5.
A METHODOLOGICAL PLAYGROUND: FICTIONAL WORLDS AND THOUGHT EXPERIMENTS

> The universe of possible worlds is constantly expanding and diversifying thanks to the incessant world-constructing activity of human minds and hands. Literary fiction is probably the most active experimental laboratory of the world-constructing enterprise.[1]

Although design usually references sculpture and painting for material, formal and graphic inspiration, and more recently the social sciences for protocols on working with and studying people—if we are interested in shifting design's focus from designing for how the world is now to designing for how things could be—we will need to turn to speculative culture and what Lubomír Doležel has called an "experimental laboratory of the world-constructing enterprise."

Speculating is based on imagination, the ability to literally imagine other worlds and alternatives. In *Such Stuff as Dreams* Keith Oatley writes that "[i]magination gives us entry to abstraction, including mathematics. We gain the ability to conceive alternatives and hence to evaluate. We gain the ability to think of futures and outcomes, skills of planning. The ability to think ethically also becomes a possibility."[2]

There are many kinds of imagination, dark imaginations, original imaginations, social, creative, mathematical. There are also professional imaginations—the scientific imagination, the technological imagination, the artistic imagination, the sociological imagination, and of course the one we are most interested in, the design imagination.

FICTIONAL WORLDS

As Lubomír Doležel writes in *Heterocosmica: Fiction and Possible Worlds*, "Our actual world is surrounded by an infinity of other possible worlds."[3] Once we move away from the present, from how things are now, we enter this realm of possible worlds. We find the idea of creating fictional worlds and putting them to work fascinating. The ones we are most interested in are not just for entertainment but for reflection, critique, provocation, and inspiration. Rather than thinking about architecture, products, and the environment, we start with laws, ethics, political systems, social beliefs, values, fears, and hopes, and how these can be translated into material expressions, embodied in material culture, becoming little bits of another world that function as synecdoches.

Although rarely discussed in design beyond the construction of brand worlds and corporate future technology videos, there is a rich body of theoretical work in other fields dealing with the idea of fictional worlds. Probably the most abstract discussion is in philosophy where differences between the many shades of real, fictional, possible, actual, unreal, and imaginary are teased out. In social and political science the focus is on modeling reality; in literary theory it is on the semantics of the real and nonreal; in fine art, make-believe theory and fiction; in game design, literal world creation; and even in science there are many rich strands of discourse around fictionalism, useful fictions, model organisms, and multiverses.[4] For us, the key distinction is between actual and fictional. Actual is part of the world we occupy whereas fictional is not.[5]

Of all these areas of research, it is literature and fine art that offer the most promising sources of inspiration. They can push the notion of fiction to the extreme, going well beyond logical worlds and more pragmatic world building. Although technically a fictional world can be impossible and incomplete, whereas a possible world needs to be plausible, the limit for us is scientific possibility (physics, biology, etc.) everything else—ethics, psychology, behavior, economics, and so on—can be stretched to the breaking point. Fictional worlds are not just figments of a person's imagination; they circulate and exist independently of us and can be called up, accessed, and explored when needed.

The artist Matthew Barney has created extraordinarily complex fictional worlds. His *Cremaster Cycle* (1994–2002) consists of five feature-length films and hundreds if not thousands of individual artifacts, costumes, and props. But although beautiful and exquisitely detailed they are also idiosyncratic to the extreme, an externalization of his own inner world that can only be aesthetically appreciated by others.[6] It is art at its purest—noninstrumental, personal, subjective, and profoundly beautiful. Designers, too, have experimented with fictional worlds. Jaime Hayón's *The Fantasy Collection* (2008) for Lladró, for instance, consists of porcelain souvenirs from a parallel world. In fashion, too, it is common to use advertising to suggest the imaginary world behind the brand, especially for perfumes, which often drift toward a form of contemporary fairy tale. But game design has to be the area where fictional world building is most developed. Whole worlds are designed, visualized, and linked. Some readers probably remember the first time they experienced an open world video game such as *Grand Theft Auto* (1997) and how enjoyable it was to drive around and explore the world created by its designers rather than playing the game. Although extraordinarily detailed, game worlds tend to focus on the setting, geography, and environment more than ideology, and their purpose is primarily escape and entertainment. There is, however, a growing number of artist- and activist-designed games that aim to challenge assumptions about game design, their social and cultural uses, and encourage social change.[7] How this relates to design is something we will return to later in this chapter.

