‘a speculation’ renders it impotent, not real and therefore less threatening or engaging. The object that *could* be owned has far more power to challenge, upset and invoke poignant reaction.

How to design the speculation: The ecological approach.

“I think everyone expected to see a man emerge.....But looking, I presently saw something stirring within the shadow: greyish billowy movements, one above another, and then two luminous discs – like eyes.....A big greyish rounded hulk, the size, perhaps, of a bear, was rising slowly and painfully out of the cylinder.....The incessant quivering of the mouth, the gorgon groups of tentacles, the tumultuous breathing of the lungs in a strange atmosphere, the evident heaviness and painfulness of movement due to the greater gravitational energy on earth.....Suddenly the monster vanished. It had toppled over the brim of the cylinder and fallen into the pit, with a thud like the fall of a great mass of leather.”¹⁰

⁷ We have to be careful with the word speculation due to its close links with markets and fiscal gain. The speculation here is fundamentally not about gambling on futures for profit-based motives. Here we are interested in cultural and social speculation: What we as people stand to lose or gain by the technological choices we make or have made.

⁸ The projects here (with the exception of HappyLife) have been produced in collaboration with Jimmy Loizeau under the name Auger-Loizeau.

⁹ From the website: <http://www.dunneandraby.co.uk/>

¹⁰ Wells, H.G., 2004.



Fig. 2: Spielberg's alien

"I tried a bunch of different heads, but Steven Spielberg wanted to pay tribute to the shape of the spaceship in the original movie," Sims said. "No matter what I did with that head, we always went back to this shape. For the eyes, Spielberg kept saying they should be overly dilated, refracting with light almost like you'd see in a cat.

"Spielberg wanted one leg in the back and two in the front. At Stan Winston's we did an animation of the alien crawling on the ceiling, showing how his legs would function as arms as well and pick stuff up while using the other leg to balance."¹¹

Here we have two descriptions of the Martians from 'The War of the Worlds.' The first from the original novel by H.G.Wells (1898) and the second from Steven Spielberg's film version (2005). If we take the Martian as a speculative object we can compare the two approaches to its design. The question I pose here is not which interpretation is the most compelling, engaging, terrifying or memorable but which is the most probable or relevant to those genuinely interested in knowing what Aliens might look like. The celluloid version has a certain familiarity, resembling many other filmic depictions of disconcerting aliens in recent years. It displays its physical superiority to humans with a cat-like deftness as it employs its several arms to move three-dimensionally around the room. It is without question captivating and terrifying and therefore perfect as a form of entertainment, which perhaps was the primary factor in its design. Wells' Martian on the other hand is clearly suffering, ungainly, awkward and struggling to cope with Earth's gravity. Wells trained as a biologist¹² so would have a good knowledge of the concept of adaptation.¹³ Although we have no proof, logic suggests that Martians would be mal-adapted to life on Earth and his depiction applies this theory to inform the design of the Martian. This could be described as an ecological approach to designing fictions and is an extremely useful tactic when looking where and how to inform the design process. To gain a broader insight it is helpful to refer back to natural ecology itself:

"[W]hen an ecologist says 'there goes a badger,' he should include in his thoughts some definite idea of the animal's place in the community to which it belongs, just as if he had said, 'there goes the vicar.'¹⁴

This approach seems simplistic and obvious but on closer examination serves to eloquently explain the complexity and importance of context when thinking about the existence of (real) things. To truly understand something it is imperative to consider not just the object in isolation (vicar) but also who and what it interacts with (congregation, religious artefacts), the physical environment (church, cemetery), the politics and systems that make up the society (religion/culture) and how all these factors relate and interact with each other (moral order). This understanding of the ecology of things can also be applied to objects in the domestic environment: Any design project starts with generating an understanding of the variables involved. For example, if a client asks a designer to develop a coffee machine, they probably start with the fundamental question: Whom are we designing for? Are they more influenced by the quality of the coffee; the efficiency of the system; the form of the product; the

¹¹ From the Wired interview with Aaron Sims: <http://www.wired.com/underwire/2008/12/monster-man-beh/>

¹² Wells had a 1st class honours degree in Biology from the Normal School of Science in London.

¹³ The *Oxford Dictionary of Science* defines *adaptation* as "Any change in the structure or functioning of an organism that makes it better suited to its environment"

¹⁴ Elton, Charles: *Animal Ecology*, Sidwick and Jackson Ltd, 1927

cost? What technology should be incorporated: Coffee grinder? Coffee pods? Milk steamer? What are the current trends in coffee machines? What manufacturing processes do we have at our disposal? And so on. Only when we truly understand the customer and the context in which they exist can we begin to design for them.

Many speculations or visions of the future fail to resonate due to the simple fact that they are conceived without real consideration for who would use them or where they would be used. They project too far, exhibiting far-fetched capabilities, or like Spielberg's *Martian*, adopt stereotypical futuristic aesthetics that make them entertaining, tantalising and impressive but too far removed from contemporary life to threaten. If we design speculations with the same basic methodology as any design project, specifically focusing on a target audience and where and how that audience exists then the results have a much stronger chance of personally resonating with them.

