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SPECULATIVE EVERYTHING

In *Dream: Re-imaging Progressive Politics in an Age of Fantasy* Stephen Duncombe argues that the radical left has relied too heavily on reason, ignoring the place fantasy and fabricated realities play in our lives. From theme parks to soap operas to brands, whether we like it or not, we now live within a multitude of realities. Duncombe argues that radicals need to embrace this and use it to critical effect, to subvert spectacle for public good and progressive politics. This is particularly challenging for designers because we are usually on the wrong side of spectacle, helping construct ones that encourage people to consume more. Can speculative design take on a social and possibly political role, combining the poetic, critical, and progressive by applying excessively imaginative thinking to seriously large scale issues?

Although operating at a systemic level, large-scale speculative thinking is different from design thinking and social design. Design thinking is concerned with problem solving, and although social design moves away from a purely commercial agenda to deal with more complex human problems, it too focuses on fixing things. Large-scale speculative design contests “official reality”; it is a form of dissent expressed through alternative design proposals. It aims to be inspirational, infectious, and catalytic, zooming out and stepping back to address values and ethics. It strives to overcome the invisible wall separating dreams and imagination from everyday life, blurring distinctions between the “real” real and the “unreal” real. The former exists in the here-and-now, whereas the latter lies behind glass screens, within the pages of books, and locked in people’s imaginations. Design speculations can give form to the multiverse of worlds our world could be. Whereas it is accepted that the present is caused by the past it is also possible to think of it being shaped by the future, by our hopes and dreams for tomorrow.

FREE AGENTS

Change can happen in a number of ways:¹ propaganda, semiotic and subconscious communication, persuasion and argument, art, terrorism, social engineering, guilt, social pressure, changing lifestyles, legislation, punishment, taxation, and individual action. Design can be combined with any of these but it is the last one—individual action—that we value most. We believe change starts with the individual and that the individual needs to be presented with many options to form an opinion.

When design is discussed in relation to change, the notion of “nudge”² often surfaces. The suggestion is that design can modify our behavior by nudging us to make choices that someone, usually a client organization, would like us to make. To encourage schoolchildren to eat more healthily, for example, junk food might be displayed on lower shelves in a shop and healthy food would be placed at eye level. Stanford-based psychologist B. J. Fogg has worked in this area since the early 1990s, calling it *captology*.³ His focus is on the overlap between persuasion and computers, usually applied to small-scale interactions rather than social change. But once it moves beyond interactions with technology to the social or mass scale, it can feel more like social engineering. This is one of the difficulties we have with design thinking applied by service designers to public service projects. It can be used to modify our behavior in a slightly underhanded way. For example, on the UK Government’s Cabinet Office website, it says the following: “The Behavioural Insights Team was set up in July 2010 with a remit to find innovative ways of

encouraging, enabling and supporting people to make better choices for themselves.”⁴

We believe that our behavior does need to change, but it should be up to either individuals to make changes in their behavior (for example, in health and exercise) or the government to ban some kinds of behavior (such as smoking, which effects everyone, not just the smoker). At both extremes the rationale for change is explicit. Design can play a role in highlighting what might happen if behavior does not change, what can be achieved if it does, or simply communicating what needs to change and how. Of course this is an idealistic view of human nature that does not allow for poor education or other factors, but we prefer to base our design approach on this ideal rather than assume people have little or no control over the choices they make. We view people as free agents, not necessarily rational, but free to make up their own minds. As consumers we can choose not to buy products produced by companies or countries whose values we disagree with; as citizens we can vote, demonstrate, protest, and in extreme cases, riot.

As Erik Olin Wright points out in *Envisioning Real Utopias*, “the actual limits of what is achievable depend in part on the beliefs people hold about what sorts of alternatives are viable.”⁵ For us, this is where speculative design steps in. It can make a whole range of viable and not so viable possibilities tangible and available for consideration. Wright continues: “Claims about social limits of possibility are different from [these] claims about physical and biological limits, for in the social case the beliefs people hold about limits systematically affect what is possible. Developing systematic, compelling accounts of viable alternatives to existing social structures and institutions of power and privilege, therefore, is one component of the social process through which the social limits on achievable alternatives can themselves be changed.”⁶

We believe that even nonviable alternatives, as long as they are imaginative, are valuable and serve as inspiration to imagine one’s own alternatives. Speculative design can be a catalyst for this: it can inspire imagination and a feeling that, if not exactly anything, more is definitely possible. Speculative design contributes to the reimagining not only of reality itself but also our relationship to reality. But for this to happen, we need to move beyond speculative design, to speculative everything—generating a multitude of worldviews, ideologies, and possibilities. The way the world is follows on from how we think; the ideas inside our heads shape the world out there. If our values, mental models, and ethics change, then the world that flows from that worldview will be different, and we hope better.

Writing about the value of literature in *Such Stuff as Dreams*, Keith Oatley states, "In art we experience the emotion, but with it the possibility of something else, too. The way we see the world can change, and we ourselves can change. Art is not simply taking a ride on preoccupations or prejudices, using a schema that runs as usual. Art enables us to experience some emotions in contexts that we would not ordinarily encounter, and to think of ourselves in ways that usually we do not."⁷

Can design achieve this, too, if it is decoupled from narrow commercial agendas? We think so. By embodying ideas, ideals, and ethics in speculative proposals design can play a significant role in broadening our conception of what is possible.