Matthew Barney, *Cremaster 3*, 2002, production still. Photograph by Chris Winget. Photograph courtesy of Gladstone Gallery, New York and Brussels. © 2002 Matthew Barney.

UTOPIAS/DYSTOPIAS

Probably the purest form of fictional world is the utopia (and its opposite, the dystopia). The term was first used by Thomas More in 1516 as the title of his book *Utopia.* Lyman Tower Sargent suggests utopia has three faces: the literary utopia, utopian practice (such as intentional communities), and utopian social theory;[8] for us, the best are a combination of all three and blur boundaries among art, practice, and social theory. In *Envisioning Real Utopias* Erik Olin Wright defines utopias as "fantasies, morally inspired designs for a humane world of peace and harmony unconstrained by realistic considerations of human psychology and social feasibility."[9] There is a view that utopia is a dangerous concept that we should not even entertain because Nazism, Fascism, and Stalinism are the fruits of utopian thinking. But these are examples of trying to make utopias real, trying to realize them, top down. The idea of utopia is far more interesting when used as a stimulus to keep idealism alive, not as something to try to make real but as a reminder of the possibility of alternatives, as somewhere to aim for rather than build. For us, Zygmunt Bauman captures the value of utopian thinking perfectly: "To measure the life "as it is" by a life as it should be (that is, a life imagined to be different from the life known, and particularly a life that is better and would be preferable to the life known) is a defining, constitutive feature of humanity."[10]

And then there are dystopias, cautionary tales warning us of what might lay ahead if we are not careful. Aldous Huxley's *Brave New World* (1932) and George Orwell's *1984* (1949) are two of the twentieth century's most powerful examples. Much has been written about utopias and dystopias in science fiction but there is a particularly interesting strand of sci-fi critique termed *critical science fiction* in which dystopias are understood in relation to critical theory and the philosophy of science.[11] In this reading of science fiction, political and social possibilities are emphasized above all else, a role explored in depth by sci-fi theorist Darko Suvin who uses the term *cognitive estrangement,* a development of Bertolt Brecht's A-effect, to describe how alternate realities can aid critique of our own world through contrast.

EXTRAPOLATION: NEOLIBERAL SPECULATIVE FICTION

Many utopian and dystopian books borrow political systems such as feudalism, aristocracy, totalitarianism, or collectivism from history, but we find the most thought-provoking and entertaining stories extrapolate today's free market capitalist system to an extreme, weaving the narrative around hypercommodified human relations, interactions, dreams, and aspirations.

Many of these stories originate in the 1950s. It's as though, already in the postwar years, writers were reflecting on where the promises of consumerism and capitalism were taking us; yes, they would create more wealth and a higher standard of living for a larger number of people than ever before but what will the impact be on our social relations, morality, and ethics?

Philip K. Dick is the master of this. In his novels everything is marketized and monetized. They are set in twisted utopias where all are free to live as they please but they are trapped within the options available through the market. Or *The Space Merchants* (1952) by Frederik Pohl and Cyril M. Kornbluth, which is set in a society where the highest form of existence is to be an advertising man and crimes against consumption are possible. This view of capitalism is not limited to 1950s and 1960s sci-fi, though, and can be found in contemporary writing. George Saunders's *Pastoralia* (2000) is set in a fictional prehistoric theme park where workers are obliged to act like cave people during working hours and try to negotiate a friendship around the rules, contractual obligations, and expectations of visitors. It is sad and funny but recognizable. Other writers who embrace this exaggerated version of capitalism include Brett Easton Ellis (*American Psycho*, 1991), most of Douglas Coupland's writings, Gary Shteyngart (*Super Sad True Love Story*, 2010), Julian Barnes (*England England*, 1998), and Will Ferguson (*Happiness*, 2003). They expose at a human scale the limitations and failures of a free-market capitalist utopia, how, even if we achieve it, it is humanely reduced. Although not a strong novel by any means, Ben Elton's *Blind Faith* (2007) picks up current trends for dumbing culture down, extrapolating into a near future when inclusiveness, political correctness, public shaming, vulgarity, and conformism are the norm, a world where tabloid values and commercial TV formats shape everyday behavior and interactions.

It can be found in film, too: *Idiocracy* (2006) and *WALL-E* (2008) are both set in worlds suffering from social decay and cultural dumbing down. The most recent example is *Black Mirror* (2012), a satirical miniseries for Chanel Four television in the United Kingdom. It fast-forwards technologies being developed today by technology companies to the point at which the dreams behind each technology turn into nightmares with extremely unpleasant human consequences.

