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FCJ-142 Spectacles and Tropes: Speculative Design and Contemporary Food Cultures

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Introduction

Speculative design is a practice of creating imaginative projections of alternate presents and possible futures using design representations and objects. At times critical and at other times whimsical, it is a distinctive, if loose, grouping of projects. Using the term broadly, speculative design covers a range of work across disciplines, fields, and historical and contemporary movements. For example, much of the work of the Futurists and Constructivists in the early Twentieth Century, which blended machines, politics, and everyday life, is suggestive of speculative design as it is practiced today. Collectives such as Archigram and Superstudio in the 1960s and 70s produced now iconic graphic representations of future cities, which stylistically and thematically inspired generations of architects and designers. In the late 1990s Tony Dunne and Fiona Raby coined the term 'Critical Design' to label product and interaction design that sought to 'challenge narrow assumptions, preconceptions and givens about the role products play in everyday life.' (2007) More recently, the term 'Design Fiction' has been used to characterize the 'use of diegetic prototypes to suspend disbelief about change.' (Sterling, 2012, see also Bleeker, 2009) All of these, I maintain, can broadly be considered as kinds of speculative design because what is common across this work is the use of designerly means to express foresight in compelling, often provocative ways, which are intended to engage audiences in considerations of what might be.

As Anne Balsamo points out, design is not only inventive, it also reproduces culture: 'Through the practices of designing, cultural beliefs are materially reproduced, identities are established, and social relations are codified. In this way culture is both a resource and an outcome of the designing process.' (2010, 3) This notion of design reproducing culture is certainly as true for speculative design as it is for any other form of design. Even though we often think of speculative design as being particularly inventive, at times fantastic, like any design it is grounded in the present. Even as speculative design expresses alternatives it references, often mimicking, the status quo and replicates the various styles and themes of the moment. Because of this, close examinations of speculative design projects offer us a view of the present reinterpreted and in relief.

As speculative design continues to develop as a practice, it is incumbent upon critics to provide ways of analyzing its construction and the work that it is, and is not, doing. Although speculative design projects offer promise as a way of using design to comment upon culture, there are also limits to speculative design. I begin this essay by tracing the ways two recent speculative design projects reproduce aspects of contemporary food cultures. I will then draw out from these projects two general strategies of speculative design, by which these designs work to lure us into a consideration of what might be. I will also take a critical view of these strategies, to discuss their limits as well as their potential. The intention of this is not to level critiques specifically against these projects, but rather, to contribute to the ways in which we might analyze speculative design, its ways of working and effects.

Food Culture and Design

Although public interest in food is not new, there seems to be a reinvigorated attentiveness to food in contemporary society. Multiple factors are at play in this. In part this reinvigorated attentiveness to food stems from an increasing awareness of the connection between kinds of food, modes of food production, and health. In part it stems from the topic of sustainability and the realization that changes in agricultural practices could help foster a more sustainable society. For some, this attention to food is as an act against previous paradigms of domestic convenience. And, in part this reinvigorated attentiveness to food stems from access to a greater diversity of food and thereby an ability to experiment with different foodstuffs and cuisines. From the confluence of these factors, there is a blossoming of 'food cultures,' by which I mean communities of practice and interest that are defined by their relation to the production, preparation, and consumption of food. One need only look at popular media to see evidence of this, from the *Food Network* channel to CNN's *Eatocracy* series, to the stardom of food advocates such as Jamie Oliver and Michael Pollan, and in changing consumer

habits and public policy, from the increase in farmer's markets and the farm to table movement (see Sonnino and Mardsen 2006 and Martinez et al. 2010), to the recent re-design of the so-called food pyramid by the United States Food and Drug administration. This blossoming of food cultures is reflected throughout design research and practice, even prompting the formation of new design communities. For instance, there is now an International Food Design Society and in 2010 the first Food Experience Design conference was hosted in London, England. More and more, designers are exploring the relations between food, science, and technology. The 2012 exhibition *Edible: The Taste of Things to Come* at the Science Gallery in Dublin, which featured over a dozen projects, many of them speculative in nature, is one example of how designers and artists are engaging cuisine and food consumption as both themes for investigation and mediums of expression. Other designers are working to develop systems to support new forms and practices of agriculture. The collective of designers involved with the *Re:farm the City* project (2008-present) are working to create both hardware and data sharing platforms for urban farming and gardening. This loose organization provides online information resources, hands-on workshops, and software for designing and using environmental sensing technologies and computational visualizations to assist small-scale sustainable agriculture. This work is exemplary of another pragmatic way that design, and in particular interaction design, is engaging with food cultures through the making of new agricultural technologies.

