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IMAGINARIES OF THE FUTURE 01: BODIES AND MEDIA

Making Meaning: Utopian Method for Minds, Bodies, and Media in Architectural Design

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Education is a practice of futurity. It seeks to prepare the minds and bodies that will construct and inhabit the future. Design in the architectural disciplines-the architectures-also prepares buildings (landscape, edifice, city, countryside) for future dwelling.¹ This article examines the use of the imagination in the design process and how it may be employed to posit better future worlds despite, and counter to, the prevalence of neoliberal imaginaries. Utopianism as both pedagogical method and design process is presented, as is the employment of the senses to bring the site and its materials alive in the embodied imagination. Both are methods for envisioning scenarios for whole ecological, sensual, and emotional worlds to create better designs for dwelling spaces. Processes of making are shown as interwoven with imagined stories, simulations, and situations in a series of sections. Each section attempts to describe a whole realm of making. The sections are thus loosely held together within the structure of the article to allow the reader space for imagination and discovery in the *terrae incognitae* between them.

¹ I use 'building' to describe landscape here as a provocation, but also as a more robust descriptor than the commonly used term 'built environment'. 'Built environment', as it is generally employed, fails to describe landscapes which are built, but which are not urban, such as farms or national parks. Thus to think of landscapes as buildings is more inclusive, but also it also forces an acknowledgement of landscapes as the result of acts of will, physical effort, artifice, and imagination.

Once Upon a Time

'Once' names the specific, the particular. 'Upon' signifies emplacing, situating, taking place. 'A time' sets a temporal context. Before the phrase 'once upon a time' is written or spoken there is a suspension: a 'nowhen', a nowhere, a nothing. The phrase prepares us to be temporally and spatially situated. It enacts a ritual that creates a space in the imagination for a story to unfold. What follows 'once upon a time' is an important set of variables that begin to happen, to take place in that cleared, prepared site in the mind's eye. Did I say 'mind's eye'? I meant to say the *mind's body*: the imagination is not merely visual, but multi-sensory and emotional. Stories are not just visual, they are visceral. I could just as easily have said the *body's mind*. Like lovers, they belong to each other. Belonging: being and longing.

Once upon a time there was a princess who lived in a castle. The princess had everything she could ever want: jewels, fine clothing, the most delicious food in the kingdom. Still, though, she was sad.

The castle is a cold and sorrowful place, isn't it? Those jewels are joyless rocks, and the supposedly delicious food tastes like cardboard and smells of nothing. The sadness that enters in the last sentence sets the tone, the mood, the atmosphere. You can probably feel the rough surface of the castle's stone and the stout planks of the princess's dinner table. Yes, that's you I'm talking to. Hello out there. Welcome to my mind, and welcome to the place I've cleared and prepared for both of us in our imaginations. It's nice to share this scene with you. It's nice to have made a little space for meaning: what does anything mean without emotion and sensation?

Once upon a time we built the places of our heart's desires

I want to imagine with you a scenario in which desire and pleasure are at the core of the design process. The processes of design have much in common with the processes of imaginative play. They both require the envisioning and rehearsal of scenarios, and they are both often utopian. Utopias are ways of analysing and evaluating situations through narratives that allow us to test possible worlds. They can be used as methods both to imagine better worlds (not necessarily perfect ones). Or they can be used to picture what might happen if things go wrong: meet dystopia, utopia's evil twin. Sometimes our heart's desires don't lead to healthy choices, and working through utopian scenarios is a way to figure out which of our desires may feasibly be fulfilled (which moves them from the realm of the utopian to the attainable)—and to what extent. The limits of fulfilment under capitalism and its attendant structural inequalities can, in many ways, only be tested first as utopian scenarios. Both design and imaginative play also allow us to test potentially dangerous scenarios without endangering actual subjects in real life experiments.

The experiment I want to undertake here, though, is a daring but not a dangerous one, and it is potentially enriching. I want to dare to imagine a world where people live lives characterised by ease, pleasure, and sensuality; a world in which everyone has enough to satisfy both their basic needs and a generous selection of superfluous desires. This world is one that must be imagined in detail. Such prefigurative work is an act of make-believe. Ruth Levitas refers to the 'imaginary reconstitution of society' (Levitas, 2013: xi); but the act of imagining encompasses the imaginary reconstitution, not only of society as such, but of the spaces in which society exists. Make-believe is a practice that has agency. Our dream-worlds and our life-worlds are constantly interacting to shape place and dwelling. Using utopian imagination as method, then; for enacting positive change in the built and lived landscape is the only way to ensure that our future world provides adequate pleasure to support a good life for all.

This article will examine the roles designers play in humankind's futurity—as makers, envisioners, and tastemakers—in light of contingent and relational models of utopianism, rather than those that are simplifying, teleological, and diagrammatic. Further, the creation of more fulfilling and sustainable places to live requires the reshaping of popular beliefs to change patterns of everyday life and consumption. The article specifically addresses the persuasive, propagandistic nature of representation for design and asks that designers concentrate on using their powers for good.

Naturally, none of this can happen without education; and education, like utopianism, is a practice of futurity. It seeks to prepare the minds and bodies that will construct and inhabit the future. The educational experience that most people receive, in the architectures or any other discipline, however, is one that is designed to prepare them for a *particular* future.² This involves preparing students for preconceived roles, often employing what Paulo Freire (2007) called 'banking education', in which students are envisioned as containers into which knowledge is deposited. The nation-state, for example, has an interest in creating patriotic citizens, while the neoliberal project seeks to create 'flexible' subjects who are 'lifelong learners'. A fully democratic model of education might resemble neither of these, seeking, rather, to put into practice *equality* and striving towards *emancipation* (see Simons & Masschelein, 2011; Ross, 1991): both emancipation (here the freedom that comes with ability and empowerment) and equality are mutually assured and maintained through everyday practices. The 'learning society', while expressing 'principles of a universal humanity and a promise of progress that seem to transcend the nation' (Simons & Masschelein, 2007: 9), is undermined by its risk-aversion and also by the absence of emancipation from studenthood itself at formal education's end. As Gert Biesta warns:

The desire to make education strong, secure, predictable, and risk-free is an attempt to forget that at the end of the day education should aim at making itself dispensable—no teacher wants their students to remain eternal students—which means that education *necessarily* needs to have an orientation toward the freedom and independence of those being educated. (Biesta, 2014: 2, emphasis in original)

While learning may continue through life, education as formal learning is a transitional period and thus should come to an end, otherwise the student becomes stuck in this threshold, forever a student; never released into full competency and agency. Education should build the capacity to apply the imaginal to the real and thus to transform it, and in doing so make other, better futures possible. In this, education

² I refer to architectures in the plural because it assumes the equality of fields which are complementary to, but not subservient to (or subsets of) architecture, including planning, landscape architecture, urban design, interior architecture, theatrical set design, and so on. 'Architectures' is a term which, like 'knowledges', resists totalizing and hierarchical tendencies and values both diversity in the present and the possibility of the emergence of other allied yet distinctive fields in the future.

might resemble what David Graeber, reflecting a common position in anarchist theory, refers to as 'prefigurative politics', 'the idea that the organizational form that an activist group takes should embody the kind of society we wish to create' (Graeber, 2013: 23). Graeber applies this to activism, particularly to the Occupy movement. The 'democracy project', to which Graeber refers in the title of his book, should be brought into education, in particular to encourage dissent. Democracy, conceived as a project, allies itself naturally to emancipation and equality as practices. There is no room for practices of dissent in an education that is 'strong, secure, predictable, and risk-free', nor in the society which it might produce. A project of democracy exists as a 'social ecology' (another term from anarchist theory; see Bookchin, 2005) of interpenetrating, mutually informing ideas that exist in the world and in human associations. That social ecology must be nested into the ecology of the physical, inhabited world.

In both education and professional practice, design processes are currently being re-envisioned in ways that are analogous to natural processes and ecologies (see Corner, 1999; Meyer, 2000; Reed & Lister, 2014). This makes sense if we are to design, make, and build in responsively cohesive ways. Envisioning design as a conversation with sites, materials, processes, habitats and habits, and so on engenders the according of agency to places and all they are made of. The increasing interpenetration of social, cultural, and physical worlds with new media ecologies further underscores the importance of envisioning these processes differently.

Design involves drawing, making, modelling, and simulating, which is yet another practice which can be envisioned as having an ecological structure. As an imaginative activity, simulation is aided by design iterations involving the standard modes of representation for design. Simulation can be immensely rich if we are simulating the right things. Simulation takes place in the brain (and the mind) during the design process, and the designer rehearses movements and activities in space during simulations using the same neural pathways that they would if they were physically negotiating and interacting with an actual site. In this way, we use the *mind's body* rather than the mind's eye. These simulations necessarily mimic not just spaces, forms, objects, and buildings, but situations, sensations, emotions, and interactions. 'Modes of attending to scenes and events spawn socialities, identities, dream worlds, bodily states and public feelings of all kinds', writes Kathleen Stewart (2007: 10). The possible futures to which we might be directed; and the possible worlds we might prefigure, are embedded in this rich, relational past and present.

Making a Living or Making a Killing

I mentioned above that the possible worlds and narratives we imagine can positively or negatively shape our beliefs. We have all come to increasingly inhabit a dystopian world-a real world-that is shaped by an imaginary that is at once utopian and anti-utopian. This imaginary speaks a language of freedom and flexibility, but in practice it encloses and constrains while sowing precarity-and precarity puts people on the defensive, whereas flexibility implies enough security to explore options. This dystopia is the product of magical thinking. It is shaped by an imaginary that exhibits the hallmarks of magical religiosity: 'the naive, need-based, unquestioning hope in the face of experience, reason and refutation is a feature...not of Utopia but of religion' (Howells, 2015: 24). Howells assigns these attributes to all religion, but his formulation needs elaboration, as it seemingly assigns to all registers of religiosity the character of fundamentalism. Let us say, then, that this imaginary bears the hallmarks of *fundamentalist* religiosity, a construct reinforced by the prevalent use of the term 'market fundamentalism' to describe much capitalist ideology. In this imaginary, individuals are alone in the world and their success, or lack thereof, is solely the product of their own efforts. There is no expectation that any individual who succeeds should have any obligation (or any wish) to share the fruits of their success. Individuals achieve their successes or failures in an economic system that is perceived to be guided by an underlying moral compass, the 'invisible hand' of the market, a concept crudely adapted from the writings of Adam Smith. Financial success is thus believed to be a mark of human goodness and worthiness-perhaps the mark. Lavish displays of wealth, even in the presence of pitiful displays of poverty, are therefore acceptable because they are the trappings of goodness and represent those 'goods' to which the impoverished should aspire and which their lack of striving has denied them. The 'invisible hand' will also see to it that the biological environment is

safeguarded for the future so that the natural resources which support the lifestyles of the rich and famous remain abundant. The individual who has succeeded in this system, some like to say, has 'made a killing'.

This construct, as I have noted above, is at once anti-utopian and utopian. Lucy Sargisson writes that 'anti-utopianism is not just dystopianism or gloominess about the future. Rather, it is a phenomenon that resists the utopian impulse' (Sargisson, 2012: 22). It insists upon the appearance of bloody-minded pragmatism over foolish dreaming. This constrains the political left by painting it as obliviously utopian when it seeks to define what the future *ought* to be, just as it fuels the right's claims to the superiority of rationality over hope when it seeks to insist that injustice is a 'natural' condition. A stern mask of anti-utopianism is applied over the ghostly face of neoliberalism's magical utopianism, which, at its libertarian or 'anarchocapitalist' extremes, displays all the marks of fundamentalism. Fundamentalism's most wicked spectres—the Inquisition, possibly—are summoned as Sargisson continues:

The utopianism that drives religious fundamentalism is perfectionist, closed, static and it has divine sanction. This combines with core elements of religious fundamentalism to create a drive towards purity and purge. In proselytizing religions this is even more dangerous because expansionism and territoriality are added to the mix. (Sargisson, 2012: 41)

This perfectionist utopia allows free-market neoliberalism to make the claim, for example, that the market is not yet completely self-regulating because it is not yet completely free.