Charlie Brooker, *Black Mirror*, 2012, production still. Photograph by Giles Keyte.

But what does this mean for design? On a visual level, in cinema, a style has developed that is riddled with visual clichés—ubiquitous adverts, corporate logos on every surface, floating interfaces, dense information displays, brands, microfinancial transactions, and so on. Corporate parody and pastiche have become the norm, and although *Black Mirror* has moved well beyond this, it is the exception. Maybe this is one of the limitations of cinema; it can deliver a very powerful story and immersive experience but requires a degree of passivity in the viewer reinforced by easily recognized and understood visual cues, something we will return to in chapter 6. Literature makes us work so much harder because readers need to construct everything about the fictional world in their imagination. As designers, maybe we are somewhere in between; we provide some visual clues but the viewer still has to imagine the world the designs belong to and its politics, social relations, and ideology.

IDEAS AS STORIES

In these examples, it is the backdrop that interests us, not the narrative; the values of the society the story takes place in rather than the plot and characters. For us, ideas are everything but can ideas ever be the story?

In the introduction to *Red Plenty* (2010) Francis Spufford writes, "This is not a novel. It has too much to explain, to be one of those. But it is not a history either, for it does its explaining in the form of a story; only the story is the story of an idea, first of all, and only afterwards, glimpsed through the chinks of the idea's fate, the story of the people involved. The idea is the hero. It is the idea that sets forth, into a world of hazards and illusions, monsters and transformations, helped by some of those it meets along the way and hindered by others."[12] *Red Plenty* explores what would have happened if Soviet communism had succeeded and how a planned economy might have worked. It is a piece of speculative economics exploring an alternative economic model to our own, a planned economy where everything is centrally controlled, and it unapologetically focuses on ideas. This approach is similar to design writing experiments such as *The World, Who Wants it?* by architect Ben Nicholson and *The Post-spectacular Economy* by design critic Justin McGuirk.[13] Both are stories of ideas exploring the consequences for design of major global, political, and economic changes—Nicholson's in a dramatic and satirical way and McGuirk through a more measured approach beginning with real events that morph before our eyes into a not so far-fetched near future. But these are still literary and although both contain many imaginative proposals on a systemic level, they do not explore how these shifts would manifest themselves in the detail of everyday life. We are interested in working the other way around—starting with designs that the viewer can use to imagine the kind of society that would have produced them, its values, beliefs, and ideologies.

In *After Man—A Zoology of the Future* (1981) Dougal Dixon explores a world without people focusing exclusively on biology, meteorology, and environmental sciences. It is an excellent if slightly didactic example of a speculative world based on fact and well-understood evolutionary mechanisms and processes expressed through concrete designs, in this case, animals.

Fifty-million years into the future, the world is divided into six regions: tundra and the polar, coniferous forests, temperate woodlands and grasslands, tropical forests, tropical grasslands, and deserts. Dixon goes into impressive detail about the climate, distribution, and extent of different vegetation and fauna as he sketches out a posthuman landscape on which new kinds of speculative life forms evolve. Each aspect of the new animal kingdom is traced back to specific characteristics that encourage and support the development of new animal types in a human-free world. Each animal relates to ones we are familiar with, but because of an absence of humans, evolve in slightly different ways. A flightless bat whose wings have

Dougal Dixon, "Flooer" and "Night Stalker," from *After Man: A Zoology of the Future* (London: Eddison Sadd Editions, 1998). Image courtesy of Eddison Sadd Editions. © 1991 and 1998 Eddison Sadd Editions.

evolved into legs still uses echolocation to find its prey but now, because an increase in size and power, it stuns its victims. The book is a wonderful example of imaginative speculation grounded in systemic thinking using little more than pen-and-ink illustrations. It could so easily have been a facile fantasy thrilling us with the weirdness of each individual creature, but by tempering his speculations, Dixon guides us toward the system itself and the interconnectedness of climate, plant, and animal.