From technology to product: Domestication

If the ecological approach can inform the landscape of where the speculative object is to exist, then the concept of domestication can inform how to get there. No object is born into the domestic domain; it is through a long and arduous journey that a technology may find a place in our lives. One insightful example of successful domestication is the wolf. Over an approximate 12'000 year period the wolf has gone from existing in a natural ecosystem complete with predators, prey, hierarchy conflicts and food chains to the domestic ecosystem with few predators, no food worries, warm shelter and most importantly a complex symbiotic relationship with man.



Fig.3: biotic to domestic

Over many years of selective breeding the wolf lost its wilder tendencies, developed puppy like aesthetics and learned to satisfy the complex and ever changing needs, values and desires of man: 'If you could read the genome of the dog like a book, you would learn a great deal about who we are and what makes us tick.'¹⁵

¹⁵ Pollan, 2001. p.xv

Emerging technologies could be compared to the wolf, offering glimpses of potential usefulness but raw, slightly wild and complex. Comfortable in the lab environment (their natural habitat), operated by scientists, engineers and other experts in the field, they need to go through a period of domestication before they are suitable for application in the home.



Fig. 4: EDSAC, Cambridge 1949



Fig. 5: Apple iMac 2007

By researching emerging technologies,¹⁶ and of course having a good idea of ‘what makes us tick,’ the designer can speculate on the types of products that could arise through the domestication of that technology. Imperative here is to acknowledge the complexity of people; their desires, nuances, fears and aspirations. In this way the speculative artefacts and the fictions they carry become more tangible, compelling and relevant.

Case Study: Function – Audio Tooth Implant

When we are exposed to future concepts it is with our contemporary sensibilities that we judge them. Applying the lineage theory described in fig.1 we can closely analyse recent iterations in specific products and project these into the near future. This is effectively applying new technological developments to contemporary trends and fashions. These fictions more resemble design facts: real proposals that can induce the product consuming audience into genuinely believing that the concept is real.

This approach was employed in our project, Audio Tooth Implant (2001):

¹⁶ This often involves collaborating with scientists: see HappyLife, p.11

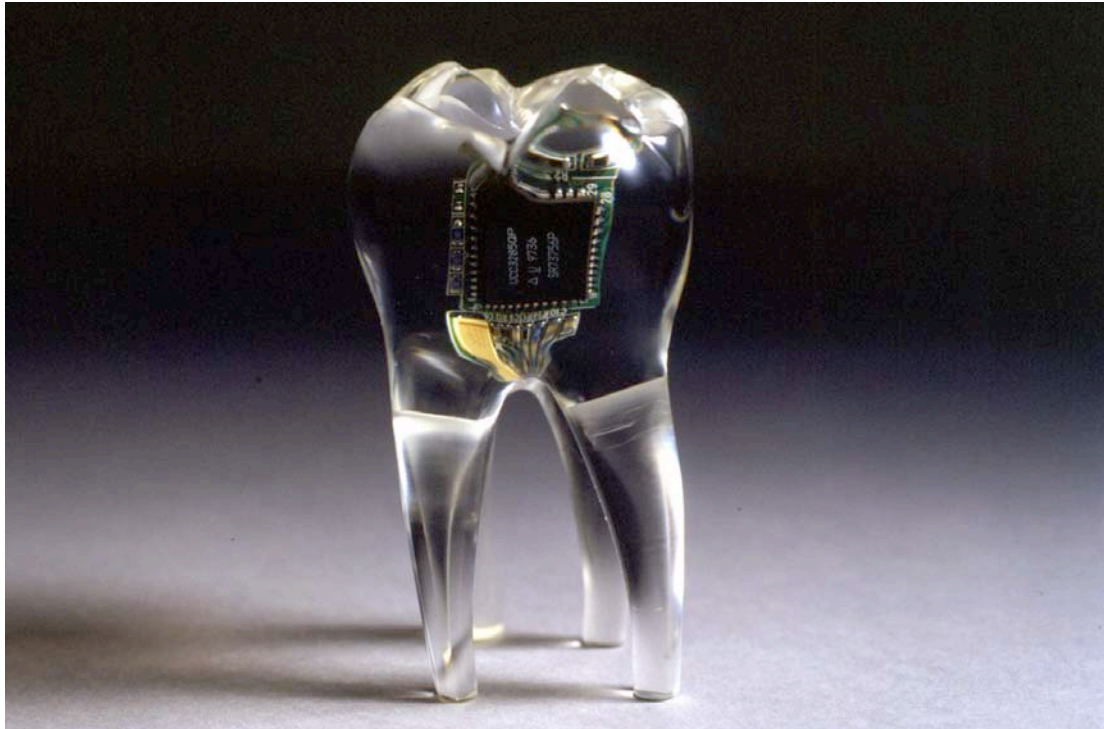


Fig. 6: Audio tooth implant (Auger-Loizeau, 2001)

The primary aim of the project was to question implantable technology for human enhancement. The concept relies on a combination of general public awareness of hard and well-publicised facts such as the miniaturisation of digital technology, urban myths such as dental fillings acting as radio antenna and picking up audio signals and the rising popularity of mobile communication technology. Also necessary to convince is a description in layman's terms of the technology involved. With the tooth implant we were assisted in this by approaching research scientists at a large telecommunications company who offered the following:

"The moisture in the cheeks effectively make the inside of the mouth a faraday cage: a radio free space. Therefore the chip would have to receive low-frequency radio in the order of 150kHz. This signal would energize the dormant chip implanted in the tooth through near field magnetic effects. A transducer transforms this sound information into micro vibrations which through the process of bone transduction are transmitted along the jawbone and directly into the cochlea where they are experienced by the wearer as normal sound."