To use Balsamo's framing of design, food cultures are lively sites of both the invention and reproduction of culture through design. And as design concomitantly invents and reproduces culture, speculative design does so in a distinctive manner. Speculative design works by isolating facets of culture and recasting those facets in ways that alter their meaning in order to produce new images — new imaginative instantiations — of what might be. So, how is this occurring with regards to food cultures? What is it that speculative design is reproducing and recasting and to what effects, or lack of effects?

The Reproduction of Food Cultures in Speculative Design

In 2009 Design Indaba (an organization that sponsors design programs in South Africa) commissioned five designers to produce visions of the future of farming, under the program title *Protofarm 2050*. The designers selected were all known for their speculative approaches: Futurefarmers, 5.5 Designers, Dunne & Raby, Revital Cohen, and Frank Tjepkema. As with many such projects, the motivation was grounded in issues of sustainability, specifically conditions seen as contrary to sustainability including population growth and other strains put on the food system, such as climate change and increased meat consumption. The collection of concepts in *Protofarm 2050* were thus intended to explore possible futures of agriculture

with respect to these conditions now and how they might be in the year 2050. In considering what it is that speculative design does, it is worth noting that the projects of *Protofarm 2050* were framed as 'looking beyond the possibilities and predictions currently in the public domain.' Of the five proposals, I will discuss one of them here.

For *Protofarm 2050* the French design firm 5.5 Designers produced a project titled *Guide to Free Farming* (2009). The project consists of a series of print booklets for different cities and the Paris booklet is presented in the video documentation. (<http://www.designindaba.com/video/protofarm-2050-guide-free-farming>) The Paris booklet begins with a map of the city, and then goes into page spreads with pictures of the edible flora and fauna of the city. Immediately, a hint of dark humour foreshadows content yet to come, as a poodle is pictured along with the other edible fauna. What follows throughout are a series of hunting and gathering tactics for the city of Paris, along with recipes for the hunted and gathered, and prototype tools to assist in the process.

The first concept presented is hunting pigeon and the page spreads include an image of a person in a camouflaged cloak, designed to blend in with a cobblestone street, stalking a pigeon for the kill. The following page spread then shows how to dress and grill the pigeon to be served on a stick. The rest of this section, titled *Specialties*, includes similarly extreme forms of hunting and preparation, such as methods of trapping starlings and using them for pâté or trapping rats for grilling, as well as more tame practices of gathering dandelions. The next section, *Addresses*, provides site-specific food gathering activities, such as fishing the river Seine using a modified cane or gleaning fruit left over from Parisian street markets with the help of a special gleaning bag. Diverging from food, the section even covers scenarios of gathering hair from sheared dogs to be used for making clothes. The final section of the book, titled *Farm Tools*, provides photographic documentation of the various design products used throughout the book for the featured activities, such as the camouflage cloak for pigeon hunting, the starling trap, the rat trap, the cane for fishing, etc. Each of these objects is simply styled: most all are grey or white with clean geometries.

Guide to Free Farming may at first appear outrageous, but it is not so far from reality, at least in regards to the notion of seeing the city as an environment for hunting and gathering. In considering *Guide to Free Farming* as a speculation on the future of farming, what we find is a reproduction of the contemporary practice of foraging. Foraging — the opportunistic gathering of foodstuffs as they grow wild — is a practice that predates modern agriculture for the collection of edible plants. It is also a practice that has seen resurgence. We can conjecture reasons why: it is hyper-local, sustainable, and often provides novel food varieties.

Indeed, it is common to find foraged greens and edible flowers for sale at farmers markets and for some chefs to use foraged foods on their menus. The notion of hunting in the city, though, is a bit different. Fishing in cities is certainly common enough. Hunting of pigeons and trapping of starlings and rats for human consumption is not unheard of, but it is uncommon. Moreover, it is usually associated with poverty. But its presentation within *Guide to Free Farming* casts such hunting and trapping as seemingly reasonable, perhaps even desirable endeavours for all to engage in, resulting in foods that appear appealing.