ONE MILLION LITTLE UTOPIAS

Maybe each human being lives in a unique world, a private world, a world different from those inhabited and experienced by all other humans. And that led me wonder, if reality differs from person to person, can we speak of reality singular, or shouldn't we really be talking about plural realities? And if there are plural realities, are some more true (more real) than others?⁸

Philip K. Dick wrote this in 1974 just as mass media was affecting reality and blurring the boundaries between inner and outer worlds. We believe, like Philip K. Dick does, that there is no longer one reality, but seven billion different ones. The challenge is to give them form. The individualistic approach, although associated with right-leaning liberalism, is also an impetus for highly individualistic micromodifications to reality, usually to satisfy some desire that official culture is unable to meet, such as unconventional political views or specialist sexual fantasies and fetishes. Timothy Archibald's *Sex Machines: Photographs and Interviews*⁹ (2005) is a wonderful example of people tinkering with the world around them to accommodate their desires. It is a shame the machines are so phallic and mechanical but nonetheless the technical ingenuity is fascinating. *Image Club* (2003) by Tsuzuki Kyoichi is a photographic document of environments, props, and services designed to facilitate sexual fantasies. These are more conceptual than Archibald's devices because they work on the mind rather than the body. They are usually one-off environments set up to aid sexual fantasies, specially constructed parallel worlds where the usual rules governing human interactions are suspended. No matter what the setting—tube carriage, classroom, forest, workplace—there is always a bed. Unlike sex machines, the environments are not well crafted; there is just enough detail to transport the client's imagination.



Timothy Archibald, *Dwayne with the Two to Tango Machine*, 2004, from his book *Sex Machines: Photographs and Interviews* (Los Angeles: Daniel 13/ Process Media, 2005). Photograph by Timothy Archibald.

The construction of one-off micro-utopias built around the desires of a single person or small group is something artists have explored, too.¹⁰ Atelier Van Lieshout has experimented with fantasy environments within an artistic context, although it is never clear how much is about satisfying his own fantasies and how much is commentary. His early work consisted of rooms and environments designed to make orgies more comfortable and easy to run. In 2001 he took over an unused plot in the Rotterdam Harbor area, called it AVL-ville, and sought to have it recognized as a free state. Due to a throw-away remark in a lecture, AVL-ville attracted unwanted attention from inspectors and the police, creating vast amounts of bureaucracy. Eventually Van Lieshout decided to close AVL-ville so that he could concentrate on producing art works rather than dealing with officials.

Perhaps the most successful form of micro-utopia is the intentional community, or its more extreme form, the cult. Our favorite is Panawave. Based in Japan, one of their core beliefs is the harmfulness of electromagnetic radiation, and they go to great lengths to avoid it. Believing that white protects them from harmful rays they cover their vehicles, camps, and personal objects with white fabric. They travel in convoys seeking parts of Japan with low levels of electromagnetic pollution. They first came to public attention in the early 2000s during a standoff with police after causing a huge traffic jam while searching for a safe haven. Their use of white fabric, tape, and uniforms to protect themselves and their leader from electromagnetic radiation led to many striking images of their temporary camp circulating in the media.

Whether you view them as charming eccentrics or restless idealists, the creators and users of these devices and environments defy the strict rules Western societies place on mixing different kinds of reality. They inspire us to question why the real is “real” and the unreal is not; who decides? Is it market forces, evil genius, chance, technology, or secret elites?

These projects celebrate people’s ability to make their own imaginative worldviews tangible. The days of designers dreaming on behalf of everyone have passed but designers can still facilitate a dreaming process that unlocks people’s imaginations. Micro-utopias like these serve as inspiration, encouraging not mega-utopias defined from the top down but seven billion little utopias emerging from the bottom up, facilitated by, not determined by, design.

BIG DESIGN: THINKING THE UNTHINKABLE

Although inspirational, these externalized dreams and fantasies are still quite modest in scale—a disadvantage of working outside official systems, semi-underground, or in the privacy of one’s home or studio. There are also dreamers working within the system of industry, funding organizations, universities, and markets, who are attempting to imagine a better world for all, even if sometimes they might reflect their own personal obsessions.

Buckminster Fuller would usually spring to mind as an example of this but his visions are a little too technological and rational for us. Norman Bel Geddes, however, mixed modern, everyday technologies with dreams, fantasy, and the irrational. He went well beyond problem solving, using design to give form to dreams. In his *Highways & Horizons* exhibit, better known as *Futurama*, for the General Motors pavilion in the 1939 New York World’s Fair, Bel Geddes designed an environment of large-scale models featuring a national

network of expressways, illustrating its implications and possibilities twenty years into the future. For example, by speeding up traffic flow and reducing journey times, commuters could live further away from city centers, which in turn affects the workable size of cities. At the time *Futurama* was viewed very much as an America of the near future, a realizable dream rather than a fantasy. Other projects were closer to fantasy. His *Airliner Number 4* (1929) was a nine-story, amphibian plane twice the size of a Boeing 747 jumbo jet. It had room for deck games, an orchestra, a gymnasium, a solarium, airplane hangars, and could sleep 606 passengers. Bel Geddes intended it to be built and flown between Chicago and London, but sadly, was unable to raise the necessary funding.



Norman Bel Geddes, *Airliner No. 4*, 1929. Image courtesy of the Edith Lutyens and Norman Bel Geddes Foundation.

In the shadowlands of big thinking is the RAND Corporation and Herman Kahn. The RAND Corporation developed many of the techniques used today for scenario building.¹¹ Kahn, who coined the phrase “thinking the unthinkable,” more than many, really did think the unthinkable. At one point he reconceptualized the practicalities of nuclear war by thinking through the aftermath in a rational way: what the costs would be and how America could rebuild itself after a nuclear war. This alarmed many people because it shifted the possibility of a nuclear war from the realm of the completely unimaginable to something much closer to everyday life, even if at an extraordinarily high human and planetary cost.



