"What Are We Busy Doing?": Engaging the Idiot

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Abstract

Engagement events—whether interviews, installations, or participatory encounters—can entail a range of happenings which, in one way or another, "overspill" the empirical, analytic, or political framing of those engagement events. This article looks at how we might attend to these overspills—for instance, forms of "misbehavior" on the part of lay participants—not only to provide accounts of them but also to explore ways of deploying them creatively. In particular, Stengers' figure of the "idiot" is proposed as a device for deploying those overspills to interrogate "what we are busy doing" as social science researchers in engagement events. This interrogation is furthered by considering the proactive idiocy of "Speculative Design's" version of the public engagement with science which seems directly to engender "overspilling." Providing examples of speculative design prototypes and practices, the article develops an ideal typical contrast between social scientific and designerly perspectives on public engagement. It is suggested that speculative design can serve as a resource for supplementing "science and technology studies" (STS) conceptualizations of, and practices toward, public, engagement, and science.

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Introduction

In recent years the study of "science and society" has been partly characterized by the shift from "public understanding of science" (PUS) to "public engagement with science" (PES). While much has been made of the limitations of the assumptions and techniques entailed, surprisingly little has been said about the ways in which the complexity of the "event of engagement" might be theorized. As actual occasions, engagement events can entail a range of happenings which, in one way or another, "overspill" the empirical, analytic, or political framing of the engagement event. Lay participants "misbehave" in various ways—they "overspill" the parameters of the engagement event. Such "overspilling" is not usually accommodated within the accounts of those events. Indeed, arguably, there is a tacit process of sanitization whereby the engagement event is cleaned up so that the existing methodological, conceptual, and institutional frames of the engagement event remain unchallenged. Where concerns are raised, as we shall see, these tend to focus on, for example, matters of representativeness or bias or effectiveness or even "performativity" related to these events. Rather less attention has been paid to the how the overspills, rather than prompting sanitation or lamentation, might engender invention.

So, this article looks at how we might attend to these overspills, not only to provide accounts for them but also to explore ways of deploying them creatively. The article thus aims to sketch a supplementary ethos of engagement—one whose models of the political, of science, of engagement and of the public differs from, but also complements, those typically found under the usual auspices of science and technology studies. To this end, the article begins with an overview of the current state of play in the field of "PES and technology." The purpose of this is to begin to identify what is routinely left out of social scientific enactments of engagement, namely, what can be called participants' "misbehavior"—those activities or actions that do not make sense within—that is, overspill—the framing of the engagement event. This is followed with examples of misbehavior, and a consideration of the ways in which the "engagement event" can be sanitized of these in various ways. Versions of this misbehavior are then theorized through Isabelle Stengers' figure of the "idiot" which can serve as a heuristic for interrogating "what we are busy doing" as social science researchers in

engagement events. It can be a tool for sensitizing us to the overspilling of engagement events in ways which allow for a revisioning of those events, and the various and heterogeneous actors that comprise them. This analytic is further developed by considering the seeming idiocy of "Speculative Design's" version of the PES and technology which appears to make a virtue of "overspilling"—in which there is, so to speak, a "proactive idiocy."[1] Providing examples of speculative design prototypes and practices, the article develops an ideal typical contrast between social scientific and design perspectives on public engagement. The article concludes with a reflection on the implications of such proactive idiocy for public engagement.

Busy Doing "Public Engagement"

As is commonly recognized, the study of "science and society" has in recent years moved from criticisms of the deficit model in critical PUS (though the deficit model still lingers in various forms—e.g., Irwin 2001; cf. Wright and Nerlich 2006) to enter an era of PES. Social scientists are now developing and assessing methods for engaging with the public, enabling its voice, and, affording the possibility of its participation in decision making. Along the way many techniques—what might be called, "formalized mechanisms of voicing"—have been trialled: citizens juries, citizens panels, consensus conferences, deliberative polling, focus groups among many others (e.g., Michael and Brown 2005).

Yet, almost as soon as these seeming social, let alone social scientific, breakthroughs have been made, concerns are raised. Typically these include the degree to which these "formalized mechanisms of voicing" actually enable, as opposed to mute, voice or dissensus (e.g., Felt et al., 2009; Kerr et al., 2006); the possibility that the deficit model still informs these democratizing efforts which might employ citizens mainly as an embodiment of values, ethics, morals that add a subjective dimension to the objective business of determining risks or scientific facts (e.g., Irwin 2001; Wynne 2001); the representativeness (or the selectivity exercised in the recruitment) of the sample of publics engaged (Martin 1999; Michael 2009); the extent to which such engagement events actually link up to the processes of governance rather than operate as "mere" public relations (e.g., Beder 1999; Davies 2006); the role of engagement and participation processes in foreclosing other more radical forms of citizenship leading to disillusion with the deliberative democracy movement (e.g., Elam and Bertilsson 2003; Wynne 2007).

So, just when it seemed that there was about to be triumph over the dark forces of deficit, a whole new army of much subtler enemies are discovered lurking in the shadows. Further, there is increasing critical attention paid to the productive or generative aspects of these mechanisms, that is, their role as a mode of governmentality (e.g., Felt and Fochler 2010; Braun and Schultz 2010). Thus, they are not more or less imperfect means of giving voice to technoscientific, scientific, or technological citizens, they are also a resource in the "making" of such citizens. So one can now pose such questions as: What are the sorts of technoscientific, scientific, or technological citizens being constituted or "made" through these participatory procedures? What are the sorts of political subject positions being interpellated by these formalized mechanisms of voicing? Needless to say, these are complex questions and the array of publics that are enacted will become increasingly convoluted as these questions begin to inform the very participatory practices found within engagement initiatives. If, at bare minimum, the scientific citizen being constituted through some of these formalized mechanisms is a version of the singularized, rational, decision making, cost–benefit analyst, this is becoming complexified to accommodate, for instance affect and dissensus (e.g., Thorpe and Gregory 2010; Hess 2011).

