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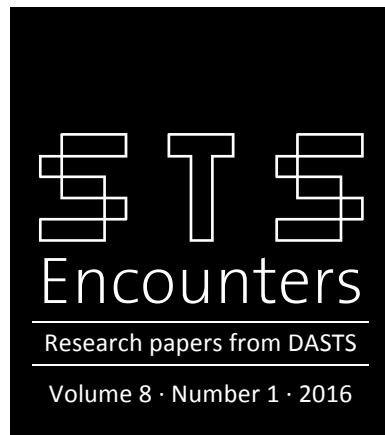
Objects of speculative design in the formation of publics

Tau Ulv Lenskjold

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Abstract

Design researchers from areas such as participatory design, interaction design, and service design have in recent years increasingly turned to the field of Science and Technology Studies as a source of analytical insights and methodological rigor. A great deal of inspiration has in particular been drawn from the work of Bruno Latour and his call for a shift from Realpolitik to Dingpolitik and a move from matters of fact to matters of concern, as the basis for new political ecologies (Latour 2004a, 2005). In this paper I will relate a specific encounter between STS and design research, by looking at the design research project Material Beliefs, and more specifically the use of what has recently been termed 'speculative design' (Kerridge, et al. 2010). While inspired by an STS approach to public engagement, the proponents of speculative design are interested in how, and to what extent, speculative design proposals can function as 'co-constructors' of new publics. Viewed from a design perspective, this project aims to bring conceptual and critical design proposals out of the galleries and design studios to engage in the formation of heterogeneous publics, and as such reads as a text book example of Latour's proposed move from a focus on objects to a focus on 'parliament of things'. The central argument of the paper is that an encounter between speculative design and the social sciences calls into question the political schema under which design objects are elevated to the status of things in the Latourian assembly of humans and non-humans. I argue that this discounts the possibility for objects to affect the formation of publics by other means. This claim hinges on the ontological assumption that objects are in 'excess of their relations' (Harman 2009) and that this 'surplus', in turn, enables objects to affect the formation of publics in ways that cannot be grasped by an actor-network approach. On this premise, the paper examines one of the design prototypes developed in the Material Beliefs project, and concludes by proposing three additional qualities in this object that affects the formation of publics, without partaking in the democratic construction of a parliament of things.

Introduction

At the EASST conference in Trento, Italy in 2010, design researchers Carl DiSalvo, Alex Wilkie, and Tobie Kerridge convened a session entitled 'Speculation, Design, Public and Participatory Technoscience: Possibilities and critical perspectives'. More than the advent of something entirely new, this session represented a growing interest in the association of design speculation, participatory technoscience, and the formation of publics - precisely as the title, rather prosaic, declares. This interest does not stem from one place but it does, however, have a strong affinity to research conducted at the Interaction Research Studio, Goldsmiths, University of London.

I begin the paper by giving a description of speculative design, by comparing it to a related approach in design research labelled *critical design*, associated with the design researchers, Anthony Dunne and Fiona Raby.

In the second section of the paper, an onto-political foundation for speculative design, is addressed by confronting the view of design objects as non-human entities in a conjoined effort of 'making things public' (Latour 2005) with the notion of 'a democracy of objects' (Bryant 2011a). With Gilles Deleuze, and subsequently American philosopher Levi Bryant, I argue that objects can have an impact on the formation of publics, which is related to their emergent properties and future orientation. The central tenant in this claim is the Deleuzian concept of the virtual, and in a more recent conceptualisation the 'virtual proper being' (Bryant 2011), which enables other

political dynamics to supplement the incorporation of actors through re-presentation (Latour 2004, Jensen 2006).

In the second part of the paper, I first look at the design research projects *Material Beliefs*, conducted at the Interaction Research Studio at Goldsmiths from 2007 to 2009. *Material Beliefs* was established as a transdisciplinary project to explore the potential consequences of emerging biomedical technologies, with a commitment to involve a wide variety of different participants.

From the project *in toto,* I then proceed by zooming in on the ontological characteristics of the design prototype 'Carnivorous Domestic Robots', one of several design prototypes in the *Material Beliefs* project.

In the final section of the paper, I discuss whether or not objects of speculative design can be fully understood under a realist framework of actors and networks, and subsequently propose three additional qualities - the *imaginative*, the *future-oriented,* and the *aesthetic,* which relate speculative objects to the formation of publics in a ways that may augment - but is fundamentally different from - the Latourian framework. The underlying assumption is that the ontological characteristics of speculative design objects can only partially be accounted for as representative entities, in the 'parliament of things'. They must in addition be understood in terms of their capacities to affect through an oblique, 'idiotic' (Deleuze 1994, Stengers 2005, Michael 2011) or 'black hole' (Haraway 1991) position. I further argue that objects of speculative design also retain some of the alluring, yet *not entirely real*[1], characteristics related to fiction and the 'counterfactual' (Harman 2012; 2013), and which in turn are difficult to fully account for with actor-network theory.

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[1] By 'not entirely real', I mean to position speculative design - or rather the specific qualities of the speculative object - in opposition to the real qua *actual* that characterises a relational ontology, i.e., the actual thing as that which we can describe only because it is in relation to something other than itself.

Critical Design vs. Speculative Design

Broadly defined, Critical Design is a practice in design and design research, which since the 1990s has created imaginative visions of alternative presents and futures – using speculative design artefacts and scenarios to counter ideological preconceptions of design among users. The main aim of this practice has been to evoke public debate and make critical commentary on design's role in consumer culture, often in relation to electronic and computational product design and scientific developments (Dunne: A, 1999).