As well as highly regarded works of literature, Margaret Atwood's novels are stories of ideas. *Oryx and Crake* sets out a postapocalyptic world populated by transgenic animals and beings developed by and for a society comfortable with the commercial exploitation of life: pigoons bred to grow spare human organs, for instance. *Oryx and Crake* is very close to how a speculative design project might be constructed. All her inventions are based on actual research that she then extrapolates into imaginary but not too far-fetched commercial products. The world she creates serves as a cautionary tale based on the fusion of biotechnology and a free-market system driven by human desire and novelty, where only human needs count. Unlike many sci-fi writers, Atwood is far more interested in the social, cultural, and ethical implications of science and technology than the technology itself. She resists the label of sci-fi preferring to describe her work as speculative literature. For us, she is the gold standard for speculative work—based on real science; focused on social, cultural, ethical, and political implications; interested in using stories to aid reflection; yet without sacrificing the quality of storytelling or literary aspects of her work. Similar to Dixon's *After Man* the book is full of imaginative and strange designs but based on biotechnology. Each design highlights issues as well as entertaining and moving the story along.

Whereas *Oryx and Crake* creates plausibility through an extrapolation of current scientific research, one of our favorite books, Will Self's *The Book of Dave* uses a far more idiosyncratic mechanism for establishing a link with today's world. It is the story of a future society built around a book written hundreds of years earlier by an alcoholic, bigoted, and crazed London taxi driver going through a messy divorce. Buried in his ex-wife's back garden in Hampstead, he hopes his estranged son will discover the book one day. He doesn't, and it is dug up hundreds of years later after a great flood has wiped out civilization as we know it. Basing the logic underlying a future community's social relations on a dysfunctional taxi driver's prejudices shows how random our customs can be and how brutality and social injustice can be shaped by strange, fictional narratives. That these lead to so much sadness and misery is tragic, and this book captures the ridiculousness of political and religious dogma. Besides the motos, a kind of genetically modified animal that seems to be a cross between a cow and a pig that speaks in a disturbing childlike manner, most of the inventions are customs, protocols, and even language. Children spend part of each week living with each parent on opposite sides of the street, young women are called au pairs, days are divided into tariffs, souls are fares, priests are drivers, and so on. The *Book*

of Dave is a dense, inventive, highly original, complex, and layered portrayal of a fictional world. But is it possible to apply this to design? We think it is. Unlike *Oryx and Crake*, it is not Self's inventions that inspire but his method and how rich and thought-provoking fictional worlds can be developed from idiosyncratic starting points.

China Miéville's *The City and the City* is based on poetic and contemporary ideas about artificial borders. Two cities, Beszel and Ul Qoma coexist in one geographical zone, in one city. A crime is committed that links the two cities so the protagonist, inspector Tyador Borlú, must work across borders to solve it, something that's usually avoided at all costs because citizens of each city no longer see or acknowledge each other even while using the same streets and sometimes the same buildings. To see the other city or one of its inhabitants is a "breach," the most serious of all crimes imaginable. It is a wonderful setting that makes not only for a fascinating detective story but also prompts all sorts of ideas about nationality, statehood, identity, and ideological conditioning to surface in the reader's imagination. As Geoff Manaugh points out in an interview with the author, it is essentially poli-sci fiction.[14] Everything in this book is familiar; it is the reconceptualization of a simple and familiar technical idea, the border, that makes it relevant to design, again, more for its method than its content.

As literary fictional worlds are built from words there are some rather special possibilities that can be explored by pushing language's relationship to logic to the limit, a bit like the literary equivalent of an Escher drawing. A recent example of this is *How to Live Safely in a Science Fictional Universe* (2010) by Charles Yu. Here, fictional worlds provide opportunities to play with the very idea of fiction itself. Yu's world is a fusion of game design, digital media, VFX, and augmented reality. Set in Minor Universe 31, a vast story-space on the outskirts of fiction, the protagonist Yu is a time travel technician living in TM-31, his time machine. His job is to rescue and prevent people from falling victim to various time travel paradoxes. *How to Live Safely in a Science Fictional Universe* feels like conceptual science fiction: the story unfolds through constant interactions, collisions, and fusions among real reality, imagined reality, simulated reality, remembered reality, and fictional reality.

Can design embrace this level of invention or are we limited to more concrete ways of making fictional worlds? One strength for design is that its medium exists in the here and now. The materiality of design proposals, if expressed through physical props, brings the story closer to our own world away from the worlds of fictional characters. *How to Live Safely in a Science*

Fictional Universe makes us wonder about speculative design's complex relationship to reality and the need to celebrate and enjoy its unreality.