The cultural and political theorist Jeremy Gilbert has described this magical system as 'competitive individualism' (Gilbert, 2014); whilst Neal Curtis, also a cultural theorist, has used the term 'idiotism' (derived not from the use of the word as a slur or an archaic descriptor for mental illness, but rather from the Greek *idiotes* [$\iota\delta\iota\sigma\tau\epsilon\varsigma$], which describes a person who is private, who lacks the ability to function publicly (Curtis, 2013)). I prefer the former, though I have sympathies with the latter. Competitive individualism is a key narrative of capitalism and the foundation stone for neoliberalism, the system in which governments everywhere are supposedly being minimised, but which instead have become more authoritarian, corporatised, privatised, and marketised; and have remained large despite shedding many of their altruistic functions and obligations. This is in response to the progressive loss of power in the nation-state to the free-floating power in the 'space of flows' (as formulated by Manuel Castells, 1989, 2004) in what Zygmunt Bauman calls 'liquid modernity'.³ Competitive individualism and neoliberalism have literally been 'making a killing' by fuelling war and terrorism, squandering planetary resources; and polluting and destroying wantonly in processes that are flatteringly described as 'wealth creation' despite having actually created a preponderance of 'illth' (as John Ruskin [1921: 97–8] once termed wealth's opposite).

For Curtis, the *idios*, the realm of the private, is identified with the practice of the enclosures, which have been 'the primary means for capitalist accumulation over the centuries' (2013: 14). This enclosing tendency takes place across all realms of human endeavour anywhere a commons and a common good may be founded. This includes digital realms (for example Microsoft's ongoing enclosures in the name of 'intellectual property'; see Stallman, 2005), cultural realms (such as the practices of corporate 'cool-hunting'; see Klein, 2001), and the landscape (from the early enclosures in England which pushed the peasantry, often violently, off the land and into the proletariat; see Williams, 1973). In late capitalism, enclosures continue apace in all these realms, but are obscured by liquid modernity's incessant shape-shifting. This is the sort of world in which 'flexible' workers who are 'life-long learners' can flourish. What is sorely needed is a positive counter-imaginary of prosperity and flourishing that is identified not with destruction but with careful management of resources and ecologies, with sharing, creating economies of care, and planning constructively for a future in which all will share. In contrast to 'making a killing', this could and should be called 'making a living', which would redefine success in terms of whole lives rather than whole paychecks.

³ As Bauman explains: 'What makes modernity "liquid" is the compulsive and obsessive, unstoppably accelerating "modernization", through which—just like liquids—no forms of social life are able to retain their shapes for long' (Bauman, 2010: 330; see also Bauman, 2011).

Making Sense

Those who argue for competitive individualism tend to frame their claims in terms of cold rationality, which allows the masquerade of eschewing morality. Decisions that are made on qualitative or emotional bases are suspect, and moral arguments are viewed as subservient to rational calculations. Ugly buildings, for example, are justified on the basis of their efficiency or their cost-effectiveness. Such decisions may be rational (arguably), but they are not sensible or reasonable. Calculation does not equal evaluation (or valuation, for that matter). What 'makes sense' to most people on a daily basis are those things that provide them with convenience, comfort, pleasure, and satisfaction, and these things are almost never merely selfish concerns. The value that people see in their lives is usually dependent upon and interactive with the lives and desires of others. Seeking the approval of others, as well as their satisfaction, is fundamental to human behaviour. The decisions about what is reasonable are based in the evidence of the senses and the emotions. By this token an ugly building is unreasonable and makes no sense. It is also selfish, lacking any intrinsic worth of its own. Meaning and values are sensual and embodied-looking good and feeling good are moral and ethical qualities, and they are dependent upon their context.⁴ As Tim Cresswell points out, '[t]he geographical setting of actions plays a central role in defining our judgment of whether actions are good or bad' (Cresswell, 1996: 9).

For the design process, the implications are fairly clear. If an architect is asked to design a building and the sole considerations are pecuniary—to maximise space and minimise cost—then it will be exceedingly difficult for the architect to make a sensible building. The logical extreme is demonstrated by the big box retail building, which is exactly as it sounds—a big box of a building which maximises

⁴ Morals are often taken to be universal and acontextual, and ethics contextual. In line with the theories of Mark Johnson and George Lakoff, I would argue that morals are situated and embodied, and thus just as contextual as ethics in their own way, if they are not, in fact, one and the same thing (Lakoff, 1987; Lakoff & Johnson, 1999). I have written about this elsewhere: 'I should probably also make the point that the Greek root of the word "moral" signifies custom—which suggests that morals exist in the relational realm of everyday life, rather than in abstract "higher" realms or in abstract financialised realms such as "the market"—and that "economy" comes from Greek again, the *oikos*, or household' (Waterman and Catlow, 2015).

retail space but in all other regards is utterly ungenerous to and/or destructive of its environment. The emergence of the computer as the preferred design tool, often to the exclusion of all others, reduces the sensory engagement in the design process to a single sense, that of vision, which actively abets the process of reducing buildings (including landscapes) to mere (financial) instruments. As architect Santiago Pérez puts it: 'The gap between computation and making today may be seen as a rapidly developing over-reliance on parametric instrumentality, at the expense of material invention and discovery' (Pérez, 2012: 382). It might be argued that at least buildings produced solely through digital means will 'look good', but a building that looks good but that doesn't *do* good or *feel* good in its material reality is a failed building. Again, it doesn't *make sense*.