The theoretical framework for Critical Design is often attributed to the English design researcher Anthony Dunne, and was first formulated in his book Hertzian Tales (1999) and subsequently in the book Design Noir, co-written with Fiona Raby (2001)[2]. To briefly summarise their thesis: much design is ideological and serves capitalism and consumerism by an 'ideology of affirmation'. In contrast to such affirmation, Dunne and Raby propose critical design as a counter ideology:

> "The former reinforces how things are now, it conforms to cultural, social, technical and economic expectation. Most design falls into this category. The latter rejects how things are now as being the only possibility; it provides a critique of the prevailing situation through designs that

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[2] Other theoretical positions are: 'Reflective design', an approach developed by Phoebe Sengers, among others, and particularly applied to human computer interaction (HCI). 'Critical Technical Practice' (CTP), coined by Philip Agre is a call for a more 'substantive metaphors' in the field of Artificial Intelligence (AI). And with closer proximity to critical design, the work undertaken by Bill Gaver, in the field of interaction design, calls for ambiguity and ludic strategies in devising technological artefact as probing devices in, primarily, domestic settings. See Simon Bowen (2010) for a comprehensive account of critical design and related positions.

embody alternative social, cultural, technical or economic values." (Dunne & Raby 2001, p. 58)

A central aspect of making design proposals within the framework of critical design is to make use of what Dunne terms 'value fictions' (Dunne 1999, p. 92), to achieve something similar to a playful and mundane version of Berthold Brecht's 'verfremdung-effect'. With a cinematic reference, value fictions can be read as an inversion of science fiction in which current values and controversies are transported to an exotic future. Value fictions, on the contrary, exhibit design products where technological and morphological realism is fused with an imaginary and fictional set of social and/or psychological values and an immanent future.

An example of value-fiction is evident in the Dunne and Raby's project 'Evidence Dolls' (2005) commissioned by Pompidou Centre in Paris (figure 1). On the hypothetical product of a plastic doll, young single women can save physical evidence from male lovers in order to extract DNA profiles at a later date. A group of women were asked to imagine how they might use the dolls, in order to foster a discussion of the impact of genetic technologies on social practice.

Figure 1: "Evidence Doll," by Fina Raby. Commissioned for the D-Day exhibition, Pompidou Centre, 2005. (Image: http://architectradure.blogspot.com).

Another way of describing value-fictions or the prompting of 'what–if' questions at play here, is as something not quite actual, or at least involving a dimension 'other than' actuality. American philosopher Graham Harman (in Kimbell 2013, p. 10) describes this as 'counterfactual speculation', while specifically addressing this as a field that is difficult to embrace in a purely relational manner, such as through Actor Network Theory.

In the following section, I attempt to chart the differences between what I above have presented as critical design and speculative design. The differences might seem to be of minor importance in other contexts, but is drawn here to account for the shift towards the focus of socio-material formation and, in particular, the incorporation of the Latourian conception of publics and politics.

Speculative design can be discerned by the following quote from a session convened at the 2010 EASST conference in Trento, as:

"A category of design practices and artefacts that counter the dominant notion of design as problem-solving by proposing design as a means for detecting and materializing issues of concern and formation of publics and futures." (Kerridge, et al. 2010)

The most prominent, if indeed not the only, difference with regard to critical design is the application of a purpose - 'formation of publics' - to design as 'non problem-solving'[3]. This shift can be perceived as an inherent critique of critical design for not being thoroughly concerned with the socio-material realities and entanglements of actors, objects and sites of real life design encounters. But to specifically address the 'formation of publics' also implies a reorientation towards democratic politics, or more precisely, an object-oriented democracy in the line of thought of the great American pragmatists John Dewey and Walter Lippmann, and its re-appropriation by Bruno Latour (2005), Noortje Marres (2007), and other STS scholars.

To recapitulate, the critical position proposed by Anthony Dunne, and others, is poised against the rationalistic and cognitive simplifications produced by the hegemonic models of efficiency and transparency in design, e.g. in areas such as human factors and usability, so as to call into question its underlying political conditions. But as Alex Wilkie has pointed out; the alternative provided by Dunne, may be emphasising the perspective of a user to be emancipated in equally humanist and essentialist terms.

"Dunne's commentary on human-factor and user-friendliness, as the generalisation and simplification of people and artefacts in order to optimise and rationalise (...) calls for an understanding of people as qualitatively social and cultural actors. However the alternative model in which people were conceived in equally human terms with innate faculties such as interpretative skills, psychological needs and desires seems to mirror, if not extend, the very user-model being criticised." (Wilkie 2011: 320)

In this, Wilkie also echoes Latour's rhetorical question: "Why has critique run out of Steam?" (2004b), by implying that the propositions in Dunne's call for a critical position in design relies on the premises of 'a modern constitution' (Latour 1993), which fails to take into account the ontological multiplicity and empirical realities, in which humans and artefacts are entangled. Following Latour and Wilkie, than, I contend that speculative design instead of a critique from a different ideological position may be viewed as an exploration of a new form of critique altogether. A form where the critic is 'not the one that debunks, but the one who assembles (...) the one who offers participants areas in which to gather.' (Latour 2004b, p. 246).

This might be a fitting preamble for the interest taken in speculative design as a much-needed move past critical design, fuelled by concepts and methods from the social sciences. Such a move also returns speculative design to its roots as a quintessentially constructive practice of democratic concern, for as Latour rhetorically asks: Who doesn't want to "offer others a place to gather?" (Ibid.).

Before we move on it is, however, important to note that speculative design in addition to the powerful framework provided by Latour and others, also, as we have seen, retains qualities from critical design objects (e.g. value fiction) that fit less easily into the re-purposing of critique.

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[3] Speculative design is not limited to the tradition of critical design, following Dunne and Raby, which is the focus of this paper: Carl Disalvo has for instance used the American art collective 'Future Farmers' as an example of a different line of practices concerned with the formation of publics around speculative projections of alternative presents (presentation at the AAG conference, New York 2012).