This reproduction of foraging is also an interpretation of foraging, a new imaginative instantiation of what might be. The project leverages contemporary cultural imaginaries and practices of foraging, extending them to the notion of hunting. As if taking lessons directly from Barthes 'Rhetoric of the Image' (1977) the designers employ the visual styles of high-end product photography to document both the process and the product of urban hunting and gathering, expressing it in a way that draws a set of associations with consumer goods of a certain class. The photography would not be out of place in an IKEA catalogue or an issue of *Dwell* magazine. In so constructing these images, the designers constructs connections to an even broader trend of food cultures: the aestheticisation of food production and consumption, which finds its apogee in the notion of the artisanal.

From clothing to beers to cheeses and chocolates, the artisanal is a cultural trend of the early 2000s and 2010s. In the common use of the term, 'artisanal' refers to goods that are hand-made, usually in small-batches. Indeed, one way to characterise artisanal goods is as that which is small-scale. And even more than being small-scale, artisanal goods have a peculiar relationship to scale in that they do not scale, or at least, they do not profit from scale: 'Artisanal products are labor-intensive rather than capital-intensive and therefore cannot benefit from economies of scale.' (Barjolle and Chappuis, 2000, 1) With artisanal goods, be it cheese or clothing, there is a great attention to the craft and materials of production, which in turn, results in a product that is considered to be of unique character and quality. Artisanal goods have become popularised because of their exclusivity and a cultural embrace of the bespoke. In part this may be due to a search for greater quality and value in times of economic downturn, but more likely, it is an expression of nostalgia and some notion of authenticity as style. This is not to diminish the artisanal in any way, but rather to acknowledge that the artisanal is currently as much a marketing phenomena as it is a commitment to craft.

An unusual take on the artisanal is found in *Family Whiskey* (2010) (<http://www.jamesgilpin.com/Diabetesengage.html>), a speculative design project by James Gilpin in which he proposes that the urine from diabetics might be used in the production of custom whiskeys. These whiskeys could then be marketed as having distinctive family origins. Unlike the family origin of most whiskeys that trace to a family recipe or locale, these could ostensibly be traced,

or at least claim association with, a family's physiology: each whiskey would be distinct by the qualities of the urine produced by that family. According to Gilpin the motivation for the project is a reflection on and exploration of 'the consequences of using science to alter our bodies' abilities.' (2010) This reflection is grounded in the lived experience of Gilpin, who is himself a Type 1 diabetic. One result of diabetes is that diabetics produce urine with extremely high sugar content. In Gilpin's proposal, this sugar would be extracted from the urine and then combined with mash used in the production of whiskey, in order to accelerate the fermentation process and produce distinctive flavour profiles. The project is expressed through multiple formats, including a series of flasks filled with various whiskeys produced through this process and staged photographs of home distillation equipment. These items are brought together in an installation and performance of sorts in which Gilpin serves the whiskey.

In *Family Whiskey*, Gilpin is clearly reproducing trends of artisanal goods. So-called bespoke beverages are one such domain of production and consumption. For instance, there is a niche of consumers reverse-engineering mineral waters using home carbonation systems and base elements ordered from online retailers (see Twilly 2012). Closer even to Gilpin's project, *WhiskeyBlender* (www.whiskyblender.com/) allows users to experiment in a online laboratory of sorts, mixing blends (with names such as 'Burnt Puddin' and 'Smoke on the Water') to produce new taste profiles and custom single bottle batches of scotch. The concept of *Family Whiskey* fits right within these artisanal goods and practice—it is not the notion of the bespoke beverage that is odd, just the ingredients for this beverage. In addition to reproducing the notion of the bespoke beverage, the design of *Family Whiskey* also reproduces the visual and material cultures of artisanal goods. The various parts of the installation—the glass flasks and their mounting hardware, the labels on the whiskeys, the still, even the objects in the staged photographs—exhibit an artisan-like attention to construction and presentation. At one and the same time they reference the object aesthetics of a modern laboratory and those of a traditional bar.