This anxiety over the role of "participation" and "engagement" in "properly" enabling and facilitating the voice of the public can be related to what might be called the "indexing" of the lay public and its scientific citizenship. Indexing directly draws on Garfinkel's (1967) notion of indexicality wherein a concept, practice, or object takes its meaning from the context in which it is embedded. This also relates to the performative or ontological turn in STS that regards what the public "is" as emergent from the relations in which it is immersed and through which it is enacted (e.g., Mol 2002; Irwin and Michael 2003). Here, the public emerges in relation to institutional and political assemblages of which PES projects and initiatives are a part. Thus, the "public" is enacted through a series of processes such as

- Identification—the process of identifying examples of lay public citizenship or citizenliness including, the deficiencies of deliberation, or the problems of participation;
- Intervention—the development and implementation of "formal mechanisms of voicing" through which to enable public voice;
- Mediation—the making of representations (in both senses) of voice available to broader procedures of scientific policy making, or failing that, critical reflection among social scientists.

However, and this is crucial to the argument of the article, there is a peculiar partiality to such an ''indexing of citizenliness.''[2] What can be recognized as a voice in these ''formalized mechanisms of voicing,'' or indexed as a marker of citizenliness, is highly delimited by the analytic–political frames that delineate either specific engagement events or the broader PES enterprise. Indeed, there are ways in which publics routinely behave that are difficult to accommodate within these frames—ways that we might call misbehavior. In the next section, some examples of these misbehaviors are presented with a view to expanding subsequently on their possible analytic-political usefulness.

PES and Misbehavior

So, what are the misbehaviors that we PES practitioners and researchers might be missing, or, put more provocatively, might be tacitly sanitizing out of our accounting of PES events? There is a conundrum here—it is difficult to grasp these misbehaviors precisely because they do not fall within our framing of the PES event and because their sanitization is tacit. The author proposes, therefore, to present examples, mainly from his own fieldwork where, in retrospect, this process of sanitization of the misbehaviors of participants can be detected.

Without any aspirations toward an exhaustive typology, the following forms of misbehavior might be tentatively listed: absence (failing to turn up to the engagement event after making an agreement to attend); incapacity (e.g., being too tired, or drunk, or ill); refusal (e.g., being present but remaining silent, or willfully failing to address the issue at stake); disruption (for instance, heckling at, or aggressively challenging, the researchers); distraction (for instance, rather than addressing the issues at stake in the engagement event, focusing on something ostensibly irrelevant); irony (for instance, apparently engaging with the issues at stake, but actually mainly doing something different, such as competing, or playing, with other participants). Needless, to say, these (and other) modes of misbehavior readily blur into each other (refusal and distraction, are unlikely always to be easily distinguishable). It is hoped that these are reminiscent of the sorts of misbehaviors that are encountered in conducting public engagement events. The following illustrations are meant to add flesh to, and draw out some initial implications of, such misbehaviors.

First, we can consider an example of ''irony.'' In work conducted with Simon Carter (Michael and Carter 2001) on school students' use of genetics educational materials, we noted that the students in focus groups tended to

use a wide array of criteria (e.g., scientific, pedagogic, affective, biographical, aesthetic, and ethical) with which to assess the status of genetic knowledge and its various sources. We analyzed this as a collective *process* in which the identities of the students were far more fluid than those assumed in the then current PUS accounts. Revisiting these focus groups, one might wonder whether this fluidity could be interpreted as a reflection of the students' own social dynamics. Basically, the focus group was an occasion for competing with one another, consecutively undermining each others' points (criteria) as the discussion progressed. This competition—co-operatively enacted, of course—served to ironize the social scientific event of the focus group. While we thought we were primarily accessing divergent criteria, we were also, retrospectively, witnesses to, or rather the unwitting victims of, a collective performance of a game of outdoing one another (through the playful generation of more criteria). Such differentiation among the students would be grounded in the identification with a collective game that reframed the event and differentiated the students from the researchers.

Second, we can examine an instance of "refusal." In an interview in the late 1980s on the local risks of ionizing radiation, the participant would only talk about her recent job at Burger King. At the same time, her pitbull terrier was sitting on my feet, and her cat was dragging the tape machine, that had been placed on the floor between us, out of recording range. As such no data, let alone irrelevant data, were collected. From within the frame of the particular engagement event (a critical PUS interview), this looked like a failure. For a long time this episode was put down to "bad luck" and "inexperience," but it had an irritant quality, as if this characterization was not only deeply inadequate but also an off-the-peg rationalization. It was not until several years later that a different account emerged (Michael 2004). Instead of the interview framed as an engagement event that failed to enable a member of the public to raise issues about local ionizing radiation risks, we can begin to think of this as an event in which there was a successful enactment of, among other things, a hybrid of human, dog and cat that disaggregated, and differentiated itself from, another hybrid, the interviewer, his tape machine, and his interview schedule. More speculatively, in this "disastrous" engagement event we can get glimpses not of failed citizenship on the part of the "interviewee" but something like a successful distributed citizenliness that incorporated relations with nonhumans.

Finally, we can turn to "distraction" by drawing on the work of Maja Horst who, with designer Birte Dalsgaard, developed a science

communication installation, Landscape of Expectations.[3] Set up in a shopping mall just outside Copenhagen, this complex installation invited participants to address the issues and politics around stem cell research by using various interactive devices. One key event involved a group of teenage girls who were observed "misbehaving" around the installation: in response to the question "what are you most worried about?" (posed in relation to the stem cell research), one girl wrote "my biggest fear is that all shopping centres in the world close."[4] Here was a response that not only failed to engage with the point of the installation, but seemed actively to distract from it. As with the previous case, at first, the misbehavior of the group of girls could not be accommodated analytically—after all, they had failed to take the installation seriously. Nevertheless, their activities deeply affected Horst. Their distraction from the seriousness of the installation however could be read as a reframing of the event of engagement. Their "lack of seriousness" serves in the highly serious situated enactment of their social relations (as a group of girls). Indeed, to have treated the installation seriously would quite possible have challenged or trivialized those group relations. For Horst, these misbehaviors served to throw into relief the assumptions that had informed the building of the installation, and framed the engagement event as one of science communication (see Horst and Michael 2011).