From Dingpolitik to a democracy of objects

In the foreword to 'Making Things Public – Atmospheres of Democracy' (2005), Latour proposes the neologism 'Dingpolitk' to ask the question "What does an object-oriented democracy might look like?" (Ibid. p. 15). The 'Ding', or *Thing*, is appropriated from Heidegger to denote the shift from *object* to *thing*, with the latter etymologically referring to an assembly, as in the Icelandic *Althing*, Norwegian *Storting*, or Danish *tingsted*. Latour goes on to suggest that highly sophisticated entities, such as the space shuttle *Columbia*, should not be understood simply as a complex object, but as a *Thing*: an assembly of budgets, designs, people, technologies, ballistic trajectories, and bureaucracies – and accordingly as 'a matter of concern' rather than 'a matter of fact'. The volatile precariousness of such a parliament of things is vividly illustrated by the catastrophic events leading to the space shuttle's fatal demise when it exploded upon re-entering the Earth's atmosphere on February 1, 2003.

For Latour "[t]he object, the *Gegenstand*, may remain outside all assemblies" (Ibid., p. 14), much like the single pieces of crumbled debris falling aimlessly from the sky, no longer part of the 'assemblage of assemblies' of which was Colombia. In consequence 'a matter of concern', for Latour, only arises out of the intricate relations *between* objects. Or put differently, it is the object's relational capacity rather than its intrinsic qualities – the object 'in-it-self' - that gives it pertinence as a matter of concern, and henceforth delegates a democratic momentum to the parliament in which it is made public.

But we could also turn the perspective around and begin by interrogating the democratic potential of the objects in-them-selves, rather than that of things constituted by their relations. Or, to phrase it in a more political tune: We could begin by questioning whether objects that do not act representational towards an issue of concern should always be rendered democratically redundant, as the Latourian framework seems to imply.

A similar caution towards an exclusionary tendency in Latour's foundation for a political ecology has been expressed by Casper Bruun Jensen in his review of "Politics of Nature: How to Bring the Sciences into Democracy" (2004a). Jensen problematize the *composition* of the constitution, where Latour explicitly excludes collectives who are not willing to leave behind an identity-based metaphysics, in favor of the experimental metaphysis inherent to his political ecology (Jensen 2006, p. 119, Latour 2004a, 173). The concern is that Latour sanitize the collective for unwanted elements, and thus replicates his own critique leveled against 'the modern constitution' in its rejection of any attempt to meddle with Nature and Society (cf. Latour 1993).

When Latour makes reference to the identity-based *collectives*, it is clearly directed towards the human side of the symmetrical equation, since it is rather difficult to imagine objects biased towards 'the identity, the nature of things, humanism, or the arbitrariness of the sign' (Jensen 2006, p. 119, Latour 2004a, p. 173). What I want to do, from the democratic perspective of the object, is to pose a similar critique: because it is equally difficult to imagine, or at the least leave uncontested, that all objects will only conscribe to an experimental metaphysics framed as political ecology.

If we look at the objects of critical design conscripted to the speculative design agenda of making publics, it implies the need for the objects to provide an active, contribution in the alliances surrounding an 'issue of concern', that is, if we take the premise from Latour's political ecology to be that 'there is no knowledge that is both relevant and detached' (Stengers in Latour 2005, p. 1002).

But what if an object is entangled in the assemblage but simultaneously radically detached from any political representation of "'positive' knowledge-related issues or practices"[4] (Ibid, p. 994) with regards to the issue of concern?

This is not to question the merits of a Latourian political ecology, but to direct attention to the possibility that such a political framework *also* co-constructs a lacuna - an 'internal outside' or something like the proverbial stone in the shoe – *perturbing*[5] *into,* the public in its formation. The contention held in this paper is thus that objects – and more specifically objects of speculative design - may very well be actants in the parliament of things, but that this by no means exhausts their capacity to purport a political effect.

On the political level, these additional capacities or properties align the speculative design objects with the conceptual character of the 'idiot, proposed by philosopher of science Isabelle Stengers[6] borrowed from Deleuze (1994, p. 62). The idiot, Stengers tells us, 'is the one who slows others down, who resists the consensual way in which the situation is presented and in which emergencies mobilize thought or action' (Stengers in Latour 2005, p. 994). We will take a closer look at the idiot as comparative trope for the speculative design objects in the next section. For now it suffices to suggest that the idiot, as a conceptual character, holds a propensity to perturb a socio-material gathering or assembly, because it itself is left unaffected by relational transformations, and that the propensity to perturb, in turn, derives from its inherent qualities[7].

On the level of being, we might contend that speculative design objects – as does the idiot – stand partially outside the assemblage, but are nonetheless able to alter its formation. One way of conceptualising this would be to say that the object is in *excess* of its relations and that the real is more than the actual. Such a departure from Latour's ontology, finds support in a Bergsoninan strain of Deleuze's philosophy, whereby the actual is augmented by potentiality, or virtuality, to form the real.

In his book "Democracy of Objects" (2011a), American philosopher Levi Bryant elaborates on the idea by proposing what he terms "virtual proper being" (Ibid, p. 87) to denote an object's capacity to retain its 'powers', i.e. its internal structuring and enduring substantiality, as withdrawn from its external relations. The actualisation,

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[4] To claim what Latour ascribes as a 'positive' political representation to objects, should be done with caution. Latour makes frequent references to Isabelle Stengers' notion of 'Cosmopolitics' as the best way to describe his Dingpolitik, but also with a certain ambivalence towards its inherent connotation of 'harmony'. Still, Latour maintains that the cosmopolitical 'building of a common ground' has both political and ontological implications for the future (Sánchez-Criado 2007). Elsewhere he himself has advocated for a new 'composition': " It is time to compose - in all the meanings of the word, including to compose with, that it is to compromise, to care, to move slowly, with caution and precaution"(Latour 2010, p. 487). This is by no means a full flung political program, but it may hint at a political intentionality in the call for a parliament of things.