An active engagement with multisensual materials and media is key to creating buildings that make sense. What is necessary is a particular engagement that architect Kyna Leski calls 'material reasoning'. Leski refers to Antoni Gaudí's methods of making and modeling, specifically his designs for Barcelona's celebrated cathedral, the Sagrada Familia. Its arches were tested with a model made of draped chains, which inverted the building's structure. His methods include exploration of 'material behavior, material geometry, material tolerances, and material analogies' (Leski, 2015: 78). I would extend the analogy of material reasoning to include consideration of the sensual qualities of materials, something Pérez approaches more closely with his similar concept of material intelligence which 'combines parametric workflows, traditional crafts and advanced rapid-prototyping and manufacturing' (Pérez, 2012: 383). But the concept still needs expanding, and the framing of design processes as 'workflows' smacks of the liquid modern vocabulary of neoliberalism. First, materials used in modelling in the studio may be employed to test textures, acoustics, and even the smell (using wood in models to bring to mind the odor of panelling or decking, for example). Secondly, the sensual qualities of materials used in the studio may be used to recall and make more vivid the sensual qualities of the site itself, and to make it more real in the imagination during design explorations. A riverside site might be brought to mind by pressing one's thumbs into clay-to recall the alluvial mud encountered-and, perhaps, to make drawings, choosing the paper and drawing medium to recall the texture of reeds and grasses. Recalling a site as threedimensional, sensual, and real rather than merely a red-bordered abstraction drawn on a plan is an important step to resist treating it merely as a commodity or a surface that exists only to be filled. Importantly, as Cresswell tells us:

We live in a world of meaning. We exist in and are surrounded by places centers of meaning. Places are neither totally material nor completely mental; they are combinations of the material and mental and cannot be reduced to either. (Cresswell, 1996: 13)

A further boon is that the designer also becomes more present, embodied, and thus becomes a more human presence in the design imaginary. Perhaps thinking in these terms will also help us to demand more, for example, from processes of remote sensing for geospatial analysis, which presently are composed primarily of statistical and visual data.

It is perhaps important to note, as well, that these processes are certainly available to capitalist modes of production, and that luxury products, for example, are often the result of careful, embodied design. What can redeem this process from the mere creation of sensually fulfilling commodities is a concomitant awareness of context, an embedded altruism, and an ecology of thinking: that is, it is not merely the tools and the product, but the whole mind-set we bring to design. Contemporary placemaking processes rely heavily on the imaginal, 'which emphasizes the centrality of images' (Bottici, 2014: 5); and the imaginary, which 'primarily means what exists only in fancy and has no real existence and is opposed to real or actual' (Bottici, 2014: 7). This is reflected both in the luxurious imagery of the architectures-filled with birds, balloons, well-groomed people, and a flash of lens flare-and in the language-in which a different 'sense' is made. This is the 'sense of place', or the 'sense of community', which here refers not to immersive, reflexive, multisensual engagement, but to a general feeling that something might be the case. Places that are at best humdrum, common and stultifying are presented as ecstatic and playful, but actual well-being created by fulfilling places is as far away from this as certainty is from a hunch. The relentless pursuit of empty glamour-where pursuit

is merely the 'thrill of the chase'—has for decades trumped the pursuit of happiness. And here the importance of the *pursuit* as practice, pastime, and lived experience is key to overturning the chimerical, illusionary, neoliberal sense of happiness and well-being. Here the 'art of living' is one of *cultivated* goodness, and thus authentic in that it is 'authored'. The design of places that are capable of sustaining such authentic fulfilment requires more of the designer than merely pretty pictures and a 'sense' of goodness. It requires the deep and rigorous exercise of the suppositional imagination.

Moses Supposes

I have sometimes used a short studio exercise in which I ask students to come up with as many words for sounds and states of water as possible. The exercise, of course, begins with onomatopoeia such as 'splash' and 'gurgle'. Hilarity is allowed and encouraged with words like 'piss' and 'piddle'. States of water—waves, ripples, limpid pools, froth, are all explored. I then give them an assignment to design a garden room that provides/contains these experiences. They are encouraged to think about the sensual experience of water, for example, sliding their hand into cool, calm water on a hot summer day. I then ask the students, as part of their process, to play with water, and they are sent outside with cups and buckets. I also encourage them to draw a bath full of water at home, and play with the water as if they were children, taking delight in its qualities and listening to the amusing noises it makes. Ploop, slosh, tinkle, plash. The delight of this exercise is immediately apparent to the students, and they all comment on how different and refreshing it feels to begin with a proposition that involves senses other than vision, in this case primarily touch and sound.

Design in the architectures is a work of supposition: 'Suppose it's like this'. The designer is supposing a scenario. The designer, like Moses (who supposes his toeses are roses), knows(es) this is only a scenario, but introducing a realm of (in this case comic) possibility is at the very heart of the act. Writing about the important work of Shaun Nichols and Stephen Stich (2000) on the cognitive theory of pretence, Peter Carruthers sums up that they:

Argue that we need to recognize the existence of a distinct type of attitude, alongside belief and desire—namely, the attitude of *supposing*. When children pretend, they are *supposing* that something is the case (e.g. that the banana is a telephone, that they have an invisible friend called 'Wendy', etc.), and they act out their pretence within the scope of that supposition. Moreover, *supposing* can't be reduced to believing, or to desiring, or to any combination thereof (nor can it be reduced to any sort of planning or intending). It therefore needs to be assigned its own 'box' within a functional boxology of the human mind. (Carruthers, 2006: 90; emphases in original)

Carruthers points out that Nichols and Stich refer to the attitude of supposing in pretence and imaginative play, but the construct is directly applicable to design. Further, the act of supposition is accompanied by simulation. The designer who works at the scale of architecture and landscape cannot prototype their design in the studio: they cannot work at full scale to test a design. The designer must therefore undertake to simulate the experience of the site or building as faithfully as possible, and then to work through imaginative scenarios to assess whether a design iteration is more or less successful.