THOUGHT EXPERIMENTS

One way this might be possible is to treat design speculations not as narratives or coherent "worlds" but as thought experiments—constructions, crafted from ideas expressed through design—that help us think about difficult issues.

Thought experiments are probably closer to conceptual art than they are to conventional design. But it is too easy to focus only on the experiment part; it is the thought bit that makes them interesting and inspirational for us. They allow us to step outside reality for a moment to try something out. This freedom is very important. Thought experiments are usually done in fields where it is possible to precisely define limits and rules, such as mathematics, science (particularly physics), and philosophy (especially ethics) to test ideas, refute theories, challenge limits, or explore possible implications.[15] They make full use of the imagination and are often beautiful designs in themselves.[16]

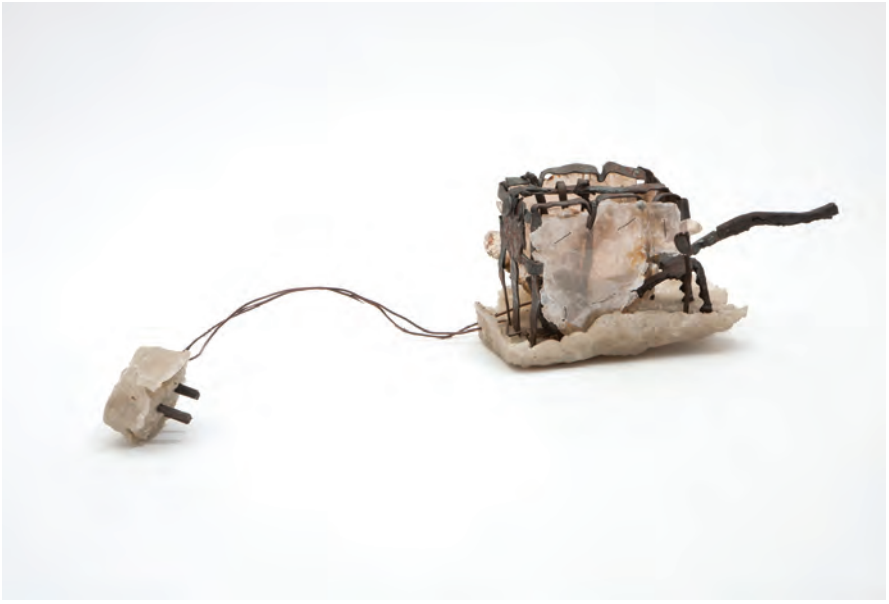
Writers often base short stories on thought experiments, fusing narrative and concept to produce functional fictions designed to get people thinking about something specific in an enjoyable way. Edwin Abbott's *Abbott's Flatland: A Romance of Many Dimensions* (1884) is a good example. It explores interactions between worlds with different dimensions, 1D, 2D, 3D. . . . When a sphere passes perpendicularly through 2D land, none of its inhabitants understand how the bit they see, a disc, can expand and contract in the way it does.

REDUCTIO AD ABSURDUM

One of our favorite forms of thought experiment uses reductio ad absurdum, a type of logical argument in which one assumes a claim for the sake of argument and derives an absurd or ridiculous outcome by taking it to its extreme, concluding that the original claim must have been wrong because it led to such an absurd result. It lends itself well to humor, too. Thomas Thwaites's *The Toaster Project* (2009) is a good example.

Thwaites set out to build a toaster from scratch. On taking apart one of the cheapest ones he could find he was surprised to discover that it was made up of 404 different parts, so he decided to focus on five materials: copper, iron, nickel, mica, and plastic. Over the next nine months he visited mines, extracted iron from ore, tracked down mica in Scotland, and eventually made

Thomas Thwaites, *The Toaster Project*, 2009. Photograph by Daniel Alexander.



Thomas Thwaites, *The Toaster Project*, (cover removed) 2009. Photograph by Daniel Alexander.

an almost working toaster. Thwaites knew from the start it was an impossible task but used the quest, which was recorded on video and later published as a book, to highlight how dependent we have become on technology and how far removed we are from the processes and systems behind most of the technologies and devices our everyday lives depend on. The project also highlighted what goes into making even a simple product like a toaster, or maybe, the absurdity of what has to be done to lightly burn a piece of bread each morning. At one point he researches what he would need to smelt iron ore and discovered the last point in history when it was possible for one person to do so was in the fifteenth century. After several failed attempts at replicating the set-up using modern devices such as hairdryers and leaf blowers instead of bellows, Thwaites discovered a patent that used microwaves to smelt iron ore and, using his mother's microwave and some modifications, he managed to extract a small amount of iron. Sometimes people are disappointed to learn he used modern technologies but the project was never about going back to basics; it was always about highlighting just how complex and difficult the processes behind even the most simple of everyday conveniences, like toasting a piece of bread, have become.