The first example of misbehavior above—irony—while reframing the focus group event, did not necessarily undermine our original framing. That the students were able to generate an unexpectedly broad array of ways of assessing genetic knowledge through a tacit game does not contradict our point about the untapped variety of such valuations. It suggests that we need a supplementary accounting of the focus group event to take into account the specificity of its social dynamics. By contrast, in the particular eventuations of the interview and installation, the "odd" unaccommodating actions—misbehaviors—serve to make us question our own empirical, analytical, and political presuppositions, that is our very framing of the engagement event. Typically, such misbehaviors might well be sanitized not least by being ignored—put down to the perversity of the public or the inexperience of the researcher, say (see below). Yet, as the above accounts illustrate, such examples of misbehaviors can still act affectively as irritants, haunting the analytic frame: a rumbling of the repressed, so to speak.[5] Put another way, these misbehaviors raise questions about what our own social scientific interventions eventuate: What sort of events might our PUS/PES events precipitate that are not always graspable within the frameworks that inform the design of those events? Do the events that comprise public engagement

chronically "overspill" themselves?[6] That is to say, are misbehaviors a constituent, though neglected, feature, of such engagement events? What unthought elements in the interview and the installation enabled the particular misbehaviors, and the particular unsettling reframing of the engagement event, on the part of those particular members of the public?

In what follows, the author suggests how, through the figure of the idiot, this overspilling and its related irritant "absent presences" might be made more available.

Idiots and Publics

For Stengers (2005), the idiot—a figure she adapts from Deleuze—is a "conceptual character" (p. 994) who "resists the consensual way in which the situation is presented and in which emergencies mobilize thought or action" (p. 994). The idiot has this effect not because it directly challenges the reality or truth of those emergences "but because 'there is something more important'" (p. 994). However, the idiot cannot explain why this is the case since "the idiot can neither reply nor discuss the issue ... (the idiot) does not know ... the idiot demands that we slow down, that we don't consider ourselves authorized to believe we possess the meaning of what we know" (p. 995). This figure is linked to what Stengers calls the cosmopolitical proposal that is concerned with the "passing fright that scares self assurance, however justified" (p. 997). The task becomes one of how "we bestow efficacy upon the murmurings of the idiot, the 'there is something more important' that is so easy to forget because it 'cannot be taken into account', because the idiot neither objects nor proposes anything that 'counts'" (p. 1001).[7]

This figure of the idiot can be further illuminated through Fraser's (2010) discussion of the event in Whitehead, Stengers, and Deleuze. In essence, Fraser regards the event as an actual occasion comprised of the coming together of entities that are social and material, human and nonhuman, macro and micro, cognitive and affective, available and unavailable to consciousness. The event thus emerges out of the coming together—the concrescence—of these entities. Fraser goes on to note that, in Deleuzian terms, the event is a moment where these entities rather than simply "being together" also "become together." In eventuation—the making of an event—the constitutive elements do not simply "interact," but change in the process of that interaction. The idiot, insofar as it "enters into" the event (in the present case, the "event" is the participatory events of PES) begin to "transform" the other elements, not least the researchers themselves. In

such an eventuation, researchers can now begin to query what they are "busy doing" and imagine that there is "something more important," or in Fraser's articulation of the Deleuzian event, begin to move beyond finding a "solution" to a (formally) familiar "emergency" (of democratic deficit, say) to "inventive problem making" in which the parameters of the issue are reconfigured (see below).[8]

As we have seen, the disruptive/creative character of the idiot is not necessarily welcomed. In the case of PES, we might identify at least three broadly related but analytically distinct ways in which those who do not comport themselves "fittingly," can be excluded or sanitized:

- from the encounter or "engagement event" between science and society—where data are "generated." Here, actions or activities that seem inapt fail to be registered, or if they do leave traces, these are not converted to data;
- from the "analytic event"—where data are "analyzed": Here, textual traces of actions are seen to be either artifactual or too difficult to fit into the analytic framework with which the analyst works;
- from the "relevance event"—where interpretations of data are circulated among relevant constituencies such as policy makers, other academics. Here, where data are analyzed, they are not related broader forms of relevance to, for instance, policy constituencies, or the more or less tacit political agenda of academic constituencies (concerning citizenliness, for instance).

The argument here is that attending to the idiot means recognizing at once how it is rendered absent and present. Its exclusion enables the sanitized ordering of the engagement event, and yet the more or less explicit efforts to exclude it can render the idiot "present."[9] That presence can—for Stengers, "should"—be disruptive because, potentially at least, it introduces a sort of background noise which perturbs the usual processes of eventuation. As illustrated above, the "misbehaving girls" and the "misbehaving human–cat–dog hybrid" idiotically affected the sense of what constituted an event of engagement and communication (also see, Callon and Rabeharisoa 2004). However, we should also note that, because of its "conceptual" status, we can never quite fully grasp the idiot. As soon as we think we have "deployed" the idiot, slowed our thinking, and invented novel problems, we have also tamed it, and the process of querying our assumptions has become compromised. The idiot reminds us that we must never get too comfortable with "what

we are busy doing''—we should be open to creative or inventive problem making.[10] In other words, the idiot is as much a process as a figure.