Gaston Bachelard remarked that 'it is impossible to think the vowel sound *ah* without a tautening of the vocal chords. In other words, we read *ah* and the voice is ready to sing' (Bachelard, 1964: 197). This prescient observation is now confirmed by studies in cognitive neuroscience of mirror-neuron phenomena. These, Mark Johnson says:

Suggest that *understanding is a form of simulation*. To see another person perform an action activates some of the same sensorimotor areas, *as if* the observer herself were performing the action. This deep and pre-reflective level of engagement with others reveals our most profound bodily understanding of other people, and it shows our intercorporeal social connectedness. Moreover, mirror-neuron research supports the hypothesis that imagination is a form of simulation. Research by Marc Jeannerod shows

that imagining certain motor actions activates some of the same parts of the brain that are involved in actually performing that action. Imagining a visual scene also activates areas of the brain that would be activated if we actually perceived that scene. (Johnson, 2007: 161–2; emphases in original)

Simulation has incredible power in the human mind, and designers can think of themselves as 'flight simulators' who test flying the site's design in a simulated world before real lives are at stake in real situations. When I want to envision the power of simulation, I need only think back to certain childhood experiences. I can remember opening National Geographic to see photos of swarms of insects on the pages, and not wishing to touch the images directly. I can also remember feeling cold on behalf of scantily clad models depicted on billboards in winter. When asking students to run their own 'flight simulations for design', I ask them to imagine the experience of users of the space, perhaps holding their site model up to eye level to envision that person in the space. A mother carrying a child, a person in an electric wheelchair, a tipsy woman in stiletto heels at a garden party carrying a glass of champagne and a small plate of hors d'oeuvres. What will happen when the tipsy woman laughs and steps backward into the soft lawn? In simulating, the designer's imagining mind is living the experience on behalf of the proposed site's speculative inhabitants. The imaginal provides a facsimile of real experience. Is there a correlation between the facsimile and the use of media as surrogates for experience? In representation, the medium is used to stand in for-literally, to represent-so it stands to reason that this is true.

Sherry Turkle, in her book *Alone Together*, which addresses the problem of people retreating into virtual worlds that are surrogates for real life ('RL', she calls it, in contrast to VR, virtual reality) shows that the phenomenon has a dystopian aspect as well. One of her students, she recounts, says he sees RL as 'just one more window [and] it's not usually my best one' (Turkle, 2011: xii). The problems of creating an immersive virtual world that allows people to live parallel and isolated lives outside of and away from RL are not, I wager, problems to be encountered in methods for imaginal design that seek to employ a vast range of materials and

methods to represent the world; and experiences of living and dwelling. In design process, the imaginal always acts upon the lived, so it is vitally important that RL does not become conflated with VR for the designer. The answer here is found in clay, pencils, wood, cardboard. Scenario-making has real agency in the world, and the utopian imagination is deeply important in combination with it, tying together human experience and human striving in place. Supposition in design takes on a prefigurative function, undertaking the awesome task of translating prophecy into corporeal existence. The more the corporeal and the sensual have agency in the design process, therefore, the more effectively will we design places that feel good and the more special we can make the lives and experiences of those for whom designs are undertaken.

Making Special

So far, I have not distinguished between the quotidian function of design and the art function. While they are interdependent and simultaneous, they still represent separate aspects. Landscape architecture and architecture are both fields of endeavour that must answer to practical and scientific concerns. Will what we build stand up? Will it stay standing? Will it shed water? Collect water? How can one make a big box better? The architectures must answer these concerns, and the last question points to the fact that, in the work of design for built environments, practical concerns and the demands of art are inseparable. Art is an essential component of designing and building places—in particular if there is a wish to make places distinctive—and the goal of 'making special' is fundamental to both.

Ellen Dissanayake shows that 'making special' is definitive of art practice: 'art', she says, 'can be plausibly considered a biological need that we are predisposed to want to satisfy, whose fulfilment gives satisfaction and pleasure, and whose denial may be considered a vital deprivation' (Dissanayake, 1992: 38). She toys with a number of terms to describe the necessity of the superfluous, such as 'elaboration' or 'the extra-ordinary'. She ends up defending the 'special' and highlights the way elements of both play and ritual define the experience of the special. Here, when she speaks of imaginative play, try substituting the term 'design':

In play, novelty and unpredictability are actively sought, whereas in real life we do not usually like uncertainty. Wondering whether an untried shortcut will take us to the bank before it closes on the day before a holiday is different from choosing an unknown path just to see where it will lead while on holiday. Play can be said to be "extra", something outside normal life. (Dissanayake, 1992: 43)

Design allows us to venture down those untried pathways. Design helps us to find the special and the superfluous to introduce it into quotidian spaces. Indeed, I would argue—given the need to build distinctive places—that the superfluous, the special, are just as necessary to everyday life and everyday spaces as art practices are to the practicalities of building. This superfluity is not just necessary, but utopian. What Lucy Sargisson says of literary utopias is equally applicable to design:

Excess and play are core conventions of literary utopias... They perform several different functions. Excess permits radical creativity. Utopians imagine and desire radically different worlds but they often work with a light touch. They fool around with reality and tweak the nose of convention: transgressing norms, breaking rules and crossing boundaries. Utopians play with reality like a dog with a rag, twisting and shaking it until it breaks. And they poke fun; evoking satire and using jokes and wit as strategic weapons to show 'it doesn't have to be like this! (Sargisson, 2012: 16)

Richard Howells, in his *A Critical Theory of Creativity*, brings Ernst Bloch's utopian concept of 'educated hope' to the 'making special' narrative of art: '[v]isions of a better world are encoded—often unconsciously—in art and literature, including popular culture. ...Bloch's vision is not teleological in nature. Rather, it is a *process* rooted in the principles of creative imagination and educated hope' (Howells, 2015: 2; emphasis in original). It is precisely the notion of educated hope in the creation of utopian scenarios that allows for new and better structures of popular belief to emerge, allowing us a ready answer to the question, 'why art?' Howells prefers the term 'making better' to Dissanayake's 'making special'. This narrows the range of the

discussion, however, by asserting that utopias, utopian scenarios, should primarily be employed as devices for imagining positive possible futures. We can't merely employ unidirectionally positive utopias—we must imagine critical *dystopias* too. Lyman Tower Sargent calls this utopian/dystopian action 'social dreaming': 'the dreams and nightmares that concern the ways in which groups of people arrange their lives' (Sargent, 1994: 3). We need both dreams and nightmares to imagine both what to strive for, and what to strive to prevent.

Making a Scene

The imaginative 'play' that we call design has a special space—the studio. It is a physical space that is particular to the act of design. Like the theatre, the stadium, or the pitch, it has a particular construction that marks the space out for a particular role. Like 'once upon a time' and the set-ups it elaborates, the studio is a physical space that corresponds to a specific space of the imagination. While, as with other species, play can take place anywhere, there is still a particular role for this special place, which is the setting for a ritual that triggers the flow of creativity. When entering the studio this frame of mind takes over, and any interruption to the atmosphere can be catastrophic—or at least it feels catastrophic. It is certainly detrimental to the creative design process.