Interview with Herman Kahn, May 11, 1965. Photograph by Thomas J. O'Halloran. Photograph courtesy of Library of Congress Prints and Photographs Division Washington, DC 20540 USA.

From the post-war years to the 1970s, rather than only being put to work solving problems, technology was also used to ignite excessive imaginings and audacious dreams for how life could be, and not just on earth; there were many proposals for space colonies, too. This was not limited to Europe and the United States. During the same period the Soviet Union developed many technologies embodying the dreams, values, and ideals of a parallel communist world. The *Ekranoplan* was a heroic attempt to create a novel plane that

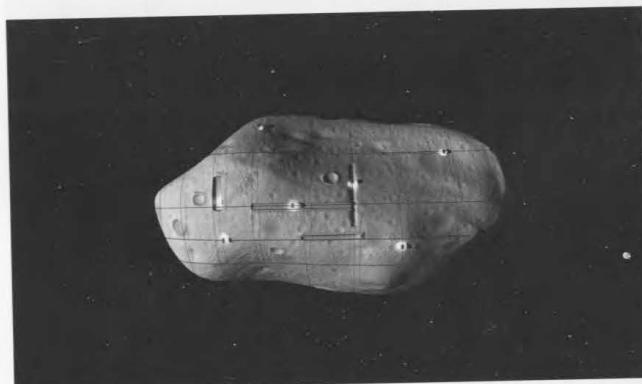
skimmed the surface of the water using ground effect to fly at great speed delivering vast numbers of marines to battle zones separated by large lakes. Soviet technology, developed outside Western ideals and contexts, shows that technology is as much an embodiment of ideology, politics, and culture as science. One can't help but wonder if ideology¹² is at the source of true innovation in the sense that new ideas and thinking come from new and different ways of viewing the world.



The Lun-class Ekranoplans, Kaspiysk, 2009.
Photograph by Igor Kolokolov.

The Lun-class Ekranoplans, Kaspiysk, 2009.
Photograph by Igor Kolokolov.

With a few governmental exceptions, such as DARPA—where some of the most imaginative, boldest, and admirably ridiculous thinking is to be found, invisibility cloaks and holes in time, for example—and commercial exceptions such as Google's X Lab, which is currently working on space elevators and asteroid mining, it feels today as if the era of big ideas and fantastic dreams has passed. Much of today's dreaming around technology is shaped by military priorities or a short-term, market-led view of the world based on standardized consumer dreams and desires. And bold visions put forward by architects such as *Terreform ONE* and *BIG* (Bjarke Ingels Group) don't seem to include the underlying alternative worldviews and ideology of earlier big thinkers. Even the dream of space travel has been hypercommodified, becoming just another commercial offer, something artist Joseph Popper addresses in his project *One-Way Ticket* (2012): a proposal to send one person on a voyage into deep space from which he or she would never return. He made a short film of episodes transmitted from the spacecraft at key moments, suggesting unique psychological phenomena that might occur on a one-way trip into deep space. But who would this astronaut be—a volunteer with a terminal illness, a lifer opting to die for science rather than in prison? Although in this project, space travel is being considered once again, it is anything but romantic. The messy human details—ethical, psychological, and physical—are right in the foreground.



Planetary Resources Inc., *Asteroid Mining*, 2012. Swarms of low-cost robotic spacecraft will enable extraction of resources from near-earth asteroids.



Joseph Popper, *The One-Way Ticket*, 2012. Film still.

SOCIAL DREAMING

The social dimension to big thinking has vanished, replaced by science, technology, and logic. Where can new worldviews be developed, how can they be used to generate new visions for everyday life? Think tanks are supposed to do this, but as Adam Curtis writes,

the question is whether most Think Tanks may actually be preventing people thinking of new visions of how society could be organised—and made fairer and freer. That in reality they have become the armoured shell that surrounds all politics, constantly setting the agenda through their PR operations which they then feed to the press, and that prevents genuinely new ideas breaking through.¹³

Other organizations such as The Seasteading Institute try to develop new possibilities within existing systems by identifying legal loopholes for establishing new economic zones. One of their proposals is to moor a ship just off the Californian coast as a base for high-skilled workers who want to participate in Silicon Valley but are unable to secure work visas.¹⁴ Although we like the legal cleverness of this proposal we are not so convinced by the ends it serves. Bruce Mau's *Massive Change Project* (2006) has as its motto, "It's not about the world of design. It's about the design of the world."

A fantastic starting point, the project “explores the legacy and potential, the promise and power of design in improving the welfare of humanity.”¹⁵ But again, weighed down by the gravity of reality, the focus is on problem solving. The website for the Centre for Design and Geopolitics based at the University of California, San Diego, says it views California as a design problem, which nicely captures the scale, ambition, and spirit of their mission to redesign geopolitics rather than trying to solve problems within existing political structures.¹⁶ This is much closer to our interest in providing new perspectives, sparking fresh thinking, and broadening the imaginative scope of thinking in this area.