In the next section, the cause of the idiot is taken up—less as a reaction to the exigencies of engagement events, and more as a proactive intervention in engagement. To this end, the practices of speculative design will be examined, not least because its own peculiar relation to public engagement processes could be seen as a chronic invitation to, indeed as a mechanism for, the proliferation of idiots. In other words, built into the very practices of speculative design is a proactive idiocy in which its eventuations necessarily trigger overspilling and the enablement of unforeseen participant actions, that is, misbehaviors.[11]

Speculative Design, Science and the Public

While design as a discipline is mainly concerned with products of one sort or another (e.g., material, graphic, and interactional), there is also a recent tradition of design research that is less concerned with function (however, that is defined or contested—see Papanek 1984). The purpose of critical design, associated with Anthony Dunne and Fiona Raby (e.g., Dunne and Raby 2001; Dunne 2005), is to design prototypes (e.g., robots with emotions) that critically address the putative futures entailed in contemporary technological developments. Speculative design, linked particularly to Bill Gaver (e.g., Sengers and Gaver 2006; Gaver et al. 2008), like critical design, develops objects that are also obliquely functional. However, for Gaver, through a process of engagement with users, the aim is to provoke a more open-ended and ludic process of reflection on the complex roles of new technology (e.g., the capacities of ubiquitous computing).[12]

Within these latter traditions falls the work of Tobie Kerridge which has been explicitly oriented to PES and technology. His Biojewellery project entailed the use of bone cells taken from the jaw that were donated by couples undergoing the removal of their wisdom teeth. The cells were subsequently cultured around a ring-shaped bioactive scaffold. This was then made into rings incorporating precious metals, and the rings were exchanged by the couples. The project generated, or was involved in, a series of dissemination events which included exhibitions, workshops, and conferences in the United Kingdom, Netherlands, and Germany, and various forms of reportage in national and international print and electronic media.[13] However, it was clear that only minimal effort was made to gauge the public's response to Biojewellery. Unlike a social scientific/science studies approach to public engagement, the public's views were not

systematically documented and analyzed. At this stage, we can note that Biojewellery was idiotic in that it made no sense in the context of orthodox framings of the relation between biomedicine and public that lay emphasis on utility, health, knowledge, even risk.[14]

Subsequently, Kerridge was a key researcher in the UK's Engineering and Physical Sciences Research Council-funded project Material Beliefs (see Beaver, Kerridge, and Pennington 2009). Material Beliefs was a project run from the Interaction Research Studio at Goldsmiths, University of London that ran from the beginning of 2007 for two years. The most relevant aim of this project was, as it states in the proposal "To create a range of deliverables that provide a broad audience with a rich set of insights into the potential of engineering research." This aim was emphasized as it embodied the researchers' "considerable experience of using design as a tool to garner attention, drive debate and provoke independent thought" (Beaver et al. 2009, 12). The project was placed in the context of a need to "communicate and democratize recent innovation in UK engineering" but this was also distinguished from "the strategy of policy-focused engagement" insofar as it aimed to "bring to life the detail and fascination of engineering in the imaginative worlds in an audience of end-users." This would be realized through the collaborations of "experienced research engineers and designers through a residency programme, leading to a series of public exhibitions and engagement events" (Beaver et al. 2009, 13).

The project entailed an initial set of collaborative engagements, including laboratory visits by the professional designers that were contracted on the project, but also by student designers. On some of these visits interviews were conducted with the engineers (these were routinely filmed and made available online). Materials (videos, social questions developed by the designers, design sketches and mock-ups) derived from these encounters along with engineers' own input fed into a series of engagement events that involved the public. These included, for instance, "OurCyborgFuture" in Newcastle-upon-Tyne, "Junior Scientifique" in Gateshead, and "Techno-Bodies; Hybrid Life?" in London. As is noted in the Material Beliefs volume, these engagements also provided "alternative perspectives to fuel design concepts" (Beaver et al. 2009, 45); that is to say, they were a contributory factor in the evolution of the designs.

In the present context, I will focus on two design prototypes that were derived from these initial conceptualizations in order to portray something of the sensibility behind speculative design. The first prototype is the Neuroscope—"an interactive device (that) interact(s) with the cell culture from the home." Shaped as a hybrid form that is part microscope and part

asymmetrical Erlenmeyer (or conical) flask, the user looks into the Neuroscope to "see (1) virtual representation, which is updating in real time, because the (Neuroscope) is networked to the cell culture in the lab." As its designer Elio Caccavale puts it: "As you interact with it you will be sending signals to the cell culture, which then will feedback into the virtual environment, so there is a loop between what you do with the Neuroscope and the cell culture" (Beaver et al. 2009, 104). Here, then, is a speculative design protoype which does not have a practical or transparent function. On this score, the Neuroscope serves an idiotic purpose insofar as it "refuses" to address the usual framings of the relation between biomedicine and publics. At best there is only an oblique relation to such typical concerns as, say, the controversial role of biomedicine in "playing god" or generating various risks. Instead, (and this applies no less to Biojewellery) by hinting at issues concerning, for example, the borders between the home and the laboratory, science and entertainment, function, and aesthetics, the Neuroscope invites caution toward what we, in STS and beyond, are busy doing, and opens up a space for a reframing of the issues, that is, inventive problem making.

The second prototype, by the designers James Auger and Jimmy Loizeau, is the Flypaper Robotic Clock, an instance of a family of objects they called Carniverous Domestic Entertainment Robots which also included the Lampshade Robot, the Fly-Stealing Robot, and the Coffee Table Mousetrap Robot. All of these entailed a mechanism for entrapping animals and transferring them into microbial fuel cells that would convert them into energy to drive the entrapment mechanism and/or some other technical facet of the design artifact (such as a light). In the case of the Flypaper Robotic Clock, as the name suggests, flypaper is the entrapment mechanism. "This paper is placed on a roller mechanism. At the base of the roller, a scraper removes any captured insects. These fall into the microbial fuel cell placed underneath. The electricity generated by the flies is used to power both a motor turning the rollers and a small lcd clock" (Beaver et al. 2009, 83). These robots are idiotic insofar as they do not make sense within the usual framing of microbial fuel cell technology as an uncontroversially "useful" technology that turns organic waste matter into electrical energy. Rather, this technology is rendered "unnecessarily," even "senselessly," controversial by being associated with the killing of animals for the purpose of entertainment. However, in the process, it begins to raise issues about the potentially problematic status of a technology for which organic matter equates with fuel: How does this equation shift in relation to the functions associated with the microbial fuel cell? For instance, does what count as

"legitimate" organic fuel on a battlefield for microbial fuel cell-powered military robots change depending on the sort of war being waged?[15] Again, whatever the merits of this particular issue, the point is that the evident idiocy of Carniverous Domestic Entertainment Robots has afforded the opportunity for a reframing of, and inventive problem making around, the eventuation of microbial fuel cells.