As I write this, I am sitting in the British Library in London, as I often do, and I am reminded that here is a special place for imaginative play as well. I am also reminded how much I resent any intrusion upon my space of solitary play here. As if to prove my point, a woman has just walked in and is unpacking and rustling around just opposite me; and a young man has followed right behind and sat to my right, wearing too much perfume. I note, looking up at the continuing noise, that the woman is plugging in and setting up three (!) laptops in her space. The space of creativity and play is mental, physical, multi-sensual (as the scene above shows), affective, and particular, and is also marked by prohibitions and restraints—'rules'— that are often internally imposed:

One generally finds, even in animals, "rules" of play: special signals (such as wagging the tail or not using claws), postures, facial expressions, and sounds that mean "This is make-believe". Often special places are set aside for playing: a stadium, a gymnasium, a park, a recreation room, a ring or circle. There are special times, special clothes, a special mood for play—think of holidays, festivals, vacations, weekends. (Dissanayake, 1992: 43)

The studio is the particular place where make-believe is enabled in design. Kyna Leski addresses the role of the studio as a space of experimentation (just as the space of the library allows critical experimentation), brilliantly and poetically speaking of the individual experience of material reasoning within it. Her narrative is a modernist one—with roots in the methods of the Bauhaus—in which learning to trust the senses, to trust the materials, involves an initial un-learning (though not a total un-learning: the student does not become a *tabula rasa*). All the prejudices and preconceptions of the future designer are stripped away, and a newly built *Homo faber* steps forth. This is a useful narrative with which to encourage the student to trust in the process: *We are taking a portion of yourself away, but replacing it with something much better*. The importance of that trust cannot be underestimated.

Leski's methods and interpretation, however, are often too focused on the personal. The studio is not merely a space of trust and a space for the interaction of the teacher, the student, and the media they will employ. It is also an intensely social space. The imaginative work that takes place in the studio is part of a larger process of co-making, co-working, co-imagining; and the studio is part of the larger world of associations, professions, families, etc., all of which inform and support the individual. The musician Brian Eno calls this larger process the 'scenius', a portmanteau of 'scene' and 'genius'. This concept helpfully reminds us that even for the seemingly solitary 'genius' painting or writing poetry in a garret, that invention emerges from a shared background of teaching, conversation, making, exploring, and feeling together: an 'ecology of talent' (Eno, n.d.). It posits a play-space/design space of situated, mediated, and intercorporeal social connectedness—a space of what Elaine Scarry calls 'aesthetic fairness'—that 'creates in all participants a state of delight in their own lateralness' (Scarry, 2000: 114). When I sit and create a space of intellectual experimentation and play for myself, alone in the library, I bring along

all that has contributed to my current self, and I am reaching out laterally into other intellectual worlds with every book I open and every connection I make. Then I carry that back out into the world with me, in my own text, my teaching, my engagement with my profession, and so on.

For the architectures, particularly landscape architecture, the awareness of a 'scene' must include not only those people involved in co-invention, but they must enter into a constructive dialogue with all the processes and forces that comprise a landscape: biological, geological, climatic, cultural, social. The landscape architect needs to employ a mode of thinking and acting that Lorraine Code calls 'ecological thinking' (2006). I prefer a term I've borrowed from ethnology: 'toposophy' (see Kockel, 2014), thinking that is about place, grounded in place, not just about objects, but about vast arrays of intersecting and interdependent processes and forces. Unlike philosophy-'beautiful thinking'-toposophy is thinking that is always about somewhere. The term 'ecological thinking', useful as it is, seems to direct us too much towards preconceptions of the natural world, while toposophy engages both nature and artifice. Toposophy is a perspective, allied to what Tim Ingold calls the dwelling perspective, which treats people as organisms immersed in their lifeworlds, as opposed to what he calls the building perspective, which supposes that 'people inhabit a world-of culture or society-to which form and meaning have already been attached' (Ingold, 2000: 153). This posits that the individual must 'construct' their world in order to act on it, rather than being, from birth, an actor in concert with the landscape in which he or she dwells. These simultaneous and interdependent actions and interactions are described well in theories of practice, which hold that practices 'should be treated as involving thought and action together, and in so far as this is the case, embodied theory, as it were, is a part of practice itself' (Barnes, 2001: 20). 'Making a scene' is connecting with and learning from others as practice; and as intercorporeal, embodied, emplaced sociality. This 'scene' contains conversations immersed in their lifeworlds. It makes connections with past realities; past dreams and ambitions; past constructions; and incorporates them as parts of possible futures. Thus it resists tendencies within modernity to clean the slate-where past forms and meanings may be expunged and new ones written upon a tabula rasa. Here an unlearning of the past is necessary for total invention. In a scene, though, '[t]hinking means venturing beyond. But in such a way that what already exists is not kept under or skated over' (Bloch, 1986: 4). What already exists probably contains fragments and relics of past utopias, ready to be called into the future as part of the next scene. To those fragments are pinned satisfaction, fulfilment, beauty, and love; qualities deserving of continuity.

Making Belief

It is through imaginative renderings of possible future worlds that designers have the ability to influence structures of both belief and desire to positive and ethical ends. Worlds that we know to be physically and morally possible, but which have been suppressed by ideologies of selfish cynicism, fatalism, and nihilism; or hidden behind a smokescreen of agnotology (culturally induced or purposely sown ignorance or doubt; see Proctor & Schiebinger, 2008), can be forced to re-emerge. The 'future as a cultural fact' remains true, but its alethic valence has shifted from the negative to the positive, from the dystopian to the utopian. Truth has become the province of hope, not the grounds for the abandonment of desire and fulfilment.

