

POSITION STATEMENT

**HOMO LUDENS (SUBSPECIES POLITIKOS)**

*William Gaver*

As I write this, it seems a bad moment to advocate playfulness.

Disturbing news is all around. Environmental issues loom large, with significant climate change seeming ever more inevitable, large numbers of species becoming endangered or extinct, food shortages threatening, and forests being felled. Honeybee populations crash, antibiotics fail, Western economies falter at the same time that gross inequalities grow, and the only political response seems to be to marketize everything possible. Doctrinal certainty spurs irrational behavior in developed and developing nations alike, and conflict looms in all the old trouble spots with new ones appearing daily. Every age has its problems, to be certain. But still, the world appears a particularly grim place these days.

Surely, in these times, it is irresponsible, even crass, to argue that we have a duty to think of ourselves as playful people?

Things were different a decade ago, when I wrote a manifesto (Gaver 2002, 2009) arguing that we should focus more on designing for play. Computation was poised then to leave the workplace and invade everyday life. I argued that it would be a shame to design domestic technologies just to provide solutions to problems or help people pursue tasks more effectively. Importing values drawn from the workplace

(where our understanding of computation had evolved) into our everyday lives would constrain technology to helping with the chores we *have* to do, when it might also help us with the things we *want* to do—the wondering, wandering, pottering, and play that characterize some of our most valued time away from work. Borrowing from Huizinga (1950), I suggested that we consider ourselves as *Homo ludens*, playful creatures, and explore what it would mean to design from that perspective.

Since then, I have been working with my studio to understand what designing for ludic engagement might mean. We have developed a number of computational prototypes that seem to sketch an answer (figure 21a.1). The Drift Table, for instance, has a small porthole showing aerial photography that moves depending on how weights are arranged upon it, creating an experience that a volunteer who used it described as having something like a “digital hot air balloon in the comfort of your own front room.” The Local Barometer displays text and images derived from local want ads depending on the speed and direction of wind measured outside the house, giving a sense of the home’s sociocultural milieu. The Prayer Companion brings a stream of text drawn from newsfeeds and social networking sites into a cloistered Catholic monastery, providing a resource for the



8a3e46d661d3459b1a6d754253f23015  
ebrary

(a)



8a3e46d661d3459b1a6d754253f23015  
ebrary

(b)

Figure 21a.1

Three ludic designs: Drift Table (a), Local Barometer (b), and Prayer Companion (c).

8a3e46d661d3459b1a6d754253f23015  
ebrary



8a3e46d661d3459b1a6d754253f23015  
ebrary

8a3e46d661d3459b1a6d754253f23015  
ebrary

(c)

**Figure 21a.1**  
(continued)

8a3e46d661d3459b1a6d754253f23015  
ebrary

nun's prayers as well as exposing them to a variety of irreverent, humorous, and even offensive material. And so on.

Fundamental to all these designs is that they don't impose a correct way of using them on people, but instead leave ample room for different interpretations and uses. When we've deployed them, often for months at a time, we find that people enjoy that freedom. They play with the devices, trying out different things, trying out different attitudes, and finding different ways to relate them meaningfully to their lives. Often it seems as if our participants are playing with us, as well. We surprise people with our designs, basing them on our understanding of who they are and how they live, but not checking our ideas with them as we go—we are not participatory designers in a traditional sense. Many of the people we've given our designs to seem to like to surprise us in turn, finding new ways to use the designs in a conversation about what ludic engagement might be. After a while, of course, this experimentation tends to decrease, and people settle on preferred ways to engage with the devices. The orientations that stabilize, however, are usually unexpected, both to us and to them. We all learn from their experiences.

Over the course of many projects, we've developed a portfolio of work that seems to map out a space of what ludic design might be. But lately, we've begun to worry. The world is in a serious state. Shouldn't we be more serious too?

Before addressing that concern, perhaps it's best to clarify what I mean by *play*, or *ludic engagement*. To begin with, most games and professionally produced entertainments don't have the open-ended, self-motivated, exploratory feel of what I have in mind. Games have too many rules and too much competition, and most forms of entertainment are too chan-

neled and goal directed—designed to deliver experience as a form of commodity—to lend themselves to ludic engagement. Or as Allan Kaprow (one of my favorite writers about play) put it, “in play one is carefree; in a game one is anxious about winning” (Kaprow 2003, 122). Moreover, games and entertainment exist in a game world, so that the conflicts and activities that take place can only represent real-world ones (insofar as they resemble them at all) and don't “count” in any real way. That's what makes them games. Ludic engagement, in contrast, is much more permeable to the actual world. Half the fun is in skirting between fantasy and accountability: flirting and pipe dreams, mockery and conspiracy theories, all can range from frivolity to deadly serious without crossing any clear boundaries.