Now, in the case of both the Neuroscope and Carniverous Domestic Entertainment Robots, the issues raised above have only been hinted at by their designers. Moreover, though they were designed to provoke debate in the publics to which they were presented at various events, apart from a few videoed, informal interviews, and the odd snippets of commentary by members of the public presented on the Web site or in the project's final publication, there was little effort made "systematically" to gauge or record public responses. So despite the claims that this was all "public engagement," it was unlike the sorts of public engagement which is generally familiar to most social science and STS scholars.

The ways in which this designerly form of PES differs from familiar STS perspectives can be summarized as follows:

- No Controversy: Here, "public engagement" did not necessarily imply an imminent, discrete technological problem or an urgent, definable scientific controversy. Rather the speculative objects were designed to embody complexity, or to engender controversy, that was to be explored by publics.
- No System: There seemed to be barely any mechanisms in place for systematically gathering and recording the views of the "public"; though opportunities for expression and debate were presented, these were recorded in what appear to be an opportunistic or haphazard fashion;
- No Representation: There appeared to be little effort to craft a representative digest of such views that could be of use to various potential stakeholders such as the scientists and engineers, policy makers, other commentators on science and technology including social scientists;
- No Citizenliness: More broadly, none of the designers seemed overly bothered about the citizenliness of the public, that is, of presenting an opportunity whereby the public"s voice was enabled, marshalled and directed to affect the policy making, or indeed, political, process;
- No Duty: The designers did not seem to be concerned that they might have a scholarly "duty" to mediate the democratic process so that the public voice could be better heard, or enjoy greater purchase, within the corridors of power.

From a social scientific perspective, there seems to something amiss in this designerly version of public engagement. From within the horizon of STS's version of PES, speculative design's efforts are ''idiotic''—they seem to operate with a very different set of tacit notions about ''the public,'' ''engagement,'' and ''science and technology.'' However, taken together they serve as an idiotic prompt to reflection on, and a slowing of, what STS practitioners are busy doing. In what follows, an ideal typical juxtaposition of STS and designerly forms of PES will be presented. Inevitably, given the complexities of both STS and Design, there is a risk of caricature here (see Parkin 1982); nevertheless, such a comparison can throw into relief, and thus facilitate reflection on, some of key presuppositions that underpin what STS PES is ''busy doing.''

Drawing Distinctions between Design and STS

Typically, for social science PES, the public is characterized in terms of a democratic deficit; PES's formalized mechanisms of voicing are centrally concerned with rendering people citizenly primarily in the context of policy making. To this end, techniques and mechanisms are generated that aim to capture, ''index'' and package those voices. As we have seen above, running in parallel are social scientific critiques that worry that this voice is being wrongly appropriated or muted, or else ''made'' in ways that reflect particular versions of the citizen or citizenly capacities. By contrast, for the designers of Material Beliefs, the public seems to be composed of more or less fully rounded persons, more or less able to confront with cognitive and emotional maturity (for want of a better phrase) their novel—indeed, ''idiotic''—designerly artifacts. What is particularly interesting is that this ''maturity'' is characterized by a capacity to entertain, deal with, and explore the confusion, ambiguity, blurriness of the issues associated with these objects. This is a tacit model of the public where its members suffer neither from intellectual deficit nor citizenly shortcomings—rather, it is a constituency whose role is not to be ''citizenly'' (whatever form that might take) within a context of policy making, but thoughtful within a context of complexity.

The corollary is that the idea of engagement for social science PES entails a doing of citizenliness in which issues and arguments are grasped and clarified, positions are disambiguated and demarcated, arguments enunciated and attributed. Further such engagement is ultimately concerned with solutions: decision-making processes in which the voice of the public is properly enabled, ideally travels upstream, and ultimately

contributes to the policies and processes that address the pressing and emergent techno-scientific questions of the day. Here, "science" and "society" are brought together to deliberate, and then to have impact. There are a number of issues that arise in relation to this.

One key form of "engagement" in the Material Beliefs project takes place through the circulation of speculative design prototypes through various events where they are subject to observation and discussion by publics. However, these objects do not necessarily afford easy interpretation, nor are they meant to enable the identification of a controversy or issue, and its constitutive positions or interests. Rather, the designerly engagement entails something more akin to what might tentatively be called an "artistic encounter."[16] Material Belief's objects are quasi-artistic, and they are meant to evoke in their audiences less a need for clarity, than a desire for, and exploration of, complexity. But then these are "difficult" objects: they warp the scientific and the social (as mediated by the designers)—they have implications that are good and bad, individual and collective, internal and external, biological and cultural, emancipatory and authoritarian, modest and arrogant, cruel and funny, academic and commercial, serious and playful, and of course, designerly and scientific. They allude to cutting-edge science and technology, to hackneyed ideals around health and environment, to science fiction (both utopian and dystopian), to historical narratives of oppression and discovery, to horror and humour. They are, in Donna Haraway's (1994) terminology, black holes.[17] If social scientific forms of engagement regard "science and technology" in terms of complicated controversy, Material Beliefs suggests a view in which the complexities of "science" and "society" are materialized as designed artifacts that enable a spiraling out in many conceptual directions, raising questions about a multitude of indistinct issues.