We consciously chose the tooth as an entry point for the implant as this is the least invasive surgery available creating a tangible balance between cost and benefit.¹⁷ We imagined a fictitious company, MIBEC (Microscopic In Body Electronics Corporation) based in Cambridge to be behind the concept and put together a publicity film describing how it works, where it might be used and what the advantages the user might reap. With this material we took the project into the public domain.

When the proposal works as intended the designer can sit back and take advantage of the media to disseminate the concept in a manner far beyond anything achievable by the individual. With the Audio Tooth Implant our initial goal was to be published in both 'Wired' magazine and 'The Sun' newspaper. This describes the breadth of

¹⁷ Around the same period Kevin Warwick of Reading University was generating publicity for his Cyborg 1.0 project. Exploring similar issues, Warwick had an RFID tag implanted in his arm enabling him to automatically unlock his office door and turn on lights. The question we ask is would one be willing to experience invasive surgery on a body part for such basic added functionality. See: http://www.wired.com/wired/archive/8.02/warwick_pr.html

audience we hoped to reach: From the technology savvy reader of Wired to the tabloid, jingoist lowbrow sun with an average daily readership of 7,733,000 people.¹⁸

This process involved the sculpting of a model tooth (fig 6.). This model was photographed in a studio and used to accompany the related text description of the concept. We discovered that this was really enough for the media to happily publish the concept requiring no further proof of reality or status.¹⁹



Fig. 7: Publicity for Audio Tooth Implant.

Using the media allows for a concept to travel far and wide, working particularly well with new media such as Internet news sites and blogs due to their viral like nature. The designer has to be aware that in this space they have little control or ability to manage dissemination once in the public domain, thus concepts mutate and facts become embellished. With projects like the tooth implant this is not problematic as the core concept is simple enough for the message to be carried throughout, here it was simply the availability of an implantable piece of enhancement technology. The presence of this simple piece of information in the popular press allows for a vast audience to contemplate its meaning, occasionally offering comment and opinion:

Dear Mr's Auger and Loizeau,
 As a physician I believe the technology you describe in your press release, has the potential for producing immense social harm. This social harm would include psychological trauma, and angry behaviour in both the workplace and the home.

.....

XXXXXXXX X. XXXXXX, MD
 Associate Professor of Medicine,
 (Cardiology)
 Stanford Medical School.²⁰

Case Study: Form – Carnivorous Domestic Entertainment Robots

A brief foray into the world of design will yield a plethora of styles and languages. The domestic landscape is complex and varied but it is into this physical space that our speculations must exist if they are to be taken seriously. Many of the future visions we see at technology fairs and corporate publicity events are developed with entirely different motivations to those described here and as a consequence they can be

¹⁸ Source: <http://www.nmauk.co.uk/nma/do/live/factsAndFigures?newspaperID=17>

¹⁹ For example, the only dialogue we had with Time magazine (who called it 'one' of the coolest inventions of 2002) was how much we would charge for them to use the image of the tooth in the magazine.

²⁰ The whole correspondence ran two pages of writing offering a detailed description of exactly how and why the Tooth Implant would cause immense social harm.

about ostentatious displays of engineering prowess, marketing or hidden political agendas.²¹

One classic example of a speculative vision of the future is the robot. These often exaggerate their mechanical heritage by showing exposed metal, gears and cables. Alternatively workings are hidden by sleek, shiny, stylised, futuristic plastic and chrome. The fact that they are objects of the future leads to designers shaping them in a futuristic manner. In this way they resemble characters from science fiction, not tangible near future products with the potential to seamlessly enter our lives.



Fig. 8: Asimo by Honda Corporation (2000 -)

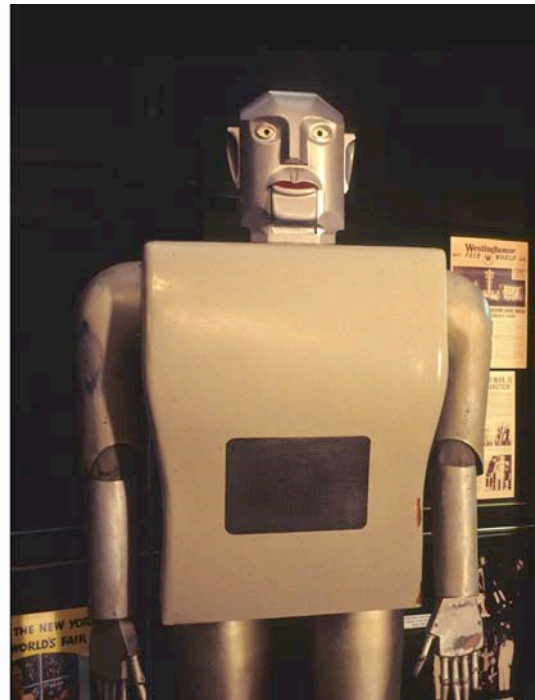


Fig. 9: Electro by Westinghouse. (1939)

By applying a standard design approach, specifically a sensibility towards the domestic landscape and the people who live there, an entirely different aesthetic is born. This approach was adopted for our series Carnivorous Domestic Entertainment Robots (2008). Their formal style was informed by contemporary movements in furniture and household design with the primary intention of creating desirable objects.