There are strong aesthetic and conceptual connections between these two projects. Both trade upon an aestheticisation of food production and consumption. And even more than an aestheticisation, we might describe the treatment of foraging and distilling in these projects as a fetishising of food production and consumption. There is, in both *Guide to Free Farming* and *Family Whiskey* an intimacy, a closeness, brought to food goods and their making, which reproduces and aligns it with trends in food culture.

Most generally, we can read *Guide to Free Farming* and *Family Whiskey* as reproducing practices and discourses of small-scale agriculture. Although there is no strict definition, small-scale agriculture can easily encapsulate foraging and artisanal foodstuffs and also

include all manner of growing, harvesting, selling, and making foodstuffs on smaller farms, slaughterhouses, and production facilities. The design of *Guide to Free Farming* hones in on the trend of urban farming and the notions of do-it-yourself sufficiency that often accompany discussions of urban farming. Likewise with *Family Whiskey*, Gilpin's project leverages the trend of small-batch whiskey, which is a trend regularly positioned as being counter to corporatized distilleries. By being expressive of this general trend away from industrialized agriculture and foodstuffs, these projects can be seen as imaginative projections along current vectors in food culture. They are extreme to be sure, but still situated and identifiable within a constellation of contemporary theories, beliefs, and values concerning the future of food. By aligning with notions of small-scale agriculture, these speculative designs also position themselves as distinct from earlier visions of the future of farming and food, which more often explored concepts of technological automation and monitoring or the reduction of cuisine to pills or simulated food products.

Through their interpretation and recasting of food cultures, *Guide to Free Farming* and *Family Whiskey* offer us provocative images for consideration. The notion that the images and objects can spark meaningful reflection or dialogue is the potential of speculative design. But it is also the aspect of speculative design that is most problematic because it has been the least well documented, is the most difficult to ascertain, and seemingly too often, simply does not come to fruition. A critical and yet still appreciative voice towards these speculative designs is appropriate. How do these images and objects provide, or fail to provide, opportunities for dialogue and reflective considerations of what might be?

Spectacles and Tropes

These two speculative design projects — *Guide to Free Farming* and *Family Whiskey* — exemplify two ways of engaging audiences in a consideration of what might be. The strategies for constructing and communicating imaginative instantiations in each of these projects are, however, quite different. This difference in strategy also reflects a difference in how the projects structure the audiences' engagement with food as a subject matter, and reveals the designer's commitments to food cultures and other topics.

With *Guide to Free Farming* what we are presented with is speculation in the form of spectacle. The practice of foraging is commoditised in the production of fictional implements. The designerly representations of the activities of urban hunting and gathering cast those activities as dramatic events. At first, it is unclear whether and to what extent this work is intended to be ironic or perhaps a kind of classical *détournement* — the use of spectacle and

the images of capitalism as a disruption to the system of spectacle and consumerism (Debord and Wolman 2006). The skillful and clever use of spectacle can serve a critical purpose. This is part of the intent of the *détournement* as developed by the Situationists. But that is not what we encounter with *Guide to Free Farming*. On the back of the book the designers provide some insight into the motivation and desired outcome of the project. It states:

The Guide to Free Farming project was presented in the form of a book that aimed to restore a close relation between consumers and the natural environment, creating a shorter link to guide people who live in cities to take on the role of farmers in their urban environment. It is about farming in the city and encourages readers to discover the unsuspecting resources hidden in our towns. (2009)

This statement demonstrates how designers attempt to make use of alluring images and objects as props for ideas, as gateways for discourse or other forms of action. The suggestion is that the content of the book might have some sort of effect in initiating change. But, upon scrutiny, it is unclear what that effect or change might really be. The implicit claim being made is that in order to shorten the link between consumers, food, and the urban environment, what is needed are more products (camouflage cloaks, window box traps, etc.). This claim is problematic—it seems dubious. And with little more than the catalog-like displays to examine, we, as audiences to be prompted into reflection, are left without much support for further exploration of these activities and the broader issues they might engage.