Another way of putting this is that these objects are chronically idiotic—by bringing together otherwise alien relations they challenge their audiences not to engage in solution seeking (what is the solution to the Neuroscope?) but to enact, what, as mentioned above, Fraser (2010) calls, "inventive problem making," where the parameters of the "issue" can shift in new and unprecedented ways.

This means that, to the extent that this public is coemergent with its objects and issues, this process is rather more amorphous than is typical in STS accounts (e.g., Marres 2007). That is to say, these publics along with their objects are diffuse, and their politics are less discrete and more circuitous. They are not focused on specific issues, nor targeted at identifiable

Table 1. Ideal Typical Differences between STS and Designerly PES

	"STS"	"DESIGNERLY"
Public	Democratic deficit	Capacity for ambiguity
	Citizenly in the context of policy making	Thoughtful in a context of complexity
Engagement	Process of argumentational clarification	Artistic encounter and exploration of complexity
	Solution seeking	Inventive problem making
	Step-wise progression	Rhizomic accretion
Science and Technology	Controversy	Black holeness

Note. PES, public engagement with science.

stakeholders, but oriented toward the exploration of the complexity of the "issues" and, as remarked above, the process of inventive problem making.[18]

This is underlined by the form of engagement enacted by design which is, arguably, radically open. In social scientific PES there are discrete, linearly arrayed events which can be specified, minimally, as follows: problem identification, public and expert recruitment, engagement event, analysis, dissemination. To be sure, as with any research process, these phases are recursive and iterative. Nevertheless, they form a standardized package, or a closed arc of events. In contrast, the designerly engagement seems to be a more processually open exercise. The unsystematic representation of public (and scientific) voices is not seen as separate from the engagement event itself. The production of a "final" book of Material Beliefs (Beaver et al. 2009) is the occasion for yet more engagement through the Web site, blogs, and continuing exhibitions. As such there is less a step-wise progression of collecting data, analyzing, representing and influencing and more a process of continuing, rhizomic accretion of voices and things around the design objects that shape and reshape—complexify—them as they circulate along multiple paths. In other words, there is a chronic, processual—topological—overspilling of the engagement event.

The ideal typical contrast between versions of STS and design, and for what it is worth, these distinctions are summarized in Table 1.

Concluding Remarks

Now, it is not the aim of this article to give the impression that STS's, albeit problematized, "scientific citizen" should be replaced by the

"technoscientific muser" or "sociotechnical aesthete" (for want of better terms) of designerly PES. And it is certainly not the intention to suggest that the idiocy of designerly PES inevitably leads to the sort of complex engagement briefly ideal typified above. There are bad designs and design practices, as well as bad social science, that will fail, or be less likely, to facilitate the sorts of open, exploratory, "inventive problem making" that has been traced in this article.[19]

However, it can be suggested that speculative-designerly PES can be an idiot with which to press what "we are busy doing" in social scientific PES. Thus it can be argued that the "technoscientific muser" is a valuable figure through which to expand the idea of engagement so that it entails, in contrast to, and as a supplement of, the scientific citizen not only epistemic and ethical problem solving but also aesthetic and affective playfulness, and inventive problem making. Designerly PES therefore implies a different sort of politics—one that is circuitous, rhizomic and likely to have, at best, piecemeal and distributed effects that might well barely be recognizable as political. The Neuroscope and Biojewellery do not give voice to the "scientific citizen" but can serve in both the problematization and reconfiguration of this figure.

Having noted this potential of speculative design as an idiot, this rendering is also a domestication. The inventive problem that might be generated in its turn becomes normalized so that it comes to characterize "what we are busy doing." On this score, the idiot should be regarded not so much as a figure, but as a process or a sensibility that chronically seeks and engages this irritating absent–present other.

Another way of putting this is to problematize and rethink the ideal typical distinctions that have been drawn between designerly and social scientific versions of public engagement. These cannot uncomplicatedly be sustained. What the designerly version does is highlight those features of the social scientific public engagement event that are typically forgotten, bracketed, sanitized. After all, the objects that populate even standard scientific controversies are themselves black holes–complex, ambiguous, heterogeneous, multiple, and so on. In other words, these controversial technoscientific objects themselves can overspill the confines of the STS engagement event in a proliferation of understanding, affects, inventive problems. What designerly PES does, at least as portrayed it here is furnish some ways for thinking about this process of overspilling in relation to social scientific PES, along the way opening up the possibility of new ways for thinking the problem, the public, and the political.

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Notes

1. This is not say that the ''indexing of citizenliness'' is of no value, merely to suggest that there are other productive ways of thinking about, and doing, science–society relations. Moreover, this ''indexing of citizenliness'' should not be read as a universal or singular process—it needs to be treated in its specificity, not least, in relation to national and international political assemblages (see Horst and Irwin 2010).
2. For more details about the landscape of expectations installation, Accessed June 22, 2011, see http://www.stamcellenetvaerket.dk/eng-installation2.htm. Also see Horst (2011).
3. In another case, a group of girls used the ''surveillance system'' (a video screen situated on the outside of the installation directly fed from one of the interior surveillance cameras) to enact X-Factor performances to one another. Where the intention had been to use this transparent configuration of camera and screen to prompt thought about issue of citizenship and surveillance, the girls performance suggested altogether different enactments of the installation—an occasion for the performance of particular sorts identities and group dynamics oriented, minimally, around celebrity and consumption.
4. By way of further clarification, affective impact entails the idea of an affect where bodies with particular, situated corporeal, perceptual and reactive capacities are affected by objects and actions around them. These affects operate at a subterrainian level that are ''aggravating'' or irritating but cannot necessarily be expressed. However, sometimes these are manifested as emotions though at that point they have become conventionalized. On one level, this article is an attempt at conventionalizing the affects precipitated in the Landscape of

Expectations event. This notion of affect draws especially on the work of Massumi (2002) and Bennett (2010).