Another face of neoliberalism is the alluring glamour of the consumer object, which distracts us from more authentic modes of fulfilment. Nigel Thrift identifies this tendency and its amplification by media and social media, writing that: '[e]ach of these technologies demonstrates the singular quality of allure through the establishment of human-nonhuman fields of captivation, for what seems certain is that many of the objects and environments that capitalism produces have to demonstrate the calculated sincerity of allure if people are to be attracted to them: they need to manifest a particular style that generates enchantment without supernaturalism' (Thrift, 2010: 290). The enchantment worked by capitalism's processes militates against the sociality—common good the *scenius* that is needed to create true forms of common good and it distracts from education's primary goal of emancipation, which 'has a tradition that is not made of spectacular acts, but is shaped by a search to create new forms of the common, which are not those of the state or of consensus' (Simons & Masschelein, 2011: 6). This emancipation, and all forms of utopian creativity, are co-opted by neoliberalism and are commodified

and depoliticised by it. In the process, the project of transforming the present by reimagining the future is crushed under the weight of an endless, enchanted, commodified, consumerist present. A sense of lateralness, interconnection, and hope is required to displace the weight of such a present. Elaine Scarry locates this lateral position as a site of beauty: 'not now the suspended state of beholding but the active state of creating—the site of stewardship in which one acts to protect or perpetuate a fragment of beauty already in the world or instead to supplement it by bringing into being a new object' (Scarry, 2000: 114). And it is not merely objects which are created, but new places and new dwellings where this beauty and connectedness can be made special, and may grow.

Hope involves desire, imagination, and belief—all three—and design insists on the addition of supposing as another attribute. First, we must simultaneously suppose and believe that hope is possible at all, and once that possibility is admitted, then the belief in a better future undergirds and impels the processes of aspiration and envisioning that are germane to design, but which can be led astray by cynical or fatalist attitudes, and/or by greed and hubris. As Pierre Bourdieu argued, hope also requires a collective effort—a scene—rather than a reliance on the emergence of a new and charismatic leader:

The whole edifice of critical thought is in need of reconstruction. This work of reconstruction cannot be done, as some have thought in the past, by a single great intellectual, a master thinker endowed only with the resources of his singular thought, or by the authorized spokesperson for a group or an institution presumed to speak in the name of those without voice, union, party, and so on. This is where the collective intellectual can play its irreplaceable role, by helping to create the social conditions for the collective production of *realist utopias*. (Bourdieu, 2000: 42–3; emphasis in original)

The 'realist utopia' is here one which is mutually created as a form of social dreaming. Jeremy Gilbert similarly argues that:

This is a very important issue for any attempt to think about the nature of democracy, because the assumption that agency, creativity and rationality

are qualities which pertain to individuals but not to groups poses severe problems for any attempt to base a politics on the possibility of collective decision making. (Gilbert, 2014: 33)

Belief in the possibility of positive change is fundamental to what is constructed and imagined mutually; and it is precisely this collectivity that is essential to making the future, whether through design or through the education which prepares the future makers of the future. The intellectual qualities and faculties of both individuals and collectives must be developed together. It almost goes without saying that contemporary education everywhere is subject to ideological forces that are pulling precisely in the opposite way from what I am arguing is necessary. Universities 'cannot compel or otherwise bring about the production of the thing that matters most-intellectual quality, whether in teaching or scholarship or research' (Collini, 2017: 44). The prevailing ideologies of our time, if not countered with other possible futures, will lock us into a loop of increasing authoritarianism (or 'dirigisme', as argued by Collini) and enclosure on the one hand; and ever greater precarity and liquid modern placelessness on the other. I would hope, though, that far from seeming like pie in the sky, my approach shows just how disconnected from problems of education, sustainability, and civic responsibility government and the management of education has become. As a result of the marketisation of educational institutions, education now mirrors the construction of society outside it and reinforces it. Education reinforces the nihilistic loops in which our political economy is mired, in which, 'freedom is reduced to a market strategy and citizenship is narrowed to the demands of consumerism. The upshot is that it has become easier to imagine the end of the world than the end of capitalism' (Giroux, 2007: 25).

When designers work with communities to remodel their buildings and landscapes to provide for better futures, they should do so through processes of supposing and scenario-making, to find out how they can make more and better more special—what they already are. Design in the architectures is a process of becoming that addresses being and longing—belonging—to clear and prepare a space for play; for a shared imagining of the future and a striving towards it that builds upon *scenius* and *toposophy* for creation that, by *making special* through make-believe and social dreaming, *makes belief* in a better and more mutual world possible.

Competing Interests

The author has no competing interests to declare.

References

Bachelard, G 1964 The Poetics of Space. Trans. M Jolas. Boston, MA: Beacon Press.

- **Barnes, B** 2001 Practice as Collective Action. In: Schatzki, T, et al. (Eds.), *The Practice Turn in Contemporary Theory*, pp. 1–14. London and New York: Routledge.
- Bauman, Z 2010 Culture: Liquid-Modern Adventures of an Idea. In: Hall, J, et al. (Eds.), Handbook of Cultural Sociology, pp. 326–34. London and New York: Routledge.
- **Bauman, Z** 2011 *Culture in a Liquid Modern World*. Cambridge and Malden, MA: Polity Press.
- **Bookchin, M** 2005 *The Ecology of Freedom: The Emergence and Dissolution of Hierarchy.* Oakland, CA and Edinburgh: AK Press.
- **Bottici, C** 2014 *Imaginal Politics: Images Beyond Imagination and the Imaginary*. New York: Columbia University Press.
- Bourdieu, P 2000 For a Scholarship with Commitment. In: Profession, pp. 40–5.
- Carruthers, P 2006 Why Pretend? In: Nichols, S (Ed.), *The Architecture of the Imagination: New Essays on Pretence, Possibility, and Fiction*, pp. 89–109.
 Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof: oso/9780199275731.003.0006
- **Castells, M** 1989 *The Informational City: Information Technology, Economic Restructuring, and the Urban Regional Process.* Oxford and Cambridge, MA: Blackwell.
- **Castells, M** 2004 An Introduction to the Information Age. In: Webster, F, et al. (Eds.), *The Information Society Reader*, pp. 138–49. London and New York: Routledge.
- Code, L 2006 Ecological Thinking: The Politics of Epistemic Location. Oxford and New York: Oxford University Press. DOI: https://doi.org/10.1093/ 0195159438.001.0001
- Collini, S 2017 Speaking of Universities. London and New York: Verso.