But of course writers have been doing this for a long time, and many utopias (and dystopias) are forms of political fiction. One of the first by a designer is William Morris’s *News from Nowhere* in 1890, which set out his vision for an alternative England set in a utopian future.¹⁷ Since 2000 there has been a spate of design books exploring ideas around alternative models of everyday life from economics to language. Architect Ben Nicolson’s *The World: Who Wants It* (2004) sets out a new world order funded by the United States that addresses some of the world’s more complex problems in imaginatively impractical ways. More recently, Sternberg Press’s *Solution Series* invites authors to reimagine existing countries. In *Solution 239–246: Finland: The Welfare Game* (2011), Martti Kalliala, Jenna Sutela, and Tuomas Toivonen set out eight and one-half ideas for a new Finland including hosting the world’s nuclear waste and sending its young around the world as gap-year ambassadors of Finnish mythology to boost the tourist trade. In *Solution 11–167: The Book of Scotlands* (*Every Lie Creates a Parallel World. The World in Which It Is True*), Momus describes hundreds of Scotlands, all fictional, some more bizarre than others. The series applies imagination to issues ranging from national identity and mythology to contemporary social and economic problems in ways that inspire the reader to speculate and imagine, too. Although they do not offer design proposals they do provide fascinating briefs.

Can design operate in this way, borrowing methods from literature and art and applying them to the real world as thought experiments? The design collective Metahaven has developed a sustained critique of neoliberalism through a series of uncorporate identities for imaginary corporate-government states by subverting branding and corporate identity strategies from a graphic design perspective.¹⁸ Their *Facestate* (2011) installation for *Graphic Design: Now in Production* at the Walker Art Center explored parallels between social software and the state: “It is about politicians hailing the entrepreneurship of Mark Zuckerberg, about the neoliberal dream of minimal



Sternberg Press, Berlin, *Solution Series Cover Artwork*, 2008, ongoing.
Designed by ZAK Group, London.

government interference, about the governance of social networks, about face recognition, about debt, about the future of money and currency in social networks, and about the dream of total participation.”¹⁹ Metahaven combines extensive research with the setting out of fictional corporate government hybrids through design.

Whereas Metahaven goes straight to the heart of the system producing political fictions expressed through corporate brand and identities, we are interested in exploring how the consequences of different political systems might affect things such as food production, transport, energy, and work, ideally with surprising and unexpected outcomes or how different political systems could create very different experiences of everyday life. *Eneropa* (2010) by Rem Koolhaas's think tank AMO is part of a study for the European Climate Foundation called *Roadmap 2050* looking at energy strategies for Europe. The main idea is to run Europe on a shared grid of renewable energy. Although the project consists of a substantial report, it is one image that catches our attention, a fictional map of an alternative Europe with regions renamed according to their main source of renewable energy—Isles of Winds, Tidal States, Solaria, Geothermalia, Biomassburg, and so on. It is a simple image for a complex idea but it is effective and can easily facilitate debate and discussion about shifting European identities due to shared energy sources among the public, policy makers, and the energy industry.



Rem Koolhaas, AMO, *Roadmap 2050 Eneropa*, 2010. © OMA.

THE UNITED MICRO-KINGDOMS: A THOUGHT EXPERIMENT²⁰

Inspired by all this big thinking we decided to try a design experiment to take the literary imagination behind the Sternberg Solution series, or *The World, Who Wants It*, and combine it with more concrete design speculations.

After finding the wonderfully titled *The Beginner's Guide to Nation-Building* published by the RAND Corporation in 2007,²¹ we began to wonder how nations were built and if states could be designed. Architects have long developed master plans for cities and regions. Could we talk about big ideas through small things? The Design Museum in London invited us to try.

It is common in the design of technology products and services to start with personas, then develop scenarios, all within existing reality. Here, we wanted to zoom out and start with new realities (ways of organizing everyday life through alternative beliefs, values, priorities, and ideology) then develop scenarios and possibly personas to bring it to life, to "tell worlds rather than stories," as Bruce Sterling so aptly puts it.²² By presenting the viewer with design proposals for objects, would they imagine the world the designs belong to and move from the specific to the general? This is very different from other world-making activities such as cinema and game design in which the world itself is shown, and even architecture, which usually presents an overview from which the viewer has to imagine the specific.

SO YOU WANT TO DESIGN A STATE?²³

We explored different ways of constructing alternative ideological systems and came across a type of chart used to illustrate different political positions. There are several variations but they typically have four points on two axes: left, right, authoritarian, and libertarian. The left-right axis usually defines economic freedom whereas the libertarian-authoritarian axis defines personal freedom.²⁴ Based on these, we began to explore an alternative England divided into four regions with different ideologies. We used the United Kingdom because a completely imaginary place would lack any connection to the world we currently occupy.²⁵ We hoped calling them micro-kingdoms rather than micro-states or micro-nations would suggest they are more like fables or tales based on imagination rather than hard scenarios based on analysis and reason—somewhere between sci-fi and foresight.