Even all the new ways we have to share our thoughts and tell people about our activities, look up random facts and find arcane content, spread video clips and leave digital traces on the real world, sometimes seem to fall prey to a form of social competition that undermines their ability to provide ludic forms of pleasure. After all, it's difficult not to think of hit rates, followers, and trending topics when Kaprow writes:

The real substance and stimulus of our “fun market,” particularly in entertainment and sportive recreation, are superstars, record sales, popularity ratings, prizes, getting somewhere first, catching the biggest fish, beating the house at Las Vegas. Some fun! (Kaprow 2003, 122)<sup>1</sup>

No, the kind of play that interests me is more open-ended, loosely defined, and speculative than that. I have in mind experiences like spinning a fantasy scenario with friends, or wandering unfamiliar city neighborhoods, or trying to imagine how many bathtubs-full of water are flowing by in a rushing

river. Playing with ideas, trying on new identities, finding new perspectives on the world, these are all hallmarks of ludic engagement.

Provisionality is one of play's defining features. If there are goals, they're just for the moment. If there are rules, they can be changed. Such things are just ways to provide temporary structure in engaging the world. The field of play can alter as well. Pretending to be a spy might lead to fanciful speculation about the customs of one's home country, to the deployment of historical facts to support absurd suppositions, then twist to explain, based on a watchband, why the "spy" is really a space alien. Appearances, statistics, imaginary characters, and arcane knowledge: anything can be brought into play and discarded at will, as focus grows and shrinks and shifts depending on the pleasures of the moment. In ludic engagement, everything is in play.

Faced with the enormity of global problems and with an urge to address them meaningfully, the fluidity of ludic engagement, its tendency to shift scale and scope and to refuse a fixed stance might seem frivolous and uncommitted. Isn't it self-evident that, given the serious challenges we confront, our reasoning must be painstaking, and our designs clearly focused on providing tangible benefits? Encouraging play seems self-indulgent.

After all, most of us are aware of self-evident actions we can take in response to large-scale problems. To avoid climate change, we should reduce energy by traveling less, turning down the thermostat, forswearing meat, and buying local vegetables. To live a healthier life, one should give up smoking, drink in moderation, and exercise more. To preserve wildlife, one should give up ecotourism and simply leave nature alone. For many of us, though, solutions such as these haunt us because we cannot or will not

live up to them. Often, we take our failures as evidence of individual moral failing, to be addressed by systems to make adherence easier. From this perspective, we need more systems aimed at supporting individual behavior change, such as energy meters and exercise monitors, telecommunications systems, and product trackers.

An alternative perspective, however, suggests that there are sociocultural forces behind our inability to do what we think is right. Turning down the thermostat seems useless when you hear other people talking about their garden heaters, and buying locally or eating healthily is difficult if your supermarket doesn't reveal where produce comes from or offers the best deals on processed ready-meals. Some of the things we might like to do as individuals—reducing motor transport, say, or using more alternative energy—depend on infrastructures, such as bike lanes and wind generators, that almost have to be accomplished collectively. Individual solutions won't work if they go against a cultural grain. From this point of view, most of the big challenges we face, from obesity to economic and ecological breakdowns, are fundamentally political in nature.

Political matters are not necessarily best handled through politics, however. Politics offers no end of solutions to today's problems. Consume less energy. Tax the rich. Become vegetarian. Downsize government. Grow synthetic meat. Limit population. Privatize education. Go nuclear. Nationalize the banks. Make shirkers workers. And so on. The problem is not just that these are simplistic and polarizing, but that the party system tends to gather similarly motivated solutions to form constellations of competing logics. At the extreme, one doesn't favor a given solution so much as become enmeshed in a totalizing worldview. We will only survive in a global market if

we unshackle capital and keep labor costs low. This implies that we must reduce inefficient benefits to the poor (as they are a disincentive to work and inflate wages), understand education as primarily vocational, and either defer environmental problems or look to market-driven technological approaches to solve them. No! To save the environment, we must reduce consumerism and a blind faith in growth, find alternative energy sources, and recognize that happiness resides in an equal, well-educated society that looks after the disadvantaged. Contradictory world-views such as these, equally viable, arguably, depending on their metrics of success, make it difficult for people to communicate much less agree about solutions to societal problems. Worse, they reduce the political practice of communal action to politics as a form of team sport. Vote Conservative! Vote Liberal!