5. Regarding overspills, there is a direct lineage to the notion of overflows classically elaborated by Callon (e.g., 1998). On the one hand, overspills is simply an ironic transposition of Callon's overflows from the realm of the "economic" to that of the "participatory" (ironic because of both its conceptual roots in the work of Goffman and its application to hybrid forums). On the other hand, the concept of overspills does additional work. Thus, it points to the possibility that that which cannot be contained by the frame (of a participation event) impacts upon the key keeper (the social scientist) of the frame behind their back, as it were, at the level of affect. Moreover, there is a sense in which the participatory frame has been designed around the public (whether that be methodologically or politically). So, when a member "mis-behaves" they do not move outside the frame of the participatory event (become an "externality" or generate "externalities"), rather they have transformed the event—it has become something else which the analyst subsequently strives to recover. This has more in common with the processuality characteristic of Callon's formulation of hybrid forums (e.g., Callon, Lascoumes, and Barthe 2001) in which ideally such forums are "apparatuses that generate turnarounds in opinions and encourage the review of best-established agreements" (Callon et al. 2001, 245). That is to say, the "meaning" of the participatory event should be fluid by virtue of the fact that it incorporates minorities before identities have hardened and voices taken on oppositional stances. On this score, "overspills" connote the taking on of those oppositional, or indeed "incommensurable," stances and the transformation of the participatory event into one in which, as is detailed later in this article, numerous stances can be creatively proliferated.

6. It should be clear that no pejorative connotations are attached to the figure of the idiot here.

7. Needless to say there are various versions of the idiot, not least Dostoyevsky's Christ-like figure, as well as other figures of provocation (such as the trickster, the fool, the jester). However, most relevant in the current field of inquiry is Lezaun and Soneryd's (2007) formulation. Whereas the "idiot" here does something that is not assimilable within the frame of an engagement event and thus can serve as a means of prompting a revisioning of that event, Lezaun and Soneryd's idiot is a "perfectly uncommitted individual . . . with no known opinions or unprompted interest in public matters" (p. 294) who reinforces an engagement event (such as *GM Nation?*) precisely "because they were the only ones who seemed capable of undergoing the sort of conversion that consultants expected. The uncommitted (the idiot) were the only ones who produced the kind of movement that consultants were eager to register" (p. 294). A key difference in these

uses of the figure of the idiot is thus in the direction of effect: for Lezaun and Soneryd, it is the malleability of the idiot that reinforces the engagement event; in the present argument it is the otherness of the idiot that reworks the meaning of the engagement event.

8. This pattern is reminiscent of that described through Agamben's (1998) notion of ''state of exception.'' However, there is also resonance with John Law's (2004) thinking on method assemblages as ''about the crafting and enacting of boundaries between presence, manifest absence and Otherness'' (p. 85). The present use of the idiot is an attempt creatively to rework just such boundaries. Of course, as Law points out, others cannot be avoided: ''there will always be Othering'' (p. 85) and as is argued in the main text, the ''Otherness'' of the idiot (as a concept as opposed to an actual actor) is always ''present'' to remind us of the exclusion that enables ''what we are busy doing.''

9. It should be noted that the disruptiveness of the idiot is not related to the disruptiveness entailed in breaching experiments (Garfinkel 1967). Where the latter are designed to expose the stable normativities of a common sociality, the former opens up a space for the continuing transformation of order making. It should further be noted that the idiot also stands in an oblique relation to two standard forms of critique, internal or immanent, versus transcendental or utopian (see Geuss 1981; Held 1980). The key difference lies in the fact that, whereas critique assumes a stabilized position from which to conduct its critical analysis (historical circumstance or utopian projection, respectively), the idiot seeks to disrupt any such position in ways that cannot be readily foreseen.

10. One could additionally argue that the PUS/PES researcher can themselves be ''idiotic''—after all, why should the school students, the participant (with her animals), or the girls at the mall not regard the engagements into which they are invited, the questions being asked of them, the issues being presented to them, as idiotic in relation to the events in which they are engaged (competing with another, building a career in Burger King, shopping)? Horst and Michael (2011) suggest that this opens up the possibility of mutual idiocy in which each other''s idiocy affectively impacts upon the other in a sort of nonconversational dialogue that might run in parallel with the usual dialogical forms that are found in formal mechanisms of voicing. In the context of the present article, the key contrast is that the possible idiocy of the PUS/PES research is *accidental* whereas that of the speculative designer is *proactive and planned*.

11. It should be noted here that there are numerous, dispersed encounters between STS and design that encompasses, for instance, Human–Computer Interaction (e.g., Suchman 1987), the gendering of the technological design (e.g., Cockburn and Ormrod 1993), the coconstruction of users (e.g., Oudshoorn and Pinch 2003); environmentalism and consumption (Verbeek 2005; Shove et al.