²¹ Richard Barbrook's 'Imaginary futures,' offers an insightful explanation of the technologies on display to the public at the New York World Fair in 1964 and the hidden cold war agendas behind them.



Fig. 10: Carnivorous Domestic Entertainment Robots (Auger-Loizeau, 2008)

The obvious disparity between these and normative robot forms encourages the viewer to challenge their preconceptions on the subject, whilst their familiar domestic language allows for their presence to be more easily projected into the home environment. This has the effect of drawing the audience into the fiction; the more complex motivations behind the project can then begin to unravel. This complexity means that the mass media approach to dissemination is problematic and whilst the Carnivorous Domestic Entertainment Robot series has received much publicity on internet forums, websites and newspapers, the level of comment and discussion is predominantly of a facile nature and the larger philosophical issues become lost. Far more successful as a means of presentation are the gallery space, conference or more intellectual media where the real questions underlying the concept can be discussed.

Case Study: Interaction - Happylife

How we interact with technology and how we interact with products can be seen as two entirely different activities. Predominantly technology is used by experts for specialised functions in well-defined contexts. The development of technologies emerging from these areas and can be motivated by extreme circumstances and pressures such as defence and national security. In these contexts this development mostly goes unquestioned as it happens outside of public knowledge or during times of conflict where the worst-case scenario would be infinitely worse than the application of the technology. It is however, often via these channels that technology creeps into everyday use. One ongoing example of this shift is the (pseudo) science of polygraphy. With a history going back over a century, lie detection devices were originally tools used by experts on potential criminals, spies and paedophiles. Although the credibility of lie detection devices have long been in question their progression into popular culture is ongoing. We now regularly see lie detectors on daytime reality television programs being used to mediate family disputes and solve fidelity issues. Interaction is still through 'technology' and an expert, as this adds to the spectacle and enhances the sense of technological infallibility.

As sensing technologies become more capable their potential to play a substantial role in our everyday lives becomes evermore likely. To fully achieve this they must mutate into products or become part of our domestic spaces. Here is where their impact would be fully felt, in the everyday, mediating normal interactions and experiences.

These issues were explored in a recent project, 'Happylife', created in collaboration with Aberystwyth University Computer Science Department. The project was part of the Impact exhibition, a collaboration between science and design exploring the importance of engineering and physical sciences in all aspects of our lives.²²

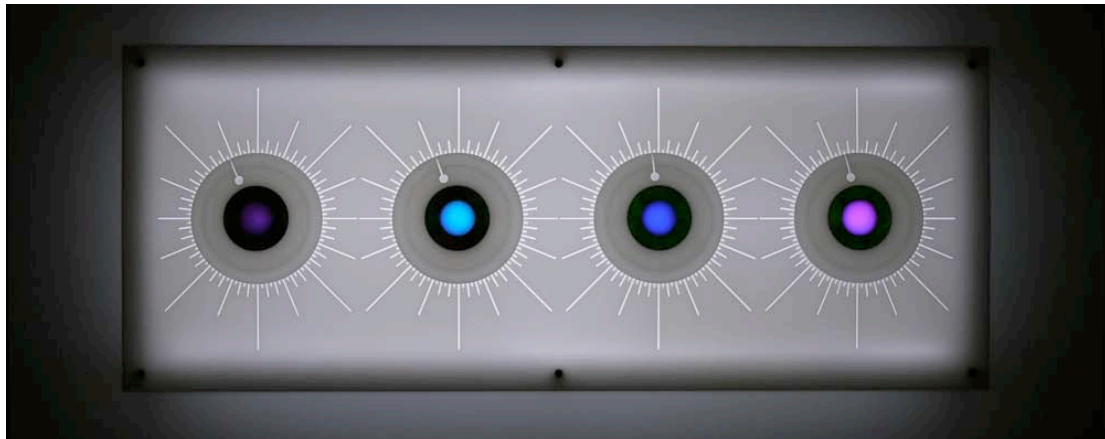


Fig.11: Happylife display (Auger/ACSD, 2010)

Aberystwyth's ongoing research involves utilising a high-resolution thermal image camera to detect malicious intent in individuals passing through border control points. The camera detects minute changes in temperature in various predetermined areas of the face and track these changes over time, for example as stress levels rise during periods of questioning.²³



Fig.12: thermal image camera

²² 16 Science research teams were paired with designers from the Royal College of Art, Design Interactions Department to work together to produce conceptual designs.

²³ During initial testing the camera showed substantial thermal differences during different conditions. For example during tests for stress induced by lying core temperatures around the eye area went up and in the cheeks went down. Reading poetry to the same test group had the opposite effect.