If politics is like a game, in which ways of seeing and acting about matters of joint concern are bound up in competition, winning and losing, there are other forms of political engagement that more closely resemble play. Many collective decisions—not to litter, for instance, or to avoid swearing in front of children, or to forswear prejudice based on sexual preference—often seem to emerge from a cultural consensus that may never be negotiated explicitly, but instead emerges obliquely through sidelong glances, appreciative remarks, or casual jibes. In Mol's (2009) terms, essentially political decisions like these may emerge through the development of "good taste," in which immediate concerns are informed by wider considerations to the point that activities may become undesirable because they simply "leave a bad taste in one's mouth." Good taste, in Mol's sense, is not decided by cultural arbiters, but rather through a fluid and egalitarian process of communicating about experience, of sensitizing and attuning one's

desires to a range of the factors inherent in given situations, and of doing this both individually and together. In short, politics can be pursued through a process of cultural consensus around the aesthetics of living, rather than instrumental political game-playing.

In pursuing the political as a matter of culture, play may serve a fundamental role, as it is in play that we are most open to trying on new interpretations, considering implausible relationships, and even toying with those examples of bad taste that may test the boundaries of the good. From this point of view, if our solutions aren't working, maybe it is our problems that are to blame. Perhaps our logic is too settled, both at collective and individual levels, to allow new ways of looking at things to emerge. Perhaps we need to reengage with complexity, enjoy contradictions, and relax about changing our opinions, rather than seeking and holding to the kinds of simplifying logics that dominate politics. Seen in this light, play is not indulgent after all. Instead, it may be key in helping us move from solutions to "inventive problem making" (Fraser 2010, in Michael 2012). Casting ourselves as *Homo ludens* (subspecies *politikos*) might be essential in freeing us from the attitudes of guilt and triumph that come with institutionalized logics, to find new ways to live with the complicated challenges and opportunities that surround us.

What might it mean to be *Homo ludens politikos*? Clearly, sociopolitical topics are of interest, as well as the more individual and niche diversions that engross all the *Homo ludens* genus. Environmental issues and socioeconomic exploitation, short-term greed and cultural conflict, energy use and consumerism, these are the field of play. They provide fascinating intellectual conundrums, but this does not imply a lack of commitment, or engagement without values or

beliefs. On the contrary, passionately held views provide a standpoint from which to kick off in new directions and motivate speculation. Toying with other perspectives and possibilities, and finding the ridiculous in one's own and others' stances, may change beliefs, but equally, it might enrich and nurture them by trying them against alternatives.

*Homo ludens politikos* respects facts, but realizes that more and different ones will always come along. So we play with different orientations to matters of importance. We find new connections among things and people, expanding our field to include previously extraneous matters and finding new ways to focus again. We engage empathetically with those who hold different opinions, willing to imagine deeply seeing the world and living the lives of even our worst enemies. Most of all, we play with rules and assumptions. We highlight ambivalence and contradiction, pushing against the conceptual framing of current "solutions" to see where they break and where new perspectives might grow. *Homo ludens politikos* makes fun of authority and ridicules dogma.

Crucially, a ludic approach to politics is inherently social. After all, it is no fun keeping a joke to yourself. Being playful, we are more than happy to share our ideas, seriously or in jest, in ways that might just change our shared culture. The noninstrumental, discursive, profoundly social nature of *Homo ludens politikos*'s political engagement, I suggest, may just produce the new understandings and solutions that can help us escape the reified doctrines of politics.

How can we design to promote *Homo ludens politikos*? Several of our recent design forays hint at what a ludic approach to the political might look like and how we might design to support it.

An early, all but accidental example of a design eliciting what we might call political speculation is

the Plane Tracker. This is a freestanding electronic appliance with a screen on the front and a strange, angular aerial on the top (figure 21a.2). The aerial is tuned to pick up transmissions sent repeatedly by all aircraft to identify themselves to air traffic control. The Plane Tracker uses these transmissions to determine the origins and destinations of passing flights and re-creates an approximation of the views that would be seen over the course of their journeys using GoogleEarth. The effect, when the device is located near a busy flight path, is of an endless series of international voyages, reflecting the actual journeys taken by overhead aircraft.