2007). Another mode of this encounter orients around proceses of public engagement, and how design (and indeed art) might serve in the rethinking of such engagment (see e.g., Callon 2004; Latour 2008; Barry and Kimbell 2005; DiSalvo 2009). It is to this latter trend that the present article aspires to contribute. Of particular interest in this last respect is Born and Barry's (2010) elegant discussion of the contrast between public understanding (exemplified by Art–Science in the United Kingdom) and public experiment illustrated by the Art, Computation and Engineering (ACE) Masters programme at University of California, Irvine). Echoing several of the themes addressed in this paper, they show how collaborations between art and science can enact an interdisciplinary logic of ontology (Barry, Born, and Weszkalnys 2008) in which the nature of the object of study and the relation of science to publics and politics are fundamentally reconfigured. They exemplify this with ACE faculty member Beatriz da Costa's PigeonBlog project in which GPS-linked sensors were attached to homing pigeons which could, as a result, send back "real-time location-based pollution data and imaging to an online mapping and blogging site." This "information was analysed and modelled on the website, where it sat next to educational material" (p. 113). Born and Barry note three key implications of this "public experiment": it entailed "a reconceptualization of air quality as an object of measurement" (p. 114); it served in the production of a "different kind of public knowledge of air quality: one that highlights the critical significance of its social-geographical variation, and that invites those most affected by this variation to participate in the practices of knowledge production" (p. 114); art is no longer a medium of science communication but "draws upon but also augments the resources of science. PigeonBlog makes a scientific contribution, while reconfiguring the objects both of art and of scientific research" (p. 115). In the present context, one might say that attaching sensors to homing pigeons is proactively "idiotic" on the basis that it makes little immediate sense in relation to standard modes of pollution measurement. And yet, PigeonBlog can also be read as an eminently sensible intervention, not least because it gathers more detailed, temporally and spatially situated data. One might even say that it yields "solutions" to, for example, the problem of collecting more "useful"—scientifically and socially—data, or the problem of enabling particular types of otherwise silent or marginalized public voices. By comparison, the idiot as used here (e.g., the Neuroscope) yields not solutions but a slowing down of prevailing engagement practices. As such, the idiot plays a negative role—worrying away at the presuppositions that underlie engagement events. In the process, the idiot also opens up a space for creative problem making. For instance, as is noted in the conclusion, the designerly idiot does not point to the sort of "enhanced" public political actor implied in PigeonBlog, but

something rather more amorphous that invites us to reflect on what it means to be a political actor.

12. For more detail on Biojewellery and its dissemination, see the project Web site (url: http://www.biojewellery.com/—last accessed November 21, 2010). By way of illustration, the following outputs can be noted: Biojewellery: Designing Rings with Bioengineered Bone Tissue (November 6, 2006 to January 14, 2007), Atrium 1, Guy's Hospital, St. Thomas Street, London, Greater London SE1 9RT; Bio-Bling: Bone jewellery (January 18, 2006: 19:00 to 20:30) The Dana Centre, 165 Queen's Gate, South Kensington, London, SW7 5HD; New Scientist, United Kingdom, February 26, 2005, 15, 147, 278 weekly; Channel 4 News, January 18, 2002, 19:37:01.

13. Anecdotally, in discussion with numerous social science and STS colleagues, there was considerable disquiet about the very point of the biojewellery project (almost always prefaced by a ''yuck'' response). What was it aiming to achieve? In what ways did biojewellery ''represent'' science? Why were the public not properly canvassed? This article is about trying to unravel this response, which, as should be obvious, was a reaction to what amounts to a disciplinary idiot.

14. Unfortunately, this is not as outlandish as one might hope: There are commercial projects to design and build just such robots with the fitting acronym of EATR—Energetically Autonomous Tactical Robots (see http://www.robotic-technologyinc.com/index.php/EATR and http://www.wired.com/underwire/2009/07/military-researchers-develop-corpse-eating-robots/—last accessed September 17, 2011).

15. ''Tentatively'' because the author is wary of using the term ''artistic encounter'' given the antipathy of some practitioners of speculative or critical design to comparisons with art. As Dunne and Raby put it on their Web site, critical design ''is definitely not art. It might borrow heavily from art in terms of methods and approaches but that is it. We expect art to be shocking and extreme. Critical design needs to be closer to the everyday, that is where its power to disturb comes from. Too weird and it will be dismissed as art, too normal and it will be effortlessly assimilated. If it is regarded as art it is easier to deal with, but if it remains as design it is more disturbing, it suggests that the everyday as we know it could be different, that things could change.'' (http://www.dunneandraby.co.uk/content/bydandr/13/0—last accessed September 17, 2011).

16. For the complex or boundary objects in which I am interested, the mythic, textual, political, organic and economic dimensions implode. That is, they collapse into each other in a knot of extraordinary density that constitutes the objects themselves. In my sense, storytelling is ... a fraught practice for narrating complexity in such a field of knots or black holes. (Haraway, 1994, p. 63).

17. This is a partial answer to the charge of elitism that is sometimes leveled at such speculative design engagement exercises (e.g., Dawson 2010). Unlike social scientific PES which at least makes attempts at some form of sample representativeness in its engagement procedures, the engagement of designerly PES is altogether more casual. *De facto*, this tends to mean that its public audiences are cultural elites given the sorts of venues in which engagement and exhibition events take place (e.g., museums, galleries), though media uptake might open this out to broader audiences. This charge of elitism partly takes its force from a tacit moral economy (as well as explicit epistemic rationale) which values the recruitment of publics that are representative or under-represented. By contrast, especially in light of the many criticisms of social science PES and the problematic political gains that it has afforded, designerly PES serves different, possibly creative, always already contingent and not necessarily traceable, routes by which the politics of ''science and society'' are done. The point of this article is not to specify such routes but to point to their possibility and the creative problem making they might facilitate.

18. Moreover, though speculative and critical design are contrasted to functional product design with its links to commercial manufacture, the speculative objects that are produced are nevertheless open to appropriation as commodities which, in certain respects at least, is liable to close down interpretative possibilities. However, this too can be reappropriated as a part of the eventfulness of the speculative prototype: as its associations proliferate, not only is its meaning subject to reduction but that reductionism is itself subject to commentary even in news reportage. An earlier example of this is Auger-Loizeau's Audio Tooth Implants, comprised of a ''miniature audio output device and receiver (which) are implanted into the tooth during routine dental surgery. These offer a form of electronic telepathy as the sound information resonates directly into the consciousness.'' This device was ''named in Time magazine as one of the best inventions of 2002.'' However, despite the excitement generated around its potential uses (e.g., the secret relaying of information to politicians) and possible production, it was also seen to provoke questions, exemplified by Sky News' comment ''it does open the debate about installing nonmedical equipment inside the body.'' (see http://www.auger-loizeau.com/index.php?id=7—Accessed December 17, 2010).

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