[5] The notion of 'perturbation' is here drawn from the philosopher Levi Bryant, who – following the work of biologists Maturana and Verala – describes the causation from one object to another as: '[t]he most that an external entity can do with respect to an object is perturb or trigger that object. It cannot *determine* or *specify* what the *effect* or *outcome* of that perturbation will be within the receiving system or object' (Bryant, 2011b). Bryant (2011a, p. 174) gives a similar depiction of perturbation with regard to Latour. In the context of this paper it is however used in the reverse order, to denote that the effects of design objects cannot be determined by the logic and constitution of a political ecology.

[6] Stengers appropriates the conceptual personae of the 'idiot' from the work of Deleuze and Guattari, to mean one who slows those around him down - which allows for a hesitation to occur as to what is deemed meaningful and good. In effect, Deleuze and Guattari differentiated between the old and new idiot, where: 'The old idiot wanted truth, but the new idiot wants to turn the absurd into the highest power of thought – in other words, to create' (Deleuze & Guattari p. 62).

[7] Note that it is only certain qualities (for example in objects of speculative design) that make the object idiotic, not the object in toto. This definition of the idiot has close affinity to Deleuze's definition of the 'new idiot' (see note 6), since the qualities here, as in Deleuze, are related to a creative or affective potential.

then, becomes the object's capacity to exhibit specific qualities and properties as 'local manifestations' (Ibid).

In the following section I will attempt to draw out examples of three qualities in the interaction with speculative design object, but before doing so, I should confer this rash ontological detour back to the political level.

One could readily ask, what is gained by exchanging Latour's ontology for Bryant's, since both ontologies suggest that every entity has agential qualities and may become actualised through relations with other entities and beings.

With regard to the political implications, I however contend that it makes a difference whether we attempt to consider first, a democracy of enduring and partly withdrawn entities of all sorts for which changes have consequences, and, second, whether or not the relevance of these entities is limited to the determination of an 'issue of concern'. This is not a call for a panpsychist – the idea that all entities are equipped with consciousness – but an attempt to incorporate the powers of 'strange strangers' (Morton 2012), 'idiots' (Stengers 2005, Deleuze 1994, Michael 2011), 'vital materials' (Bennett 2010), or 'value fictions' (Dunne 1999) who fail to make representation in a Latourian schema of Dingpolitik.

This section has mainly provided a critical reading of Latour's political argument guided by an ontological shift towards an object-oriented-ontology (Bryant, Harman), which sees objects as entities in excess of their current relations. I claim that such a shift, in turn, perturbs the formation of publics, and thus has potential political consequences, *different from* – but supplementary to - those enabled by a relational ontology. Some might question the necessity of a critical detour through the political application of Latour's metaphysics in design. However, it is precisely against this onto-political backdrop that it becomes possible to re-articulate a political function of speculative design objects in the formation of publics. What I argue here is simply that design, and in particular the tradition of experimental and speculative design, also has political implications

on its own, and that the intersection between the two disciplines – and their subtending 'modes of existence'[8] – is a fruitful ground to observe their respective political propensities.

Material beliefs and the formation of publics

To exemplify the interlacing of concepts and methods of science and technology studies (STS) and design, I will now turn to the project *Material Beliefs*. *Material Beliefs* was a two-year interdisciplinary project initiated by the Interaction Research Studio in London, and funded by the British Engineering and Physical Science Research Council. It was linked to the task of refreshing public attitudes towards bioengineering in the UK, and:

> "[…] articulated an ambition for speculative design to lead in the formation of experimental connections between science and engineering research taking place in UK academic labs with public groups, to provide opportunities for discussion about science and society." (Kerridge 2009)

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[8] This is not to say that STS and design, as disciplines, can be reduced to a finite and mutually exclusive number of 'modes', in what Latour in his recent writings has called 'modes of existence' (Bruno Latour 2011). But if we take Latour's remediation of Souriau's 'phenomenon' and 'thing' (Ibid., pp. 326 - 331) as two modes of existence, they to some extent seem to resemble the distinction made between *object* and *thing* in this paper. This direction in Latour's philosophy, might at some point provide new answers to the criticism raised in this paper against a purely relational ontology. But I still maintain that the criticism is relevant with respect to the current application of Latour's onto-political framework in the specific context of design and STS, and with regards to the formation of publics.

Figure 2: "Carnivorous Domestic Entertainment Robots," in Material Beliefs, pp. 74-75, 2009 (Illustration with courtesy of the authors).

The *Material Beliefs* (see figure 2) project was from the outset conceived as a collaborative endeavour that aside from designers involved biomedical engineers, scientists, sociologists, and filmmakers, but also included school children and a large number of events directed towards the general public. The specific role assigned to the interaction between designers and design researchers in the project, was to act as mediators between specialists and non-specialists and to 'open up a new space for communication' (Beaver et. al 2009, viii). The position attributed to designers in the project, was based on the assertion the designers are in 'a unique position because they are placed between science and the humanities' (Ibid.). But simultaneously it was envisioned as a way to test what I have here described as the change from critical to speculative design:

> "There is an opportunity here for design to identify emerging technology as a malleable and creative material, and to provide a framework around this material for encounters between experts and particular public groups that leads

into the spontaneous identification and emergence of issues within which to then frame alternatives." (Kerridge 2009)

After the *Material Beliefs* project ended, it was compiled into a book that comprehensively and chronologically documents the project from initiation to post-project evaluation, interspersed with reports from the public engagement events, scholarly interviews and theoretical reflections on the project.

The book represents an almost inconceivably complex assemblage of *actors, materials, institutions, lab equipment, research agendas, design prototypes, policies, academic texts and accounts of museum exhibitions* - to mention just a few of the entities in the ever growing list, or what media philosopher Ian Bogost appropriately calls a 'Latour Litany' (Bogost 2009).

The book does not represent a design object in itself (I will return to this in the next section), but rather, the socio-material assemblage – the *umwelt* - in which the objects (the prototypes) are situated – and in accordance with the definition of speculative design given above. This, however, prompts the question of how, or if, we can comprehend *Material Beliefs* as an object in its own right.