Our inspirations for the Plane Tracker were varied, ranging from the notion that we might compensate people for the disruption caused by passing traffic to urban myths about foreign seeds being released by lowering landing gear to populate gardens below. When we lent the prototype to a family living near Heathrow Airport, they engaged with it in a number of ways. At various times, it elicited discussions of geographic knowledge, memories of personal trips, discussions of foreign cultures, and anecdotes about friends. The piece was open-ended, as we had intended, affording a range of orientations to issues of geography, travel, and flight.

Two reactions, captured in a documentary video we commissioned about the piece, were particularly intriguing. Paul told us:

It does create an awareness of the amount of travel that takes place and the amount of journeys that are happening very close to us, and sometimes I look up wistfully and wish I was on one of these planes going somewhere or having been somewhere.

For his wife, Gweni, however, this was a matter of some concern:



8a3e46d661d3459b1a6d754253f23015  
ebrary

**Figure 21a.2**

The Plane Tracker occasioned ambivalence about air travel.

Because there's been increasingly a debate on how much we travel, particularly this year, because we're all aware of global warming and emissions and so on, it has made me think, you know, here we have a piece of extraordinary technology that in a sense encourages you to fly, and maybe we shouldn't.

It strikes me as suggestive that the Plane Tracker could simultaneously evoke a desire to travel and raise suspicions about that desire. Through its simplicity and unfamiliarity, and the direct yet unfocused way it raises the issue of air travel, it appears to have opened up both sides of the environmental dilemma. It raises the promise that design can create a space for ambivalence to live—in this case, the ambivalence between wanting to protect the environment and wanting to be “going somewhere.”

Moreover, it suggests that we might design to expose ambivalence about similar issues, ranging from healthy lifestyles to competing desires to control or protect natural phenomena, in ways that might get beyond doctrinal certainty or difficult-to-observe normative stances.

Other clues come from a set of Indoor Weather Stations we designed more recently (figure 21a.3). There are three devices: The Wind Tunnel houses a small wind sensor in its chimney and amplifies the minute breezes it detects to create storms that buffet the stylized vegetation in its transparent Plexiglas chamber. The Temperature Tape is fitted with a needle dial in its casing that shows the difference in temperatures measured by sensors at the end of each of its two 2.5-meter-long ribbons, each of which is

8a3e46d661d3459b1a6d754253f23015  
ebrary





**Figure 21a.3**

The Indoor Weather Station supports reflection about the domestic microclimate.

also screen-printed with stripes of layered thermochromic ink to show temperature gradients along their length. The Light Collector houses an RGB sensor at the bottom of its funnel, building a striated image of the ambient light around it by adding a strip corresponding to its current readings every five minutes.

We batch-produced more than twenty sets of the Indoor Weather Stations for deployment in our local area. People orient to them in varied ways. Some try to use them to find drafts or assess the effects of insulation, while others play with them to find interesting reactions or simply try to find places in the home where they belong. Even after months of deployment, when interest waned, people told us that the devices made them aware of the home as an enclosed environment, compared them to enigmatic creatures, and speculated about how they would

enhance appreciation of the home after years of use. Overall, the Indoor Weather Stations give access to the home's microclimate in a way that balances environmental utilitarianism with aesthetic appreciation—the Light Collector, for instance, could be used to monitor unnecessary lighting or simply to enjoy the changing hues at sundown.

The Indoor Weather Stations were designed as a ludic alternative to the oft-repeated tactic of responding to environmental concerns with resource-demand meters. Such meters are often ineffective or even counterproductive (Abrahamse et al. 2005) and in any case embody a normative persuasive design approach that closes down environmental reasoning. The Indoor Weather Stations, in contrast, were intended to open a space for thinking by presenting their data without imposing interpretation. The home's microclimate might be appreciated in its own

8a3e46d661d3459b1a6d754253f23015  
ebruary

8a3e46d661d3459b1a6d754253f23015  
ebruary

8a3e46d661d3459b1a6d754253f23015  
ebruary

right or by analogy to global weather patterns. Indications of a draft might be interpreted as a problem to be solved or valued as producing fresh air and interesting responses from the Wind Tunnel. A cloud passing over the Sun might be of as much interest as seasonal variations. Like the Plane Tracker, the Indoor Weather Stations create a situation without suggesting a task or meaning; what people make of them is up to them. Only tangentially related to traditional interpretations of “environmental issues,” they sought to change perceptions of the domestic environment, emphasizing the continuity of various forms of orientation, in ways that might resonate with how we perceive more global issues.