- **Corner, J** (Ed.) 1999 *Recovering Landscape: Essays in Contemporary Landscape Architecture.* New York: Princeton Architectural Press.
- **Cresswell, T** 1996 *In Place/Out of Place: Geography, Ideology, and Transgression.* Minneapolis, MN and London: University of Minnesota Press.
- Curtis, N 2013 Idiotism: Capitalism and the Privatisation of Life. London: Pluto Press.
- **Dissanayake, E** 1992 *Homo Aestheticus: Where Art Comes From and Why*. New York: The Free Press.
- **Eno, B** n.d. Scenius, n.d. Available at: http://p2pfoundation.net/Scenius (Last accessed 30 April 2016).
- **Freire, P** 2007 *Pedagogy of the Oppressed, 30th Anniversary Edition.* Trans. M Ramos. New York: Continuum.
- **Gilbert, J** 2014 *Common Ground: Democracy and Collectivity in an Age of Individualism.* London: Pluto Press.
- **Giroux, H A** 2007 Utopian Thinking in Dangerous Times: Critical Pedagogy and the Project of Educated Hope. In: Coté, M, et al. (Eds.), *Utopian Pedagogy: Radical Experiments Against Neoliberal Globalization*, pp. 25–42. Toronto: University of Toronto Press.
- **Howells, R** 2015 *A Critical Theory of Creativity: Utopia, Aesthetics, Atheism and Design.* Basingstoke and New York: Palgrave Macmillan.
- Ingold, T 2000 *The Perception of the Environment*. London and New York: Routledge. DOI: https://doi.org/10.4324/9780203466025
- Johnson, M 2007 The Meaning of the Body: Aesthetics of Human Understanding. Chicago and London: University of Chicago Press. DOI: https://doi.org/10.7208/ chicago/9780226026992.001.0001
- Klein, N 2001 No Logo. London and New York: Harper Collins.
- **Kockel, U** 2014 Towards an Ethnology Beyond Self, Other and Third: Toposophical Explorations. *Tradicija ir dabartis*, 9: 19–40.
- Lakoff, G 1987 Women, Fire, and Dangerous Things: What Categories Reveal About the Mind. Chicago and London: The University of Chicago Press. DOI: https://doi. org/10.7208/chicago/9780226471013.001.0001

- **Lakoff, G** and **Johnson, M** 1999 *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought.* New York: Basic Books.
- Leski, K 2015 The Storm of Creativity. Cambridge, MA: MIT Press.
- Levitas, R 2013 Utopia as Method: The Imaginary Reconstitution of Society. Basingstoke and New York: Palgrave Macmillan. DOI: https://doi.org/10.1057/ 9781137314253
- Meyer, E K 2000 The Post-Earth Day Conundrum: Translating Environmental Values into Landscape Design. In: Conan, M (Ed.), *Environmentalism in Landscape Architecture*, pp. 187–244. Washington, DC: Dumbarton Oaks.
- Nichols, S and Stich, S 2000 A Cognitive Theory of Pretense. *Cognition*, 74(2): 115–47. DOI: https://doi.org/10.1016/S0010-0277(99)00070-0
- Pérez, S R 2012 Towards an Ecology of Making. In: Borden, G, et al. (Eds.), Matter: Material Processes in Architectural Education, pp. 379–95. Abingdon and New York: Routledge.
- **Proctor, R N** and **Schiebinger, L** 2008 *Agnotology: The Making and Unmaking of Ignorance.* Stanford, CA: Stanford University Press.
- Reed, C and Lister, N-M (Eds.) 2014 Projective Ecologies. New York: Actar Publishers.
- **Ross, K** 1991 Translator's Introduction. In: Rancière, J (Ed.), *The Ignorant Schoolmaster: Five Lessons in Intellectual Emancipation*, pp. vii–xxiii. Trans. K Ross. Stanford, CA: Stanford University Press.
- **Ruskin, J** 1921 *Unto This Last.* Library of Congress. Available at: https://archive.org/ details/untothislast00rusk (Last accessed 18 August 2017).
- **Sargent, L T** 1994 Three Faces of Utopianism Revisited. *Utopian Studies*, 5(1): 1–37. Available at: http://www.jstor.org/stable/20719246.
- **Sargisson, L** 2012 *Fool's Gold? Utopianism in the Twenty-First Century.* Basingstoke and New York: Palgrave Macmillan.
- Scarry, E 2000 On Beauty and Being Just. London: Gerald Duckworth and Co.
- Simons, M and Masschelein, J 2007 The Learning Society and Governmentality: An Introduction. In: Masschelein, J, et al. (Eds.), *The Learning Society from the Perspective of Governmentality*, pp. 3–16. Malden, MA and Oxford: Blackwell Publishing.

- Simons, M and Masschelein, J 2011 Introduction: Hatred of Democracy... and of the Public Role of Education? In: Simons, M, et al. (Eds.), *Rancière, Public Education and the Taming of Democracy*, pp. 1–14. Malden, MA and Oxford: Wiley Blackwell. DOI: https://doi.org/10.1002/9781444393866.ch1
- **Stallman, R** 2005 Bill Gates and Other Communists. Available at: https://www.gnu. org/philosophy/bill-gates-and-other-communists.en.html (Last accessed 7 April 2017).
- Stewart, K 2007 Ordinary Affects. Durham, NC and London: Duke University Press. DOI: https://doi.org/10.1215/9780822390404
- Thrift, N 2010 Understanding the Material Practices of Glamour. In: Gregg, M, et al. (Eds.), *The Affect Theory Reader*, pp. 289–308. Durham, NC and London: Duke University Press.
- **Turkle, S** 2011 *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books.
- Waterman, T and Catlow, R 2015 Situating the Digital Commons: A Conversation Between Ruth Catlow and Tim Waterman. Available at: https://www.furtherfield. org/situating-the-digital-commons-a-conversation-between-ruth-catlow-andtim-waterman/ (Last accessed 11 November 2017).
- Williams, R 1973 *The Country and the City*. Nottingham: Spokesman.

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