Indeed, upon consideration one of the most striking aspects of the *Guide to Free Farming* is how little it seems connected to the practice of foraging or food cultures more generally. Although the project reproduces the practice of foraging and thereby draws associations with food culture, its reproduction of foraging is only a surface reflection. The activities, values, techniques, histories, traditions, and controversies of foraging are nowhere to be found, or even alluded to in this work. What, then, is it that we are supposed to glean from *Guide to Free Farming*? It would seem as if the project is reductively spectacular: pragmatic information and critical perspectives have been exchanged for extraordinary images. The problem with this is not that the speculation is unrealistic or exaggerated. The problem is that the speculation seems disconnected from the very practices and issues it purports to be commenting on, and the reinterpretation of foraging is reduced to a re-styling of foraging.

Gilpin's *Family Whiskey* also trades upon spectacle, but it is not really the intent of *Family Whiskey* to engage us in a consideration of food cultures. Gilpin states that the purpose of *Family Whiskey* is to explore 'the consequences of using science to alter our bodies' abilities.'(2010) Thus, in this project food and food cultures are not a topic, they are a trope.

Within literature, tropes are figurative language such as metaphor, irony, or hyperbole. They work to convey an idea through terms and structures that are not literal, but rather symbolic. Design too can employ such figurative turns and expressions in the making and interpretation of objects. Tropes simply are tools for crafting meaning. They enable the creative manipulation of material and form so that we can make one thing mean another thing. In *Family Whiskey*, food and food culture is used as a figurative means of investigating and expressing issues concerning science and bodies. More specifically, the culture and practices of small-batch whiskey function as a metaphor for Gilpin's topics of science and bodies: a way of engaging the topic through an association of food to science and an exploration of the transfer of qualities across these categorical things. As Lakoff and Johnson state "The essence of metaphor is understanding and experiencing one kind of thing in terms of another." (1980, 5) Gilpin's *Family Whiskey* allows us to understand and experience science and food and food as science.

It is useful to consider how this metaphor is constructed and the work it does. Tracing the relations within the metaphor gives insight into how tropes can function to scaffold meaning. There is an inherent relationship between food and science. Before the human hand enters in to pluck the fruit from the tree, even the most organic of foodstuffs is the product of a series of biological and chemical interactions and reactions. Contemporary foodstuffs are very much products of science, with 'food science' being an established field. Moreover, the relationship between artisanal foods and science is enticingly complex. On the one hand the artisanal is defined by being distinct from industrial modes of food production and food products that tend to rely on food science. On the other hand, many craftspeople involved in artisanal goods rely upon a deep understanding of the science of production, from the biological processes and transformation of cheese to the chemical processes of baking bread. What a close reading of *Family Whiskey* does is bring to the fore how food and foodstuffs operate as figurative instantiations of science.

What is missing still from *Family Whiskey* though, is a substantive explanation of those relationships between food and science: between diabetes and the production of sugar and the fermentation of whiskey. It is unclear how the flavour of whiskey is affected by this sugar drawn from urine. Does it add a peaty richness or briny bite? Does it round out gaps in an otherwise incomplete taste profile? Or doesn't it matter? Perhaps it is less about the culinary experience of the product and more about an appreciation of the ways in which the process creatively intermingles the corporeal, technical, and everyday? In *Family Whiskey* the groundwork of identifying the relations and a set of factors between science and food culture has been done. But whilst this provides us with a starting point for further consideration it leaves us hungry for more critical engagement.

From Provocation to What?

Both *Guide for Free Farming* and *Family Whiskey* present us with enticing images for consideration of what might be. We are initially taken aback and pause to think through the scenarios of use that we are witness to in these works. As a means for provocative expression, spectacles works well — they arrest us and pique our interest. But without connection to actual practices or issues, spectacles can quickly disappoint. Reflecting on the images of spectacle, too often we are left wanting for meaning and significance. The construction of tropes, particularly well-crafted tropes, can further the effect of spectacle by providing a scaffolding of sorts for reflection or inquiry. This scaffolding must be apparent and accessible and connect to the social contexts of the present or the presumed social contexts of the future.