More than a finished object, the *Material Beliefs* project seems to defy easy categorisation within a discourse of design experimentation alone. The explicit social and political implications – or more pointedly *democratic* -implications of the project and the sheer complexity necessitate another framing. And here STS has something to offer. As Noortje Marres states:

> "A distinctive feature of STS approaches to democracy is that they dissolve the customary separation between the epistemic process of knowledge formation and political processes of community, opinion, consensus, decision or policy formation. No less distinctive is STS' emphasis on issue formation. (…) One way to account for this shift in

emphasis is to say that STS undertakes an ontological turn in the conception of democratic practices. Whereas political science and democratic theory often conceive of issue formation as a discursive process, involving the mobilization of terms, symbols and ideas that are to inform problem definitions, STS conceives of it as intervening in 'collectives' or 'life worlds' that include associations of material and social constituents." (Marres 2007, p. 762)

The emphasis on formation of issues around the importance of public engagement in the current and future state of bioengineering is at the heart of the *Material Beliefs* project. But the project simultaneously relies heavily on the material and non-human agency of design artefacts in the formation of collectives.

What is less determinate from an STS purview – and what Marres goes on to criticise in her article – is to what conception of democracy issue formation is attributed. Marres argues that STS predominantly hinges on a *republican* understanding of democracy; of serving the 'common good' (Ibid., p. 764). Democracy so construed, paradoxically, runs the risk of attributing less importance on the non-human actors despite claims to grant attention to humans and non-humans alike.

Much of the material compiled in *Material Beliefs* unabashedly hails the formation of public as a common good. The point drawn from Marres' criticism is that the research project to some extent exemplifies the dissolving categories mentioned in the quote above. Besides 'political processes of community, opinion, consensus or decision formation', the project also contains *knowledge formations* represented in the book as academic texts.

In one of the essays included in the book, STS scholar Mike Michael argues that the notion of publics forwarded by this type of design led research project, is at odds with more common conceptions of the public found in policy-making discourses. His main claim is that this version of the public suffers from neither demo-

cratic nor intellectual deficits; rather: "it is a constituency whose role is not to be 'citizenly' within a context of policy-making, but thoughtful within a context of complexity" (Michael 2009, p. 3).

This observation is important, because it points to a crucial difference in the disciplinary aims found in design and the social sciences: Whereas the meaning of engagement in the social sciences, according to Michael, ultimately is concerned with solutions, engagement in the Material Belief's project is meant to invoke (and evoke), 'not clarity but a desire for complexity'. Or to articulate the event of engagement differently: a mutual exchange from which not solutions, but better problems emerge.

Referencing to Miriam Fraser (Fraser in Jensen et al. 2010, pp. 57-83) Michael describes this as an event of "inventive problem-making" that involves a different kind of moment, where the entities of science and society rather than simply '*being* together also *become* together' (Michael in Beaver et al. 2009, p. xx, my italics).

With regard to the prototypes, this could simultaneously be described as a move away from engaging the public in "argumentational transparency on a specific set of issues'" (Michael 2009: 3), and towards objects that invite a subjective and manifold engagement precisely because they entail opaque qualities like ambiguity, openness, and playfulness.

Through these qualities, speculative design objects become incommensurable with social science's empirical and analytical framings of public engagement events; which, in turn, causes a friction that enables the social scientist to 'slow down' and reflect (Michael 2011). Michael suggests that objects of speculative design perform a 'proactive idiocy' – evoking Stengers' notion of the idiot - and that '[b]y attending to the nonsensicalness, we become open to a dramatic redefinition of the meaning of the event' (Ibid.)

Michael's conceptualisation of speculative design as objects performing *proactive idiocy* comes very close to the notion of speculative design objects argued for in this paper as: objects that perturb or irritate the formation of publics by redefining the meaning of the

event, e.g. by continually undermining the process of stabilising a specific issue of concern.

Michael (2011, p. 10) not only posits the capacity for proactive idiocy and inventive problem-making, as that which sets speculative design apart from critical design, he also dismisses critical design objects, 'no matter their apparent strangeness' (Ibid.), because they are grounded in a particular critical stance, which inhibits a renegotiation of meaning and thus a 'becoming together'.

While I agree with Michael on this point, I nevertheless also think he overlooks or diminishes the political potential found in the *not entirely real* qualities of critical design objects themselves: qualities manifested in the objects' capacity to create alluring attractions and carry affective fictions (e.g. social fictions), alongside – yet outside - the relational formation of publics.

In the next section I will zoom in on one of the design objects presented as part of the *Material Beliefs* project, and elaborate on these qualities further.

Absurd robots as objects of constructive perturbation

'Carnivorous Domestic Entertainment Robots' (CDER), consist of a series of robotic prototypes and presentational material, developed by the designers James Auger, Jimmy Loizeau, and Aleksandar Zivanovic. The collection of robots explores, according to its creators, the functional and aesthetic conditions for a symbiotic coexistence between humans and robotics (Beaver et al. 2009, p. 74). Crucially, it builds on experimental technology developed by Bristol Robotics Laboratory, using 'microbial fuel cells'[9] (which converts dead flies to

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[9] A microbal fuel cell, utilizes bacteria to break down organic matter (e.g. flies!) into a bio-electrochemical tranducer.

electricity) in order to power an autonomous robot to access remote areas (see figure 3).