Not wanting to visualize the world in a cinematic way or use pieces of evidence such as flags, documents, and other bits of everyday life but instead to present it through one type of object that would allow for comparisons between the different micro-kingdoms, we needed to find an appropriate vehicle. We chose transport. Transport involves not only

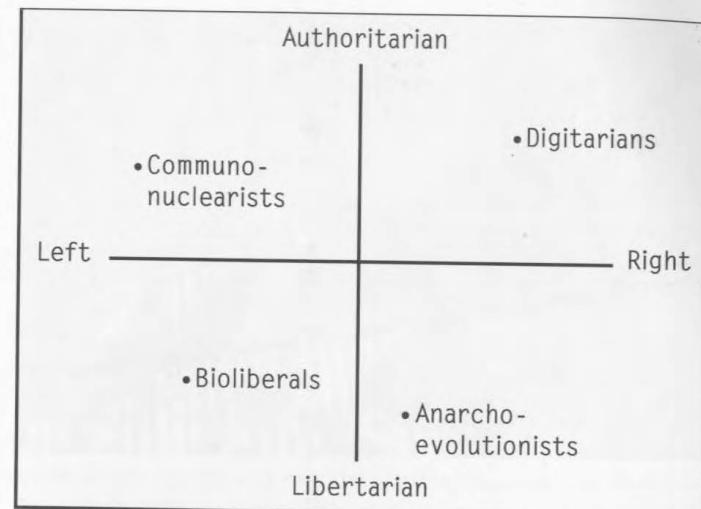
technology and products but also infrastructure; we could think big but present our thinking at the more concrete scale of vehicles. Each vehicle would embody different ideologies, values, priorities, and belief systems—essentially alternative worldviews.

Many assume that when fossil fuels run out Western politics will continue and simply apply itself to whatever new form of energy replaces fossil fuels. This is not necessarily the case. Western political systems are intricately entangled with fossil fuels. As Timothy Mitchell writes in *Hydrocarbon Utopia*, “The leading industrialized countries are also oil states. Without the energy they derive from oil, their current forms of political and economic life would not exist. Their citizens have developed ways of eating, traveling, housing themselves, and consuming other goods and services that require very large amounts of energy from oil and other fossil fuels.”²⁶

By working with vehicles we could playfully explore new combinations of political systems and energy sources in a post-fossil-fuel England divided into four super shires, each experimenting with different forms of energy, economics, politics, and ideology. Each one offers an alternative to a fossil fuel-dependent world and is designed to expose trade-offs: convenience versus control, individual freedom versus hardship, unlimited energy versus a limited population. Vehicles are also highly charged symbols of freedom and individuality, which would allow us to explore how new dreams might evolve for each micro-kingdom. Each vehicle would stand for something more than itself, not exactly a metaphor, more a synecdoche.

Next we sketched out four regions and four combinations of technology and ideology: communism and nuclear energy, social democracy and biotechnology, neoliberalism and digital technology, and anarchy and self-experimentation.

The project narrative is as follows: In an effort to reinvent itself for the twenty-first century, England devolved into four supershires inhabited by digitarians, bioliberals, anarcheo-evolutionists, and communo-nuclearists. Each county became an experimental zone free to develop its own form of governance, economy, and lifestyle. England became a deregulated laboratory for competing social, ideological, and economic models. Its aim was to discover through experimentation the best social, political, and economic structure to ensure its existence in the new postcrash world order—a sort of preapocalyptic experiment designed to avoid the thing itself, which increasingly, seemed inevitable.

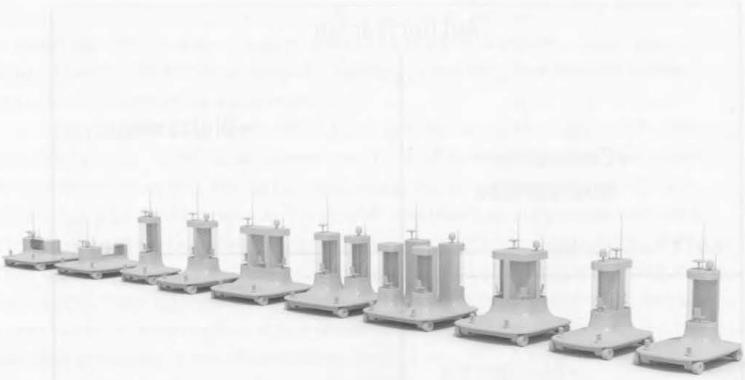


Political Chart. Illustration by Kellenberger-White.

DIGITARIANS

As their name suggests, digitarians depend on digital technology and all its implicit totalitarianism—tagging, metrics, total surveillance, tracking, data logging, and 100 percent transparency. Their society is organized entirely by market forces; citizen and consumer are the same. For them, nature is there to be used up as necessary. They are governed by technocrats, or algorithms—no one is entirely sure or cares—as long as everything runs smoothly and people are presented with choices, even if illusionary. It is the most dystopian yet familiar of all the micro-kingdoms.

Their main form of transport is the digicar, a development of electric self-drive cars being pioneered today by companies such as Google.²⁷ The car has evolved from being a vehicle for navigating space and time, to being an interface for navigating tariffs and markets. Every square meter of road surface and every millisecond of access, at any moment, is monetized and optimized. Today, self-drive cars are presented as social spaces for relaxing commutes, but digicars are closer to economy airlines, offering the most basic but humane experience. It is essentially an appliance, or computer, constantly calculating the best, most economic route. The dashboard doesn't



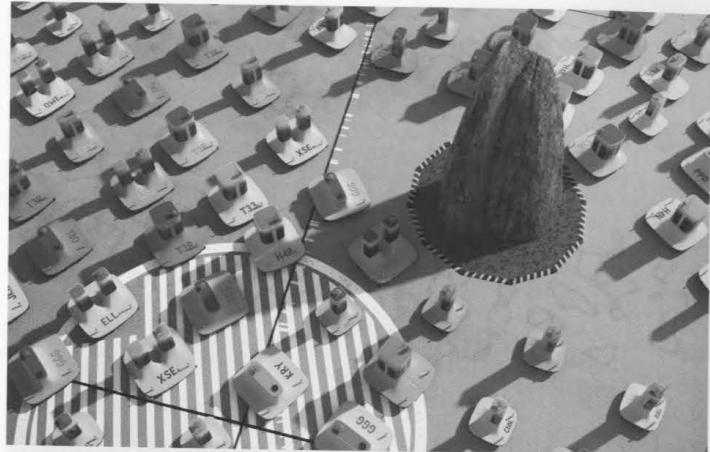
Dunne & Raby, *Digicars*, from *United Micro Kingdoms*, 2013. Computer model by Graeme Findlay.

have speed or rev counters but readouts for money versus time. Those on pay-as-you-go contracts rather than prepaid ones must calculate in real time: "move into the blue lane for 34 minutes to save £15.48 on your current trip"—no mean feat.