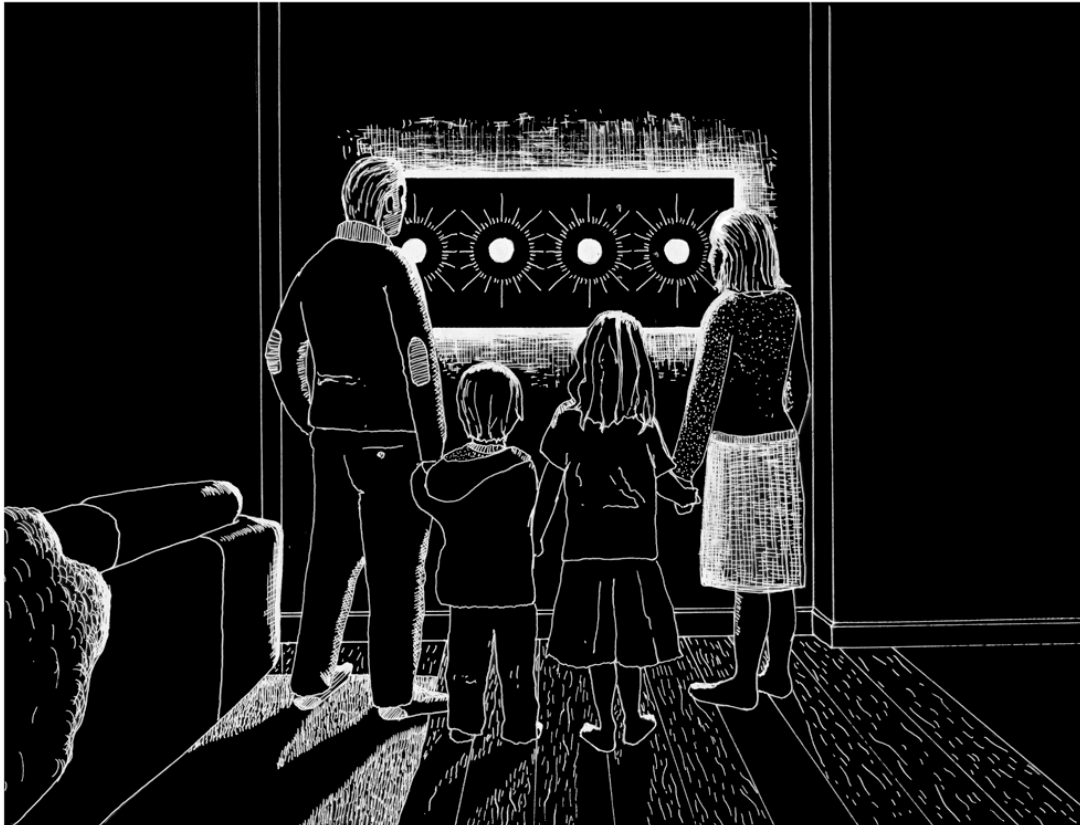
The fiction begins by applying the camera in a family home and imagining the effect of its presence over a period of 15 years. This shift of context is primarily intended to remove the obvious justifications that exist when applied to national security and border control.

The design of the device presented a complex challenge. Stylistically it was required to meet the same criteria as described earlier, looking comfortable in the modern home. Falling into the domain of the smart home and elements of affective computing,²⁴ I was aware that several previous research projects had explored issues of mood reading and mediated ambience. It was important for this project to move beyond these issues for it to enter into a space similar to Freud's uncanny,²⁵ in this way the function of the technology moves beyond the banal into an uncomfortable domain where its presence should be both questionable and dark but at the same time understood and occasionally beneficial.

This was achieved by playing to the real life happenings of the nuclear family in their home. In the home interactions are personal, influenced by real life experiences, emotions and issues. We built a visual display (Fig. 11) linked to the thermal image camera (Fig.12). This employs facial recognition to differentiate between members of the family. Each member has two rotary dials, these show current state, taken from the most recent thermal image and predicted state, based on the processing of accumulated statistical data. There is no written calibration on the dials; it is left to the viewer to interpret the position: 'Is it where it was this time last month?' 'Why is my wife's dial so far round?' Thus inducing contemplation and questioning on issues that might otherwise have gone unnoticed. It is technology introduced into the most personal and emotional aspects of human life, mediating relationships and predicting moods. To communicate some of the possibilities of the concept, five complex narratives have been presented as vignettes, written in collaboration with poet Richard Marggraf Turley:

²⁴ The study and development of systems and devices that can recognize, interpret, process, and simulate human emotions.

²⁵ The Freudian concept of an instance where something can be familiar, yet foreign at the same time, resulting in a feeling of it being uncomfortably strange.



It was that time of the year. All of the Happylife prediction dials had spun anti-clockwise, like barometers reacting to an incoming storm. We lost David 4 years ago and the system was anticipating our coming sadness. We found this strangely comforting.

Fig.13: Happylife scenarios (1 of 5)

The aim of these was to highlight poignant real life family scenarios that the audience might relate to. Should these narratives have been wholly dystopian then their ability to invoke contemplation and discussion would have been limited. It is a common trait of science fiction to err towards the negative and the shocking when describing emerging technologies. In the case of smart homes for example both Ballard's psychotropic house from 'The Thousand Dreams of Stellavista,' (1962) and Ray Bradbury's Happylife Home from 'The Illustrated Man' (1952) from which this project takes its name, culminate with the smart home subjecting the characters to dark and threatening physical and psychological trauma. This results in the fiction being of a cautionary nature. Design fictions should sit on the fence; their strength coming from the viewer being encouraged to draw their own conclusions.

Case Study: Alternative presents – Iso-phone

Here we have a slightly different methodology. As we are shifting the here and now we effectively create a new ecology; a space for suggesting how things could be should we choose alternative influences or motivations to those directing mediated experiences today. The Iso-Phone was developed at Media Lab Europe (the European partner of the MIT Media Lab) in 2003.