To illustrate the scope of the wider network in which the project is situated, in another Latourian litany, it included: Exhibitions in Spain, Serbia and Ireland, and at the Royal Institution, reviews on British Channel 4 news, funding by various private and public organisations such as Intel and British Engineering and Physical Science Research Council, and a public debate event at the Science museum in London and a working studio for kids to design their own robots, set up in Royal Institution on 'Family Fun Day', collaboration with Julian Vincent of the Centre for Biomimetic and Natural Technologies, Bart University and a policy report from House of Lords, select committee on science and technology.
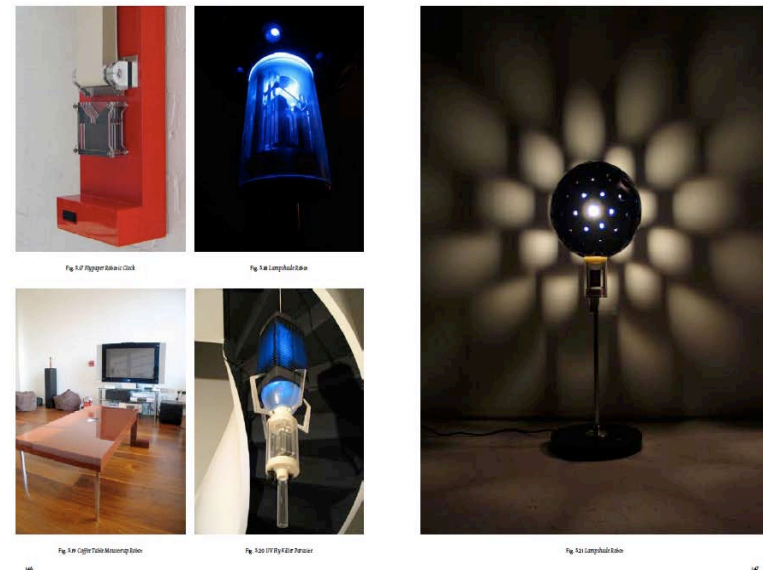

Figure 3: "CDER prototypes," designed by Auger, Loizenau and Zivanovic. In Material Beliefs, pp. 146 -147, 2009 (Illustration with courtesy of the authors)..

What is significant about CDER, is that its series of prototypes combines the characteristics of speculative design objects in terms of how it was developed as part of the extensive mesh of agendas, technologies and oblique initial design engagements in the *Material Beliefs* project, while simultaneously exhibiting the distinctive characteristics of a critical design object (i.e., a series of prototypes demonstrating alternative narratives, or 'value fictions', of sociotechnical futures)[10].

This makes it an interesting case to inquire what qualities we might infer on an object of speculative design to account for what I have called the 'not entirely real', and what we with Graham Harman also could term the *counterfactual* (Harman 2012; Latour et al. 2011).

For Harman, the counterfactual is an opportunity to inquire into those properties of an object that elude *actuality* (Harman 2013, p. 217), as precisely that which makes it 'entirely real' and thus accountable in a Latourian network of relations. In design, literary fiction and the arts - but also in everyday contemplations – the counterfactual is what is interrogated by posing 'what-if' scenarios or by probing hidden potentials in an object through allusions and metaphors. Consequently, for Harman, the dependence on an 'overly relational reality', runs the risk of 'repressing all sense of what is disturbing, strange or in excess of current knowledge and social practice' (Ibid.), and by the same token deter the likelihood of any political effects derived from these 'hidden depths' on the formation of publics.[11]

I suggest that these properties, or qualities, can be teased out as three interrelated domains, which I will describe in detail in the following section.

Qualities of speculative design: the imaginative, the future-oriented, and the aesthetic

The imaginative

The imaginative qualities of CDER are tightly related to a recurrent stylistic theme in the construction of most speculative design objects: the use of scenarios to establish worlds that constitutes a 'suspension of disbelief' by being slightly familiar, yet strange and oblique. In CDER, this is evident in the videos and texts accompanying the robotic prototypes. Here the designers explain that CDER is intended to amalgamate established categories of mundane domestic objects. Following this strategy, the objects' appearance is modelled more like functional modernist furniture than the common conception of robots or lab equipment.

In ontological terms, the somewhat playful and absurdist fictions of CDER, have the potential to affect the imagination of participants, and thus actively partake in the formation of publics through series of associations and translations – while at the same time exist on the inside of the fictional world. Despite the lack of access to unformatted documentation, videos or transcripts, from the various events, the Materiel Beliefs book does provide some documentation of the effects on the public. Pictures and drawings from the Family Fun Day at the Royal Institution Exhibition show how the imaginative objects of fly-eating robots have been translated into new affects by the participating children (see figure 4).
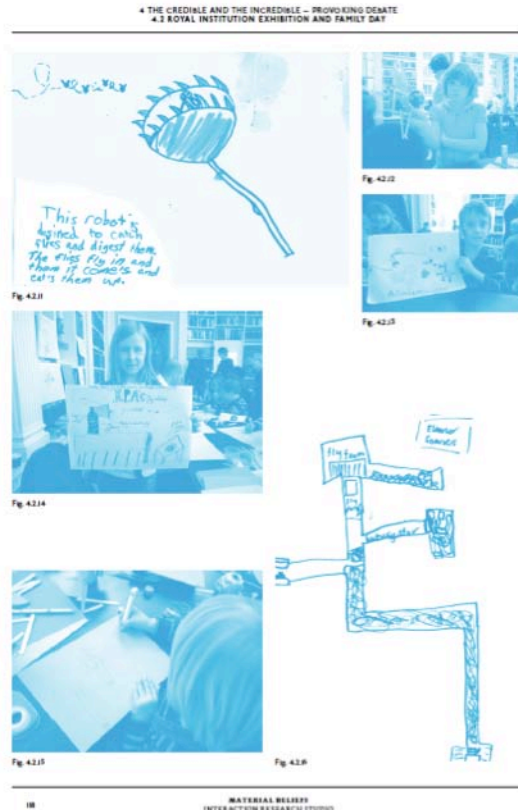
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[10] If we were to follow Michael's distinction between speculative design and critical design, and look at the CDER isolated from the wider network of relations, it would most likely be labelled as an object of critical design.

[11] For Harman, pure actualism runs the risk of becoming fatalism. He arrives at this point by making reference to the practical consequence of Niklas Luhmann's idea: that what lies outside a system is ignored by the very same system (Harman 2013, p. 217).

Figure 4: Results from the "Family Fun Day at the Royal Institution Exhibition". In Material Beliefs, p. 118, 2009 (Illustration with courtesy of the authors).