A final example of what a ludic approach to the political might look like is the Energy Babble, a system that is nearing completion at the time of writing. The Energy Babble has been designed in response to our research with about half a dozen existing communities, each of which is responding in its own way to environmental issues in particular, and questions of energy consumption and production in particular. As we have gotten to know the communities, we have been struck by the way the communities have developed their own accounts of what they believe are important and appropriate ways to address environmental challenges issues—and by the subtle and not-so-subtle differences among the discourses they have evolved.

The Energy Babble is designed to intervene in the ways the communities talk about their energy practices, rather than seeking to affect those practices directly. The device is a kind of mutant radio that plays a stream of spoken comments about energy use and environmental issues in different synthetic voices, punctuated by various jingles and sound effects reminiscent of news broadcasts. Content for

the Energy Babble is gathered by scraping the web for statements related to energy use and conservation, focusing mainly on Twitter streams from the communities and from relevant governmental websites, but also on factual information from the United Kingdom’s energy grid and related sources. In addition, people can enter their own comments via SMS message or an in-built microphone. These are converted to text, if necessary, and then to synthesized speech, to join them in the common sound world of the system. The result is a continuous stream of talk about energy issues that is sometimes informative, sometimes off-topic, sometimes comical, and sometimes simply annoying.

We are currently building about thirty Energy Babble devices for long-term deployment to the energy communities with whom we have been working (figure 21a.4). The hope is to bring the communities together by sharing their discourses, but also to contrast the different ways of talking about energy issues and ultimately to disrupt them. We do this through combining the communities’ own discourses, quotes from other environmental commentators, “facts” that we gather, and what individuals speak or text to the system. Moreover, we add an element of humor and absurdity by including Markov algorithm-generated mash-ups of the content, which, constructed using the probabilities of associated terms, are locally comprehensible but globally nonsensical. The idea behind this is to provide access to a wide variety of ways of thinking and acting in response to environmental issues, but also to disrupt assumptions that any of these ways of thinking and acting are “correct”—or even sensible at all.

What can we learn from these early designs that will be useful for developing longer-term strategies for designing ludic forms of political engagement?



8a3e46d661d3459b1a6d754253f23015  
ebrary

8a3e46d661d3459b1a6d754253f23015  
ebrary

**Figure 21a.4**  
The Energy Babble mixes many forms of talk about energy-related practices.

8a3e46d661d3459b1a6d754253f23015  
ebrary

Michael (2012) has suggested that this form of design can be understood as “proactive idiocy.” This is not meant as a pejorative term, but instead is based on Stengers’s (2005) discussion of the role that the idiot might play in social enquiry (a discussion that itself draws on Dostoevsky by way of Deleuze). The idiot, according to Stengers, “is the one who always slows the others down, who resists the way the situation is presented and in which emergencies mobilize thought or action” (Stengers 2005, 994). The idiot doesn’t present alternative ways of thinking or acting, but insists that “there is something more important” (994), even though what that might be is unknown. Idiomatic design, in this account, serves to retard our momentum in thinking and acting about things we think we understand, to insist that there might be “something more important” and to question “what we are busy doing” (Michael 2012) in our customary ways of addressing situations in question. From this point of view, a ludic approach to political issues is valuable in interfering with accepted approaches to issues, encouraging people to move outside typical frameworks for considering them.

Acting as the “idiot” in this sense doesn’t necessarily imply playing the role of court jester, however. Standing outside normal conventions to comment critically assumes a privileged role, one which can grate if the results seem glib, condescending, or an in-joke, and particularly if no responsibility is accepted for contributing productively to seeking alternative ways forward. What is needed instead, perhaps, is a design stance in which suggestions for new ways of thinking about issues are made hesitantly and accompanied by sufficiently varied resources that those suggestions are all but hidden in a cloud of other possibilities. At least, I hope that our designs suggest that “idiocy” is not necessarily

destructive, but can be achieved in ways that are both engaging and productive of new orientations.