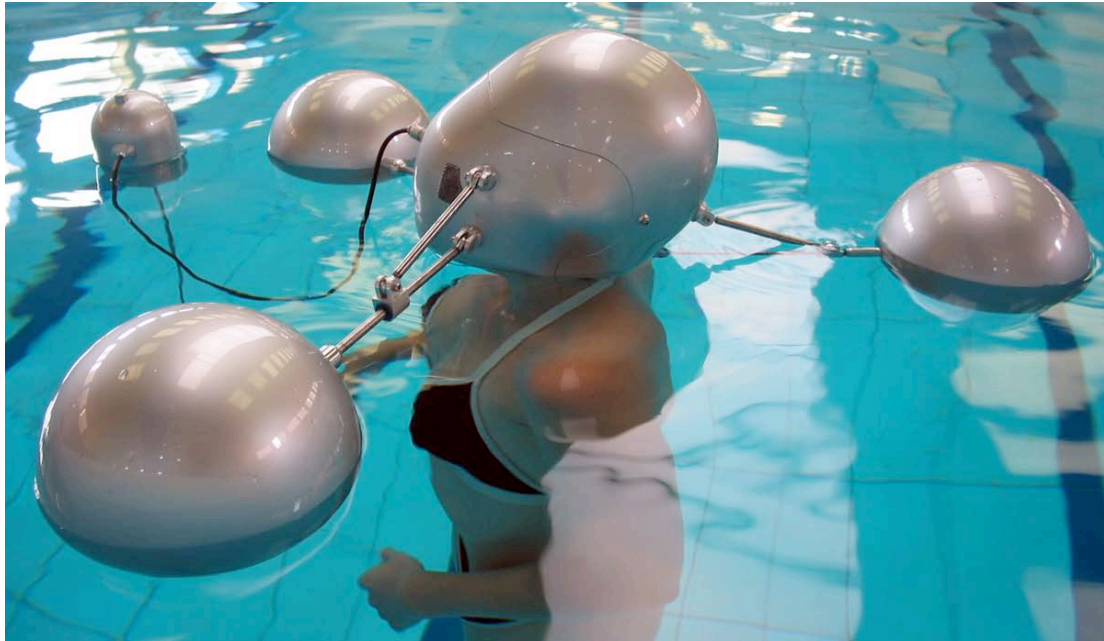


Fig.14: Iso-phone (2003)

The caller is floating in a pool, wearing a helmet that blocks out all peripheral sensory input whilst keeping the head above the surface of the water. The water is heated to body temperature blurring the boundaries of the user's body. In combination, a space is created to provide a pure, distraction free environment for making a telephone call. The only sensory stimulus presented is a two-way voice connection to another person using the same apparatus in another location.

Again acknowledging the rise in popularity of the mobile telephone in contemporary society, this project challenged the experiential quality of mobiles as communication devices. The wires that connect a product to an environment effectively dictate the aesthetic experience. In the case of the telephone box²⁶ the designer didn't just consider the product (the telephone) but also the environment in which it would be used. The phone-box withdrew the caller from normal public street activity into a temporary interstitial space; a sensory dislocation facilitating a focus on the tele-conversation and a diminished feeling of the 'real-world.' Wireless technology breaks these contextual chains and as such it is no longer the designer who dictates the setting of the conversation but the user. This represents a profound step in the way technology is experienced. This project addressed this issue by creating the perfect contextual conditions for remote conversation thus challenging the move towards efficiency and shallow interactions as provided by mobile telephones and the services they facilitate.

Judged by contemporary sensibilities these fictions can seem far-fetched. Whilst the Iso-phone was built as a fully functioning prototype, it was taken less seriously as a concept than the Audio Tooth Implant, which was from a technical perspective, pure fiction. This is not really surprising as stepping out of well established and popular systems to imagine new ways of behaving, no matter how sympathetic to real human needs, alienates through the inherent strangeness. Here subtle methods of dissemination are imperative if the concept is to be taken seriously. If the concept has the potential to operate on a fully experiential level, inviting the audience to participate can entirely overcome the conceptual oddness.

²⁶ For example the classic British telephone box designed by Sir Giles Gilbert Scott.

The Iso-phone was built as a fully operational prototype. This comprised the design and construction of two 1.5M diameter by 2.4M tall steel tanks with incorporated 3 phase water heating element and two Iso-phone helmets. These were presented at the Ars Electronica festival in 2003. We were situated in the main square in Linz, the nature of this public space meant that over the 4-day course of the festival we received not only the technology aware attendees of Ars Electronica but also the people of Linz who happened to be passing. The live demo of the Iso-phone was also a common feature at Media Lab Europe open houses. Representatives, researchers and designers from the large telecommunication companies sponsoring the lab would attend these open houses and in this way we could talk directly with the people responsible for putting mobile phones on the marketplace, highlighting through the demo alternative ways of thinking about their design process.