The future-oriented

Following the last section, it is evident that the imaginative qualities of design fiction are intimately related to an engagement with futures. In CDER the enactment of futures in the present, however, transcends the imaginative, as it is already present in the scientific prototype of the Ecobot and the technology of microbial fuel cells of which the designers drew their initial inspiration. The scientists at the Bristol Robotics Laboratory built the Ecobot prototypes to experiment with the levels of robotic autonomy enabled by the ma-

chine's ability to extract energy from common bacterial cultures in dead flies or rotting fruit. In the improved version, Ecobot 2, the robot was capable of performing simple 'behavioural' tasks increasing its ability to convert sensor data to autonomous actions, like moving towards light on its own accord (Beaver et al. 2009, p. 75).

While the technical and scientific developments (available in *Material Beliefs* documentation) do not provide detailed accounts of the future expectations on the part of the engineers, it explores a growing proximity and hybridisation between the biological and technological, e.g. between nature and culture.

Translated into the design fiction of CDER, the robots apprehend a much more accessible depiction of a future. Taking a cue from future studies – a discipline with clear affinities to critical and speculative design – we could argue, that this translation entails a move from the scientists' preoccupation with 'possible futures' to the designers' exposition of 'preferable futures' (Candy 2010, p. 31). The former engage the future in an explorative manner, i.e. what can happen if robots are enabled to support themselves by way of microbial fuel cells – whereas the latter engage the normative query of how a specific outcome is reached. Albeit, through the specific trait of critical design, this is turned upside-down, operating according to 'value fictions'.

Anthony Dunne summarizes this approach to futures in a more recent project as:

> "One of the most interesting zones [of the future] is 'preferable'. Of course, the very definition of preferable is problematic – who decides? But, although designers shouldn't decide for everyone else, we can play a significant role in discovering what is and what isn't desirable." (Dunne 2010)

In the case of CDER, the designers closely follow this strategy when they tell us that: "[W]e'd seen the Slugbots (the Ecobots) from Bris-

tol, and this didn't really gel with what we imagined people would co-exist with. So initially we started thinking about that – what kind of products do we share our lives with, why we share our lives with them and what they give to us" (Auger, in Beaver et al. 2009, p. 77)

The transformation from a possible future to (the inversion of) a preferable future, foreground two things: first it substitutes scientific truth-seeking with a 'bloc of sensations' (Deleuze and Guattari 2004, 164)[12] when confronted with representations of a design fiction; and second, by projecting an imaginative world of co-habitation, it critiques common values that assert humans and robots as ontologically incompatible. This effectively introduces a strong ethico-political dimension to the object, which was less detectable in the Ecobot. This move also marks an important aspect in the construction of the design objects capacity of perturbing into a social context.

If we, for a moment, change perspective and take a broader look at public debates and expectations around the future of biotechnology, a similar tendency seems to be at work. In a paper from 2006, Nik Brown, argues for what he describes as a shift from 'regimes of truth' to 'regimes of hope' in the public debates on biotechnologies. Instead of debates on past and present truths, debates increasingly revolve around abstract future-oriented values, 'representing a shift towards more aesthetic and symbolic references' (Brown 2006, 6). Among other things, Brown demonstrates this development in the GMO controversy of the 1990s, where American and European biotechnology companies employed PR agencies to 'steer the debate towards aesthetic considerations of future values' (ibid., 5). Scientific futures are thus increasingly addressed as affective problems,

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[12] For Deleuze and Guattari 'a bloc of sensations' is what characterizes art. It is composed by 'precepts' and 'affects', which is to say perceptions and affections liberated from the person who experiences it. A bloc of sensations is preserved in itself and in its non-human capacity to move human experience beyond individual sentiment.

'where many actors are assembled to negotiate affective roles' (Galloway 2008, 140).

This also seems to be a fitting description of the purpose of *Material Beliefs* - along with the intentions of fostering a more constructive space for dialogue (and aside from the oblique and absurdist take on hope and well-being upheld by the objects of speculative design). In fact, the call to accommodate the affective disposition of the public is requested in the policy rapport that paved the way for the funding of the project. In the third report from the House of Lords, Select Committee on Science and Technology, it is stated that: "It is therefore increasingly important that non-experts should be able to understand aspects of science and technology which touch their lives" (Beaver, et al. 2009).

This section has thus far looked at the imaginative and futures as two distinctive qualities of speculative design proposals and, as I have argued, partial constituents of these objects' capacity for constructive perturbations. If, on the one hand, the imaginative can be thought of as operating on the *inside* of the object vis-à-vis design fiction, futures, on the other hand, can be described as adjacent discourses the speculative objects *travelling through* as it is translated from one domain to the next – from science through design and on to various public encounters. Paradoxically, the display of futures as value fictions are echoed by a general change of expectations in public debate on science, from the factual towards the affective.

Aesthetic

Finally, the third quality category to be presented here can be described as happening on, or emanating from, *the mediated surface* of the speculative design object. The aesthetic dimension of the perturbing design object is tied to the multiple appearances and mediations of the object and the tension between these. It is by all measures a particular and limited use of the notion aesthetic, following on from the imaginative and the future–oriented qualities described above.

As most speculative design objects, the dissemination of CDER relies on various formats of representation across various media formats. One could even argue that the non-functional prototypes only come together in their visual (and textual) representations as they link directly to the levels of design fiction, as opposed to a real life situation, in which the interaction between the prototype and its context would produce many relations among participants, human or non-human.

The aesthetic representations are highly adaptable to different situations and different kinds of public engagement. One of their strongest assets is that they are open for multiple interpretations due, in part, to their opaque and absurdist logic, but also because their aesthetic appearance (potentially) can reconfigure the sensible - both in terms of what we perceive and how we make sense of it (Ranciére 2010).

Figure 5: (left) Moon jellyfish (Foto: Petr Kratochvil) – (right) "Lampshade robot," one of the CDER robot prototypes (see figure 3), 2009 (Illustration with courtesy of the authors).