COUNTERFACTUALS

Another well-established form of thought experiment is the counterfactual. A historical fact is changed to see what might have happened, if. . . . It is sometimes used in history to understand the importance of key events and their influence on how the world turned out. A famous example is how the world might have been if Hitler had won World War II, a theme explored in many works of fiction. For writers, it is an interesting way of creating an alternative present because the reader can understand how that alternate world might have come about. For design it can provide a fresh alternative to future-based thinking by presenting parallel worlds as thought experiments rather than predictions. But it can be slightly cumbersome because of the need to set up the story before people can engage with the project. James Chambers's *Attenborough Design Group* (2010) is a simple example of how this approach might translate into a design project.

Chambers asks, What if David Attenborough had become an industrial designer rather than a wildlife filmmaker, who, still fond of nature, established the Attenborough Design Group to explore how animal behavior could be used to equip technology products with survival instincts: a Gesundheit radio, which sneezes periodically to expel potentially damaging dust, and *Floppy Legs*, a portable floppy disc drive that stands up if it

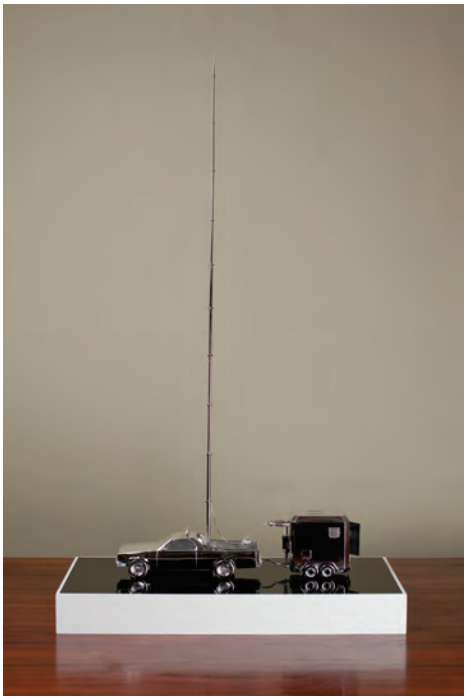
James Chambers, *Attenborough Design Group: Radio Sneezing*, 2010. Photograph by Theo Cook.

James Chambers, *Attenborough Design Group: Hard Drive Standing*, 2010. Photograph by J. Paul Neeley.

detects liquid nearby? The project opens new perspectives on sustainability by suggesting that if products were equipped with sensors they could dodge danger and survive longer before ending up in a landfill. They would also have the added benefit of creating strong emotional ties with their owners because of carefully designed animal-like behaviors that encourage people to project emotions onto them. By going back in time, Chambers was able to shift attention from visual aesthetics to designing animal-inspired behaviors for technology products.

A more elaborate example of this approach is Sascha Pohflepp's *The Golden Institute* (2009). Pohflepp revisited a moment in history when a very different America could have developed: "The Golden Institute for Energy in Colorado was the premier research and development facility for energy technologies in an alternate reality where Jimmy Carter had defeated Ronald Reagan in the US election of 1981. Equipped with virtually unlimited funding to make the United States the most energy-rich nation on the planet, its scientific and technical advancements were rapid and often groundbreaking." He then developed a number of large-scale project proposals including turning Nevada into a weather experimentation zone causing a gold rush of lightning energy harvesters and making modifications to freeways so they became energy-generating power plants. The project was presented through a variety of media, including a corporate video presentation explaining The Golden Institute's history, structure and mission, a model of its HQ, and drawings and images of design proposals.

Sascha Pohflepp, *Painting of a Geoengineered Lightning Storm over Golden, Colorado*, 2009, from the series *The Golden Institute*.



Sascha Pohflepp, *Model of a Chevrolet El Camino Lightning Harvester Modification* (side), 2009, from the series *The Golden Institute*.

Sascha Pohflepp, *Model of an Induction Loop-equipped Chuck's Cafe Franchise by Interstate 5, Colorado*, 2009, from the series *The Golden Institute*.