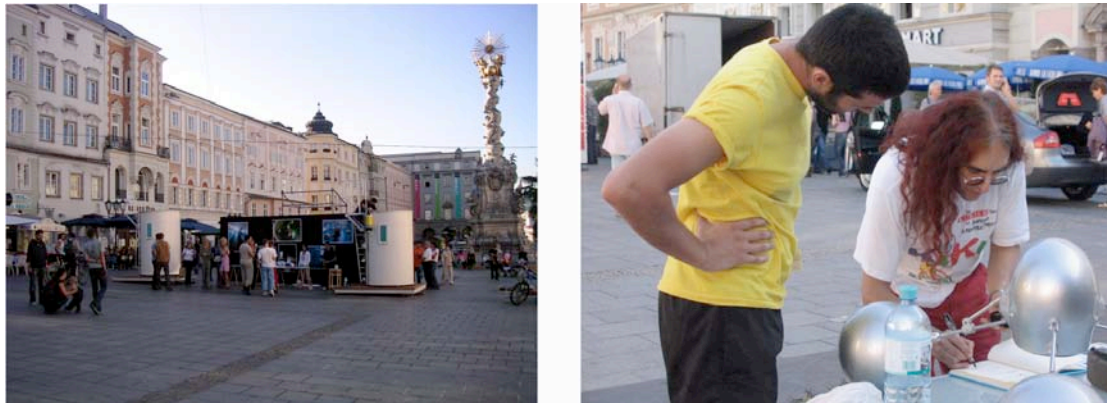


Fig. 15: Iso-phone at Ars Electronica

This is the purest method to communicate a concept, the Iso-phone genuinely created an extremely immersive and embryonic physical space that the written word fails to do justice to. This presents a large problem when attempting to communicate the project to the remote audience. To go some way towards bridging the gap between the experiential and the remote we produced a video of the project.²⁷ This slightly limits the loss of experiential purity whilst allowing for a more extroverted form of dissemination.

Case Study: Personalising the fiction - Afterlife

If the speculative object or service is to be truly impactful its audience must be able to project its presence into their lives. This is possible with even the most profound proposals by eliciting an emotional connection with the theme.

In 2001 we first presented the 'Afterlife' project. The initial proposal concentrated on the metaphysical issues surrounding areas of faith, bereavement and the general shift from belief systems upheld by organised religion to the more factual basis of science and technology. Here the fiction was imagined as a more palatable alternative to certain movements already in practice.²⁸

²⁷ This can be viewed here: <http://www.auger-loizeau.com/index.php?id=2>

²⁸ This shift of belief is evident in the context of cryonics, where people pay to be frozen and held in stasis until technological advances provide cures for illnesses that are presently un-treatable.



Fig.16: Afterlife coffin with MFC.

Under normal circumstances on burial, the human body would be assimilated into the natural system. The Afterlife device intervenes during this process to harness the body's chemical potential and convert it into usable electrical energy.²⁹ This electricity is contained within a familiar dry cell battery allowing the bereaved to choose where, when and how to use the energy.

In 2009 we were invited to present 'Afterlife' at Experimenta 09 in Lisbon. This provided an opportunity to analyse the projects strengths and also to question how it could be more successful in touching on the sensibilities of the audience. We felt that in previous exhibitions people focused more on the physical concept, expressing distaste and even repulsion at the material process and thus failing to engage with the more emotional and personal aspect. Given the opportunity to address this problem we invited 15 respected friends and colleagues to propose what they would do with their own Afterlife battery or with that of a loved one. They were also asked to write a short paragraph describing their choice:

²⁹ By employing a microbial fuel cell: a device that uses an electrochemical reaction to generate electricity from organic matter.



Why an aeroplane? Why a Spitfire MK1? I don't feel the need to be remembered as an object. I'd like my energy to create an act. Since a child flying has fascinated me, not sure why, just does. I have always wanted to fly but have never completely felt at ease enough to think I could manage it without killing myself. I still intend to fly myself in one way or another but just in case I don't this will ensure it.

Very rarely man creates an object that connects with the human soul; anyone who has witnessed a Spitfire and especially the MK1 in flight will have felt that connection. It looks, sounds, functions and is just 'right', it is perfect. The curve of the wings, it's proportions, it's functionality, it was also fitted with the Rolls Royce Merlin which without exception, before, after or at anytime in the future is the greatest four stroke engine ever produced.

Tom O'Brien, 2009

We'd use our battery for a euthanasia machine.

As we are a couple, once one goes, we're not sure how long the other one would be able to hang on. So, if it's all too much, we could use the energy from the first one to go, to help the second one on their way. I'm not sure if it would be a form of conceptual murder or not, but definitely an 'assisted' suicide.

Ideally we'd like to propose an object based on an existing machine, it would foreground the battery, which would be inscribed and silver-plated. We would probably replace the usual questions the machine asks you to check your state-of-mind with something more personal.

We imagine you would set it up on a small table by your bed or a chair, insert the battery, put the mask on, then after a few minutes, insert the tube into the device which causes a green light to come on letting you know it is working and ready. Then, you can lie back on your bed, or armchair, close your eyes, and 30 seconds later the carbon dioxide will begin to flow ...

Tony Dunne and Fiona Raby, 2009

Fig. 17: Afterlife battery concepts

Due to its extremely personal nature the concept only begins to genuinely resonate when the viewers start to dream about their own Afterlife desires. The breadth of concepts proposed allowed for the audience at Experimenta 09 to relate personally to some of the ideas making them extremely emotional and in some cases moving.