Accordingly, the environmental humanities scholar Stacey Alaimo, has argued that the startling photographs of sea creatures from the deepest reaches of the world's oceans are opening a new zone where science and aesthetics come together. Jellyfish, when caught in trawls, turn into unrecognizable mush. But when they are represented in photographs, they are breath-taking and enable scientists and lay people alike to experience a hitherto unimaginable otherworldly ecosystem (see figure 5). On the surface, the pictures are collected and mediated through scientific and public networks, increasing the creatures' 'value' as they get caught up in the human labour, technologies and practices of life. Through the pictures, the sea creatures thus enter into the composition of the common world, as it is made up by disjointed pieces (Alaimo 2012, Latour 2010).

But still the pictures retain their aesthetic capacity to exert a sense of wonder. This prompts Alaimo to question whether this also implies a political dimension. Following French philosopher Jacques Rancière's assertion that aesthetic objects act in a political manner, as they 'reconfigure the sensible', Alaimo claims that this also holds true from a non-human perspective: 'since Rancière [...] chooses to define what counts as political by what effect is generated [we] see how an animal, plant, mineral, or artefact can sometimes catalyse a public' (Jane Bennett, in Alaimo 2012).

Despite the obvious differences, it should be clear that the aesthetic representations of speculative design objects might catalyse a public in a similar fashion. In a previous section, I discussed a critique ventured at how Bruno Latour projects a political model of the 'common good'. In this respect, speculative design objects - through their exposition of playful idiocy - actively seek to resist easy incorporation into discourse and consensus. Alaimo points out that even though Latour does not include aesthetic representations in the collective, aesthetics seem to play a part in reconfiguring conditions that enable us to connect to other worlds (Alaimo 2012). Whether these worlds are real or not is not the point. In the case of marine life, this connection to a real world could have serious ramifications for protection practices and policies. In a project like *Material Beliefs*, aesthetics, along with the imaginary and futures, serve a more modest purpose, as their function is to perturb public engagements

with a productive uncertainty, and thus contribute to the formation of publics from the position of the idiot.

Conclusion

In the configurations of public encounters bent on a democratic model of debate and with the objective of better mutual understanding between diverse groups of participants, speculative objects can act as constructive perturbations. That is, they can slow down (Stengers 2005, Michael 2011), obstruct and complicate the formation of public according to a constitution of ecological politics, alone. In the *Material Belief* project, speculative design objects arose out of a network of scientific knowledge, future expectations, bacteria, microbial full cells, engineers, designerly reflections and intentions etc., as well as through the qualities perturbing the network from the enduring powers of the objects themselves, i.e. their ability to exert alluring and disturbing affects. The latter are described here through three intra-related qualities of the way the objects affect a public as: *the imaginative, future-orientation* and *aesthetics*. These qualities can be located, respectively, on the inside of the object, alongside the objects as it takes form, and on the surface of the object.

On the ontological level, the speculative objects are produced through the multiple networks that make up the *Material Beliefs* project. But their affective dimensions are simultaneously related to their potentiality and virtual prober being, which cannot be accounted for from the standpoint of a purely relational ontology.

The speculative objects might very well incorporate a level of critique, as indeed does CDER, but the purpose is not to debunk what is deemed to be common or false perceptions as a goal in itself. Rather, it is to open up a terrain for a collective exploration of politico-aesthetic futures, by unfolding complexity and opacity from an idiotic position.

Perhaps unsurprisingly, the speculative objects presented in *Material Beliefs* are, fulfilling a central designerly feat by *re-*

anthropocentrifying their objects via the futures and fictions they embody. In CDER, the robots are portrayed as a 'companion species' (Haraway 2003), where the Ecobots where en route to greater autonomy. And while this seems understandable in an attempt to appeal to a (mainly) human public, it also implies a limitation to the 'absurdness' or idiotic stance in design, insofar as design – in the case presented here - needs to maintain a criterion of relevance for humans and a privileged relation to the everydayness.

Speculative design attempts to bridge oblique design objects of 'inventive problem-making', with the social objective of forming publics. In this paper, I have argued that this joining runs the risk of inferring a political schema that excludes other qualities, like those afforded by the potentiality of speculative design objects. In his essay in the *Material Beliefs*, Mike Michael contends that the objects are 'difficult' (Michael, in Beaver 2009, p.6):

> "If social scientific forms of engagement regard 'science and technology' in terms of complicated controversy, *Material Beliefs* suggests a view in which 'science and technology' is hugely more variegated. (…) For, rather than encouraging 'the public' in the pursuit of argumentational transparency on a specific set of issues, the artefacts invite a subjective engagement with their puzzling opacity – their black-hole-ness. "(Ibid.)[13]

This is indicative of two markedly different approaches to what a public is and to what status non-human, non-representative entities should be attributed in such assemblages. If we attempt to question what has been gained from the juxtaposition of two oppositional

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[13] The notion of 'a black hole' refers to Donna Haraway's use of the term to mean objects of highly condensed signification; incorporating multiple dimensions related to everything from the mythical, political, organic, economic and so forth, all imploded into one unified object (see Haraway, 1994).

strategies of public formation - of which one advocates deliberation and enunciation, while the other complicates and obscures – we are not left with a decisive answer. The experimental and open-ended nature of *Material Beliefs* makes the evaluative criteria elusive at best. But what we can say is that both notions of public *together* accommodates a wider 'bandwidth' of reality: actuality + that which is 'not entirely real', on which a representational assembly of (Latourian) things can become augmented by objects, affects and potentialities, otherwise left out.

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Biographical note

Tau Ulv Lenskjold is postdoc fellow at University of Southern Denmark, Department of Design and Communication, and holds a PhD in Interaction Design. His current research follows two avenues: The first investigates how speculative design practices engage with political and societal issues. The second avenue concerns a post–anthropocentric re-articulation of design by means of experimental and interventionist modes of investigation.