Engaging with politics and the political is one way to construct such scaffolding. But too often, speculative design seems to skirt these themes. For instance, politics and the political issues that embroil food cultures in contemporary society are absent from *Family Whiskey* and *Guide to Free Farming*. This is surprising given that food is a highly contested domain, governed by a host of disputed regulations and codes. This is particularly true of artisanal food production. For instance, in the United States cheese production is highly regulated and raw milk, a staple of artisanal cheese production, is a contested animal product, all but made illegal. Certainly, using urine for whiskey or hunting in Paris would be mired in health codes and regulatory conundrums. Many of these codes and regulations are in fact expressions of values that are operationalised along political registers in the form of laws and ordinances.

Not all speculative design must be political, but to not address politics in social contexts where they are usually present is a striking omission. It is also a missed opportunity. If one purpose of speculative design is to prompt reflection on contemporary issues and the possible consequences of science and technology, then engaging with politics and the political could lend speculative design projects tractability and fodder for dialogue and debate. For instance, in regards to *Guide for Free Farming*, one might ask, is the hunting of pigeons currently legal or illegal? If it were legalised would one need a hunting license? If it were illegal, would people go to jail over this crime? Where is line between foraging and poaching? Would there be city game wardens that would police and protect the pigeon, rat, and starling populations? Or with *Family Whiskey* one could ask, what are the regulations that structure the production of spirits and the disposal of human bio-waste? Is whiskey made from urine like any other animal-based product, or does the introduction of human materials place it in a new category of foodstuffs? Attention to questions such as these, which immediately engage the politics of farming and food production through a speculative lens, would provide depth to the projects.

One limit of speculative design, then, is the extent to which it foments or supports substantive reflection on alternate presents and possible futures. This limit is not determined by any one strategy, but rather by the efforts of the designers employing the strategy. So, it is not that spectacle is without value. There is value in base provocation as it can serve to jolt us from assuredness and complacency, if only momentarily. It can spark a curiosity that might be pursued, but to be truly provocative is to rouse to action. If an object of speculative design does not provide access to a breadth or depth of subject matter, then we should be careful about making claims for its capacity to foment or support substantive reflection. It is difficult to meaningfully consider what we are uninformed about. The challenge and responsibility for the designer, then, is to provide that information, those scaffolds, in compelling and productive form.

It is useful to ask how speculative design could be used for more than provocation, to enable more meaningful engagement with the substance of an issue. In order for engagement to occur what is needed is articulation of both the components and potential consequences of a situation, such that an audience might be able to appreciate that situation. Or, put another way, what is needed is to express the situation of an alternate present or possible future as an issue: a situation that is contestable. As a way of sculpting meaning, the trope lends itself to this. In the making and expression of a trope, relationships are constructed between ideas and objects, and these relationships can be interrogated and challenged. For example, with *Family Whiskey*, the (literally) fluid transfer between science and foodstuffs, between what the body produces and what the body consumes, and the transformation of the effect of a disease into a quality of product are new pathways along which to explore Gilpin's issue of concern: 'the consequences of using science to alter our bodies' abilities.'

Gilpin's project *Family Whiskey* also points to the performative possibilities of speculative design: the events at which he attempts to serve the whiskey become further opportunities for engagement. Some designers are beginning to explicitly explore the performative and eventful potentials of speculative design. The *Material Beliefs* (<http://www.materialbeliefs.com/>) project is exemplary in this regard. Over the course of several years the designers and researchers from the project staged a series of events that made use of the products and processes of speculative design to bring together various publics to consider possible futures of biotechnology. The *Center for Genomic Gastronomy* (<http://www.genomicgastronomy.com/>) provides another example of using workshops as a design form, with an emphasis on exploring the relationships between biotechnology and food. Images and objects still exist in such projects, but it is the performative and eventful qualities that are fundamental to this design work. In addition to providing a novel form for engaging in speculation, "the event" also provides a novel form for engaging politics and the political.

As designers explore new forms and purposes of speculative design, the design critic must also develop new ways to make sense of those forms and purposes, working in tandem to articulate the possibilities and limits of speculative design. Too often, speculative design is spectacle alone, devoid of the content and grounding necessary to make productive critical statements or to be an instigator of public debate. This is particularly the case with regard to politics and the political. If design reproduces culture, what politics are being reproduced in speculative design? If speculative design turns from objects to events, how do we appreciate and critique the political qualities of these performative experiences? Spectacles and tropes are two constructs for describing and analysing speculative design. More constructs need to be elucidated and experimented with. Given the opportunity to prompt reflection on contemporary conditions and express the possible implications of current trends in science and technology, there is much more speculative design, and speculative design criticism, yet to be done.