Conclusions

Before writing this essay I hadn't consciously thought of my practice as involved in the creation of fictions. For me the word fiction takes us too far away from reality, rendering the designed concepts, by definition, unreal. The problem perhaps lies in the scope of possibility of a fictitious thing (from extremely impossible or unreal to bordering on reality); the motivation behind the fiction (entertainment, marketing, critique) and the perspective from which it is viewed (academic, industry, public). The fictitious tag makes sense in the context of this conference and the larger design research community where we are observing output from the perspective of third person omniscient; a godlike all knowing viewpoint where methods, motivations, values and audiences are paramount. Here the fictional status of the designed concepts is the point of discussion. But what about other contexts, the domains where these *fictions* ply their wares and meet their popular audience. If that audience believes the concept to be real does it cease to be a fiction? Here they might better be described as design *factions*: a form of verisimilitude where truths are blurred and disbelief is suspended. Thinking once again about 'The War of the Worlds,' I remembered reading about Orson Welles' famous radio play of 1938 that created widespread panic due to its realistic delivery. Looking more closely into why this particular broadcast was so successful in bringing fiction to life it became apparent that it was not down to just one factor but several disparate timely elements: The prevailing political and cultural atmosphere (Coming war in Europe; Munich Crisis of September 12-30th); the product used for the dissemination and its contemporary relevance (the radio); the language and style of the broadcast (based on previous disaster broadcasts such as the crash of the airship Hindenburg) and the shift in setting from England to very specific real places in the United States (where the play was broadcast).

It struck me that the techniques employed by Welles bear many similarities to those used in the creation of design fictions, effectively the crafting of complex narrative or artifice using the real life ecology where the story is applied; contemporary media, familiar settings and complex human desires. It is these delivery methods that differentiate design fictions from their science fiction cousins. We predominantly experience sci-fi through film, television, novels or comics and as such consciously and willingly enter into the fiction as soon as the curtain rises or the book is opened. Reality is temporarily suspended until the end credits roll and normal life clicks back into place. Design fictions are played out in real life. The presence of the designed artefact in popular culture allows for the viewer to project its presence into their everyday life. Then they effectively become the protagonist in the story, playing out individual and informative roles. Their reactions becomes the true products of this form of design research: The comments on blog pages; the emails sent, the letters written and the discussions had.

This, for me, is the purest form of speculative design. A space where we can honestly question the role technology plays in our lives free from vested interest. It is a space for dreaming, provoking and challenging. With a slight shift in methodology though, design fictions can be applied in a commercial context. In this domain the audience becomes the customer and as such their interests must be considered, limiting intellectual and creative freedom. Usually in this context the designer is working with a specific technology or product in mind, as we saw earlier these products have mostly progressed through small and logical iterations. The complexity of production lines, knowledge bases and brand identity lead to most companies staying on their tried and tested paths. Here the fiction allows for a high resolution glimpse into alternative possibilities. The strength of the speculative methodology is that objects do not need to work; their primary goal is to communicate. The engineering approach usually employed in industry can be limited by its close ties

with reality, its methods leaning towards provability, hard laws, definitions and an end goal of realisation. Design methods can focus on communication, therefore prototyping ideas rather than hard technology, offering believable tasters of concepts before they become reality and applying genuinely unorthodox perspectives on technological and product development. The speculative artefacts created here can be disseminated into popular culture operating in a similar way to Haute Couture in the fashion industry or concept vehicles in the motor industry. They can be both marketing tools showing the creative imagination of the company behind their existence or a feedback mechanism offering valuable insights into the public interest in certain technological directions or concepts.

The final important audience for design fictions is scientists and engineers. In the best case they become part creator of the fiction by working in collaboration. This approach is relatively new³⁰ and allows the designer to operate far upstream from where normative commercial design activity takes place. As this activity gathers momentum more opportunities are beginning to arise such as the recent Impact Exhibition at the Royal College of Art (see HappyLife). This was organised by the main UK government agency for research funding in engineering and the physical sciences (EPSRC) and was intended to examine how this research might affect life in future Britain. This is extremely refreshing and timely if we are to consider how poor scientists traditionally are at communicating their research and projecting its application into everyday life. The true challenge here is to remain free from financial, political or personal vested interest. Scientists can fear for their funding if the designer's output errs towards the negative but many emerging technologies have the potential to be profoundly disruptive thus creating the occasional paradoxical situation. Either we need to be extremely careful about who we collaborate with ensuring open-mindedness and a genuine concern for application or we operate on a less formal level, simply checking scientific facts and technological possibility on a need to know basis.

Speculative design, when practiced with a discerning hand, does have the potential to challenge our *laissez faire* attitude towards technological application and development. Many of our current problems stem from the attitude that technology equates directly to progress:

“Why has a culture so firmly based on countless sophisticated instruments, techniques and systems remained so steadfast in its reluctance to examine its own foundations? Much of the answer can be found in the astonishing hold the idea of “progress” has exercised on social thought during the industrial age. In the twentieth century it is usually taken for granted that the only reliable sources for improving the human condition stem from new machines, techniques and chemicals. Even the recurring environmental and social ills that have accompanied.”³¹

By eschewing the commercial ties to industry the designer can operate in a genuinely critical fashion exploring not just the applications of a technology but also the implications. Speculative designs must be aimed at creating discourse not revenue, hypothetical products not real ones. Speculative Futures and Alternative Presents should inspire the audience into thinking not only what they *do* want for their contemporary and future selves but also what they *don't* want, encouraging a more democratic way of thinking about how technology enters and mediates our lives.

³⁰ There are clearly examples of designers or artists collaborating with scientists historically, but here we are specifically talking about the realm of speculation and critique.

³¹ Winner, Langdon: Technologies as forms of life, Essay in Kaplan 2004.

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