To begin with, our prototypes suggest that political issues can be highlighted without creating partisan designs. This is not the same as creating seemingly neutral designs, which by avoiding overt engagement with political issues tend to support the status quo (Dunne 2005). Designs can explicitly or implicitly raise political questions and provide resources for exploring them, without embodying assumptions about the appropriate ways to address them the way, say, energy-consumption meters do. The Plane Tracker, Indoor Weather Stations, and Energy Babble all occasion significant questions about environmental issues, and while they may tentatively suggest alternative orientations to those issues, they don’t insist upon them, but instead make them to open a space for playing with possible attitudes and understandings.

To suggest new orientations without blocking people’s independent speculation, our systems create situations that are constrained enough to allow certain issues to come to the foreground, without overly defining any particular problem or insisting on what is important and what is off topic. The Plane Tracker can be understood as problematizing air travel, but equally as allowing exploration of the world. The Indoor Weather Stations can be interpreted as highlighting aspects of the semicontrolled indoor environments we construct, but whether these are to be appreciated aesthetically or in terms of their environmental consequences is left open. The Energy Babble exposes listeners to a barrage of potentially inconsistent environmental statements, but not only does it refrain from privileging any of them, it is ambiguous about whether they should be considered seriously or as a form of parody. Taken as

a rudimentary portfolio (Gaver and Bowers 2012), this collection of designs suggests that if what we are looking for are fresh approaches to current issues, then rather than presenting focused, worked-through perspectives on issues, it may be more fruitful to design situations that offer new orientations while remaining open to irrelevancies and permitting multiple orientations.

Finally, there are a number of more specific tactics that may be valuable in engendering ludic engagement with political matters. Designs can provide new

resources to political considerations. These can simply be brought to bear in existing debates, but also might widen their focus, suggest other orientations, or simply confuse prevalent narratives. They can create ambiguity or invite ambivalence. By inviting laughter, they can undermine authority. The list is already long and likely to become longer with further practice. What I hope to have demonstrated here is that far from being inappropriate in these uneasy times, play may have a central role in allowing us to meet them.

## Acknowledgments

This research was supported by the European Research Council's Advanced Investigator Award No. 226528, "ThirdWaveHCI," and by the Research Councils UK Energy Programme award "Sustainability Invention And Energy Demand Reduction: Co-Design-

ing Communities And Practice." All images presented in this chapter are copyrighted by the Interaction Research Studio. Many thanks to Kirsten Boehner for insightful discussions of earlier drafts of this chapter.

## Note

1. Perhaps I'm being uncharitable. After all, many of the new media that surround us are truly malleable and open-ended, capable of being used in many ways. If we turn them into arenas for status seeking, maybe

it's our own fault. But if developers didn't track these statistics, if the systems didn't keep score, maybe we wouldn't worry so much about how well we're playing; we'd just play.

## References

Abrahamse, W., Steg, L., Vlek, C., and Rothengatter, T. 2005. A review of intervention studies aimed at household energy conservation. *Journal of Environmental Psychology* 25 (3): 273–291.

Dunne, A. 2005. *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design*. Cambridge MA: MIT Press.

Fraser, M. 2010. Facts, ethics and event. In *Deleuzian Intersections in Science, Technology and Anthropology*, ed. C. Bruun Jensen and K. Rødje, 57–82. New York: Berghahn Press.

Gaver, W. 2002. Designing for Homo ludens. *I3 Magazine* (12). [Updated as Gaver 2009]

Gaver, W. 2009. Designing for Homo ludens, still. In *(Re)searching the Digital Bauhaus*, ed. T. Binder, J. Löwgren, and L. Malmborg, 163–178. London: Springer. [Update of Gaver 2002]

Gaver, W., and Bowers, J. 2012. Annotated portfolios. *interactions* 19 (4):40–49.

Huizinga, J. 1950. *Homo Ludens: A Study of the Play-Element in Culture*. Boston: Beacon Press.

Kaprow, A. 2003. *Essays on the Blurring of Art and Life*. Berkeley: University of California Press.

Michael, M. 2012. “What are we busy doing?": Engaging the idiot. *Science, Technology & Human Values* 37 (5):528–554.

Mol, A. 2009. Good taste: The embodied normativity of the consumer-citizen. *Journal of Cultural Economics* 2 (3):269–283.

Stengers, I. 2005. The cosmopolitical proposal. In *Making Things Public*, ed. B. Latour and P. Weibel, pp. 994–1003. Cambridge, MA: MIT Press.

8a3e46d661d3459b1a6d754253f23015  
ebrary