WHAT-IFS

Related to counterfactuals but more forward looking are what-if scenarios. They allow the author to strip narrative and plot right down to basics in order to explore an idea. What-ifs were often used in a very particular form of English science fiction common in 1950s (e.g., John Christopher, Fred Hoyle, and John Wyndham). John Wyndham, for instance, wrote several novels he termed *logical fantasy* around dramatic what-ifs based on invasions by different kinds of aliens, not just the outer space variety (e.g., *The Kraken Wakes*, *The Midwhich Cuckoos*, and *The Day of the Triffids*). One of the qualities we like about his work is that he explores what might happen in a society in extreme circumstances, a sort of literary rehearsal involving individuals, elites, the government, media, and army. They unpick where, why, and how things could break down or go wrong. They are large-scale thought experiments about how British society might react to extreme disasters and in what ways lives may change as a consequence. They tend to focus on one major event, such as the escape from a laboratory of genetically modified killer plants, then follow through on fairly straightforward implications. Their lack of apocalyptic drama and focus on middle-class British characters has led to the genre being termed *cozy catastrophes* by British author Brian Aldiss.

What-ifs work well in cinema, too, as a simple way of excusing oneself from reality in order to entertain an unnatural idea. *Dog Tooth* (2009) by Yorgos Lanthimos sets up an intriguing but simple premise from which all sorts of surprising and disturbing interactions between family members and the outside world take place. Two children are brought up to believe a number of myths created by their parents that shape their understanding of social relations, the outside world, and even language: the word for *sea* is *chair*, planes flying overhead are *toys*, cats are the most ferocious animal in the world, and the way to protect yourself against a cat is to drop to all fours and begin barking, and so on. Inhabiting this alternative linguistic world-model created by their parents, the children's interactions between themselves and with outsiders and the world slowly spiral into chaos.

But we are designers not writers. We want to build things that create similar levels of reflection and pleasure but use the language of design. How can we do this? What happens when speculations move from behind the screen or from the pages of a book to coexist in the same space as the viewer?

SlaveCity—Cradle to Cradle (2005–) by Atelier Van Lieshout (AVL) is a very nice example of what-if thinking applied to design, even though Van Lieshout is an artist. AVL explores what size city could be supported if we

used humans as slaves to produce energy and even as a source of energy themselves or as raw material. The project addresses how such a process would be designed, what equipment would be needed, how much space, the kind of buildings, machinery, and so on. AVL also explores, in detail, how the city would work economically and its optimal scale. The viewer never sees the whole system, just drawings of various scenes, architectural models, and prototype machinery. As outlandish as it is, *SlaveCity* is still based on logic and is closer to the logical fantasy of John Wyndham and other writers than Charles Yu's *How to Live Safely in a Science Fictional Universe*. The challenge for us is how to go beyond this and embrace the full aesthetic potential of working with unreality.

Atelier Van Lieshout, *Welcoming Center*, 2007.

FICTIONEERS IN DENIAL

The problem with speculation, for designers at least, is that it is fictional, which is still seen as a bad thing. The idea that something is not "real," when *real* means it is available in shops, is not good. Yet designers participate in the generation and maintenance of all sorts of fictions, from feature-heavy electronic devices meeting the imaginary needs of imaginary users, to the creation of fantasy brand worlds referenced through products, their content, and their use. Designers today are expert fictioneers in denial. Although there have always been design speculations (e.g., car shows, future visions, haute couture fashions shows), design has become so absorbed in industry, so familiar with the dreams of industry, that it is almost impossible to dream its own dreams, let alone social ones. We are interested in liberating this story making (not storytelling) potential, this dream-materializing ability, from purely commercial applications and redirecting it toward more social ends that address the citizen rather than the consumer or perhaps both at the same time.

For us, the purpose of speculation is to "unsettle the present rather than predict the future."[17] But to fully exploit this potential, design needs to decouple itself from industry, develop its social imagination more fully, embrace speculative culture, and then, maybe, as MoMA curator Paola Antonelli suggests, we might see the beginnings of a theoretical form of design dedicated to thinking, reflecting, inspiring, and providing new perspectives on some of the challenges facing us.[18]

As the author Milan Kundera writes: "A novel examines not reality, but existence. And existence is not what has occurred, existence is the realm of human possibilities, everything that man can become, everything he's capable of. Novelists draw up the map of existence by discovering this or that human possibility."[19]

We think designers should strive for this, too.