These highly responsive, tailored pricing systems, ostensibly to meet individual needs and optimize road access, are really designed to maximize profit. The roads are still owned by the state but companies bulk buy access and offer it to their customers in the same way telecom companies today manage the radio spectrum.

The digicar does allow for expression of status though. Power and speed are replaced by footprint and privacy—how much space you take up and whether it is shared or not. There are priority tariffs, and options for sharing journeys while maintaining privacy. Tariffs are calculated according to a P5 index: price, pace, proxemics, priority, and privacy. There is also a sleeper option in which the traveler is put to sleep and sent on his or her way with all vital functions remotely monitored.

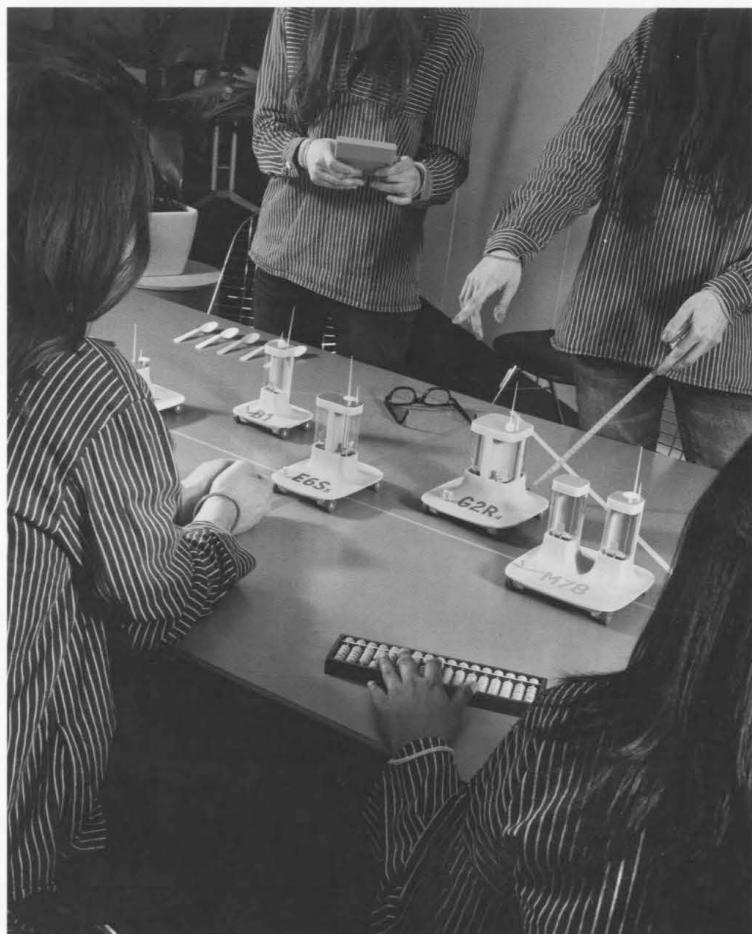
As digicars are computer managed and controlled, they rarely crash or collide, consequently their designs are simple and utilitarian. They resemble appliances: cute, charming, basic. The digicar stands for all that is wrong with today's services. It is the ideal solution for a society that promotes freedom of choice and entitlement above all else, even in the face of ever-diminishing resources, such as road space.



Dunne & Raby, *Digicars with Rock*, from *United Micro Kingdoms*, 2013. CGI by Tommaso Lanza.



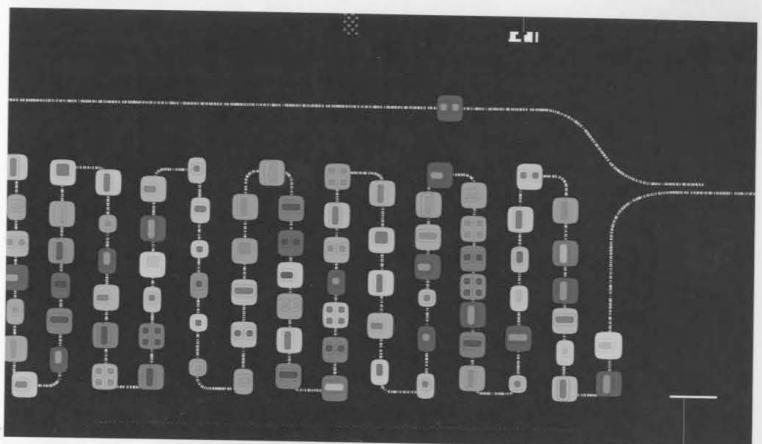
Dunne & Raby, *Digicars*, from *United Micro Kingdoms*, 2013. CGI by Tommaso Lanza.



Dunne & Raby, *Digicars*, from *United Micro Kingdoms*, 2013. Photograph by Jason Evans.

As one might expect, Digiland is made of vast, never-ending planes of tarmac: a cross between airport runways, sports fields, and car parks, dense with markings no human can decode—a landscape exclusively for machines. Clean electric cars mean distinctions between inside and outside are minimized; roads flow through houses, shops, and factories.