Biographical Note

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References

5.5 Design, *Guide to Free Farming* (2009). <http://www.designindaba.com/video/protofarm-2050-guide-free-farming>.

Balsamo, Anne. 'Design', *International Journal of Media and Learning* 1 (4, 2010): 1-10.

Barjolle D & JM Chappuis . 'Transaction Costs and Artisanal Food Products' *Proceedings of the Annual Conference of ISNIE (International Society for New Institutional Economics), Tuebingen (D) 22-24 September, 2000* (2000): 1-21.

Barthes, Roland. 'Rhetoric of the Image.' *Image, Music, Text*. (ed. and trans. Stephen Heath) (New York: Hill and Wang, 1977): 32-51.

Bleeker, Julian, *Design Fiction: A short essay on design, science, fact and fiction*. (2009). <http://www.nearfuturelaboratory.com/2009/03/17/design-fiction-a-short-essay-on-design-science-fact-and-fiction/>.

Binder Thomas, Pelle Ehn, Giorgio De Michelis, Giulio Jacucci, Per Linde, and Ina Wagner. *Design Things*. (Cambridge: MIT Press, 2011).

The Center for Genomic Gastronomy (2012). www.genomicgastronomy.com/

Debord, Guy and Gil J. Wolman. 'Mode d'emploi du détournement.' Originally appeared in the Belgian surrealist journal *Les Lèvres Nues* #8 (May 1956). Translation by Ken Knabb from the *Situationist International Anthology* (Bureau of Public Secrets: Revised and Expanded Edition, 2006). No copyright.

Dunne, Anthony. *Hertzian Tales* (Cambridge: MIT Press, 2006).

Dunne, Anthony and Fiona Raby. *Critical Design FAQ*. 2007. <http://www.dunneandraby.co.uk/content/bydandr/13/0>. Accessed March 19, 2012.

Dunne, Anthony and Fiona Raby. *Design Noir* (Basel: Birkhäuser, 2001).

Gilpin, James, *Family Whiskey* (2010). <http://www.jamesgilpin.com/Diabetesengage.html>

Lakoff, George and Mark Johnson. *Metaphors We Live By*.(Chicago: University of Chicago Press, 1980).

Marinetti, Filippo Tommaso, and Fillia, *La Cucina Futurista*, (ed. Pietro Frassica) (Milan: Vienne-pierre Edizioni, 2009).

Martinez, Steve & Michael Hand, Michelle Da Pra, Susan Pollack, Katherine Ralston, Travis Smith, Stephen Vogel, Shelley Clarke, Luanne Lohr, Sarah Low, Constance Newman. 'Local food systems: concepts, impacts, and issues', MPRA Paper 24313, University Library of Munich, Germany (2010).

Material Beliefs (2012). <http://www.materialbeliefs.com/>

Michael, Mike. 'What are We Busy Doing': Engaging the Idiot. Science, Technology, and Human Values. Online preprint (2011): 1-27.

ProtoFarm 2050, Design Indaba (2011). <http://www.designindaba.com/protofarm2050>

Re:Farm The City (2011). <http://www.refarmthecity.org/>

Seago, Alex and Anthony Dunne. 'New Methodologies in Art and Design Research: The Object as Discourse', *Design Issues* 15 (2, 1999) :11-17.

Sonnino, Roberta & Terry Marsden. 'Beyond the divide: rethinking relationships between alternative and conventional food networks in Europe', *Journal of Economic Geography* 6 (2006): 181–199.

Sterling, Bruce. Interview. 'SciFi Writer Bruce Sterling Explains the Exciting New Concept of Design Fiction' By Torie Bosch. *Slate* (online magazine). Posted Friday, March 2, 2012. Retrieved March 19, 2012. Available at http://www.slate.com/blogs/future_tense/2012/03/02/bruce_sterling_on_design_fictions_.html

Twilly, Nicola. 'How to Clone Mineral Water. , *Edible Geography*.' Posted January 7, 2012. Retrieved March 19, 2012. Available at <http://www.ediblegeography.com/how-to-clone-mineral-water/>



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