Digitarians are already among us and their mind-set is shaping the world around us. How far are we prepared to let it spread?



Dunne & Raby, *Digiland*, from *United Micro Kingdoms*, 2013. Video still from an animation by Nicolas Myers.

BOLIBERALS

Whereas digitarians use digital technology to manage supply and demand of diminishing resources and to create an illusion of unlimited access for all, the bioliberals who are social democrats, pursue biotechnology, and with it, new values.²⁸ They, too, want freedom and choice for all but they want it to last. Bioliberals live in a world in which the hype of synthetic biology has come true and delivered on its promises. Massive government investment in biotechnology has led to a society in symbiosis with the natural world. Biology is at the center of their worldview, giving rise to a radically different



Dunne & Raby, *Biocar*, from *United Micro Kingdoms*, 2013.
Photograph by Jason Evans.



Dunne & Raby, *Biocars*, from *United Micro Kingdoms*, 2013.

technological landscape to our own. Nature is enhanced to meet growing human needs but people also adjust their needs to match available resources. Each person produces his or her own energy according to their needs. Bioliberals are essentially farmers, cooks, and gardeners. Not just of plants and food, but of products too. Gardens, kitchens, and farms replace factories and workshops.

Bioliberals regard the use of huge amounts of energy to overcome gravity and wind resistance to be counterproductive and primitive. Faster is no longer better. People travel in extremely light organically grown, biofueled vehicles, each customized to its owner's dimensions and needs.

Fossil fuel and the combustion engine is an impressive combination that dominates and shapes the Western world today. Whole dreams of freedom have grown from it. But it is unsustainable on so many fronts. What if we looked at transport through a biotechnological lens: what would a true biocar be like? Ones we have seen don't look so different. Current research into biofuels such as algae aims to replace petrol so that little has to change.

If we were to fully embrace an alternative technology like biotechnology, society and its infrastructure would have to substantially change. Is it futile to even consider designing a biocar from scratch? Based on current values it seems to make no sense at all, but perhaps that's the point.

The bioliberal car combines two technologies: anaerobic digesters that produce gas and fuel cells that use the gas to produce electricity. Bags of uncompressed gas cannot compete with the efficiency of fossil fuels, a fuel based on millions of years of preparation compared to one that takes hours or days. The resulting cars are slow, bulky, messy, smelly, and made of skin, bone, and muscle, not literally but in abstracted forms. Wheels, for example, are powered individually using jellylike artificial muscles.²⁹

We wanted their vehicles to be nonaerodynamic, big and unwieldy, suggesting that a very different logic informs their design, one that is absurd from today's perspective. But that's the point. This is a visual expression of what needs to change if we are to develop new ways of existing based on new values.

ANARCHO-EVOLUTIONISTS

The anarcho-evolutionists abandon most technologies, or at least stop developing them, and concentrate on using science to maximize their own capabilities through training, DIY biohacking, and self-experimentation. They believe that humans should modify themselves to exist within the limits of the planet rather than modifying the planet to meet their ever-growing needs. There is a high number of trans- and posthumanists among anarcho-evolutionists. They essentially take evolution into their own hands. Very little is regulated; citizens can do as they please as long as it doesn't harm anyone else.

The anarcho-evolutionists have little trust in government and tend to self-organize. Citizen's rights are based only on trust and agreement between individuals and groups. They are the opposite of digitarians. The human is at the center of their world, along with freedom from being told what to do.

The anarcho-evolutionist's world is a world without cars. Their transport is either human, wind, or genetically modified animal powered. The vehicles are designed around the principle of organization without hierarchy and embody their social order and values. Sociality and cooperation are more important than speed and competitiveness. A misconception about anarchy is that it is chaotic; in fact, anarchism depends on a high degree of



Dunne & Raby, *Very Large Bike (VLB)*, from *United Micro Kingdoms*, 2013. Photography by Jason Evans.

organization. It's just that it is flexible, fluid, and nonhierarchical. The anarcho-evolutionists travel in groups, each doing what they are best at, and each is responsible for a bit of the vehicle. The vehicles reflect their social order and values. The bike is not as many would expect, a collection of independent bikes, but a very large bike (VLB) designed for traveling long distances in groups, pooling effort and resources. Traveling on abandoned motorways, it is gently steered by leaning, each person knowing from experience and practice just how much is required of them. The elderly, young, and weak are carried along by the others and are experts at singing and telling stories to entertain and motivate the cyclists.

The family or clan is the most important social unit. Families evolve around particular forms of transport using a combination of genetic modification, training, and the passing down of knowledge and skills from generation to generation. A distinctive physique is associated with each clan and is a matter of pride. Cyclists have well-developed thighs, balloonists are tall and willowy, and so on. As well as modifying themselves, anarcho-evolutionists have developed new forms of animal to satisfy their needs: the hox is a mix of horse and ox, a hybrid animal bred to move heavy loads and pull carriages, while the pitsky is a combination of pit bull terrier and husky, designed for pulling smaller loads and personal protection.



Dunne & Raby, *Balloonist, Cyclist, Hox, and Pitsky*, from *United Micro Kingdoms*, 2013. Photograph by Jason Evans.

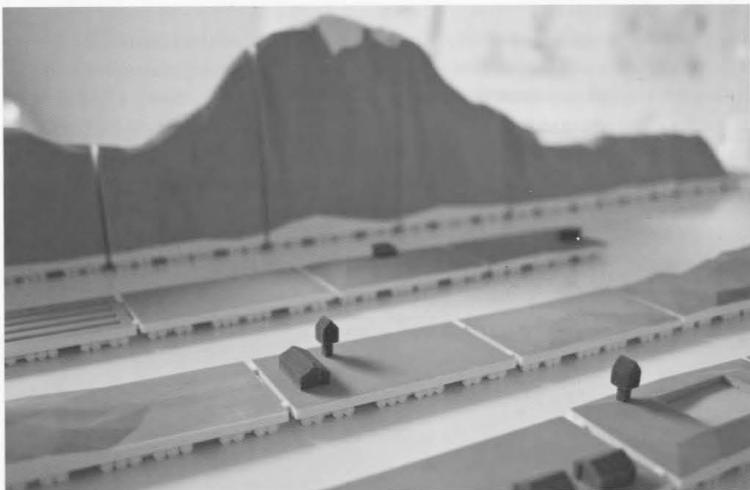
COMMUNO-NUCLEARISTS

The communo-nuclearist society is a no-growth, limited population experiment. They live on a three-kilometer-long, nuclear-powered, mobile landscape that crawls from one end of the country to the other, straddling two sets of three-meter-wide tracks. Each carriage is twenty by forty meters, and there are seventy-five of them.³⁰ The environment surrounding the tracks, like a demilitarized zone, is fully naturalized, a sort of nature paradise to be enjoyed by nature-loving communo-nuclearists from the safety of their train.



Dunne & Raby, *Train*, from *United Micro Kingdoms*, 2013. CGI by Tommaso Lanza.

The state provides everything. They depend on nuclear energy for their continued survival and, although they are energy rich it comes at a price—no one wants to live near them and they are under constant threat of attack or accident, even though their energy source uses a relatively safe thorium reactor. Consequently, they are organized as a highly disciplined mobile micro-state. Fully centralized, everything is planned and regulated. They are voluntary prisoners of pleasure, free from the pressures of daily survival, communists sharing in luxury not poverty. Like a popular night club there is a one-out one-in policy but for life.



Dunne & Raby, *Train*, from *United Micro Kingdoms*, 2013.

Inhabitants live inside the mountains, which contain labs, factories, hydroponic gardens, gyms, dorms, kitchens, nightclubs, and everything else they need. On the mountains are swimming pools, fish farms, and bookable huts for periods of isolation.

Although inspired by 1950s, 1960s, and 1970s dreams of space colonies, older UMK dwellers see echoes of early twenty-first-century Dubai on tracks. The train allows two very different sides of their collective psychology to flourish. At times it is a hedonistic playground, a very loud, vast mobile pleasure paradise announced in advance by a slow thumping sound, like a party cruise boat on the Thames. But mostly, like the 1930s Californian homesteaders it is a community seeking isolation on the edges of civilization, away from the detrimental effects of the Anthropocene. An ecological wilderness similar to demilitarized zones has emerged along its route where an absence of humans means an abundance of wildlife, and rare species can thrive. Anyone who gets too close is zapped with a noise cannon. Their survival requires extraordinary discipline, but to maintain mental well-being in such a confined environment, diversity is accommodated as much as is possible.

The train is an aid for imagining alternative ways of organizing everyday life within a zero growth system. It is designed to be suggestive, for people to wonder what might lie inside the mountains, how it would work, and what it would be like to live on. The potential for this kind of design—inspired by policy, social science, and the world around us but expressed through imaginative design speculations—is beautifully put by the Wellcome Trust's Ken Arnold speaking about what design has to offer other disciplines such as science:



Dunne & Raby, *Train*, from *United Micro Kingdoms*, 2013. Photograph by Jason Evans.

[Design can be] the stable platform on which to entertain unusual bedfellows. The glue for things that may not be naturally sticky. The lubricant that allows movement between ideas that don't quite run together. The medium through which we can make otherwise awkward connections and comparisons. The language for tricky conversations and translations.³¹



Dunne & Raby, *Train*, from *United Micro Kingdoms*, 2013. Photograph by Jason Evans.

NEW REALITIES

As we rapidly move toward a monoculture that makes imagining genuine alternatives almost impossible, we need to experiment with ways of developing new and distinctive worldviews that include different beliefs, values, ideals, hopes, and fears from today's. If our belief systems and ideas don't change, then reality won't change either. It is our hope that speculating through design will allow us to develop alternative social imaginaries that open new perspectives on the challenges facing us.

The idea of the "proposal" is at the heart of this approach to design: to propose, to suggest, to offer something. This is what design is good at. It can sketch out possibilities. Although these proposals draw from rigorous analysis and thorough research, it's important they do not lose their imaginative, improbable, and provocative qualities. They are closer to literature than social science, emphasize imagination over practicality, and ask questions rather than provide answers. The project's value is not what it achieves or does but what it is and how it makes people feel, especially if it encourages people to question, in an imaginative, troubling, and thoughtful way, everydayness and how things could be different. To be effective, the work needs to contain contradictions and cognitive glitches. Rather than offering an easy way forward, it highlights dilemmas and trade-offs between imperfect alternatives. Not a solution, not a "better" way, just another way. Viewers can make up their own minds.

This is where we believe speculative design can flourish—providing complicated pleasure, enriching our mental lives, and broadening our minds in ways that complement other media and disciplines. It's about meaning and culture, about adding to what life could be, challenging what it is, and providing alternatives that loosen the ties reality has on our ability to dream. Ultimately, it is a catalyst for social dreaming.