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Intersections between design,
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> "[E]verything is a society, [that] every phenomenon is a social fact. Now, it is remarkable that science, following logically from its preceding tendencies, tends strangely to generalize the concept of society. Science tells us of animal societies, of cellular societies, and why not of atomic societies? I almost forgot to add societies of stars, solar and stellar systems. All sciences seem destined to become branches of sociology." (Tarde and Lorenc 2011: 28)

The notion of society provided by the French philosopher Gabriel Tarde challenges the idea that society – or rather *societies* – are exclusively human. Rather, societies are all around, above, below, besides and inside of the human and on a scale ranging from the minuscule to the interstellar, arguably. Such a definition of society is fascinating, since taken for granted notions of society and the social that implicitly rely on society as being exclusively human, become in return destabilized. We are invited to think, study and act the social and society differently. This special issue constitutes an attempt at such an invitation,

Since its initiation the field of science, technology and society studies (STS) has been concerned with the interplay between design and the social, based on the assumption that technology and the social are intrinsically and mutually intertwined and co-constructive (Biagioli 1999; Bijker and Law 1992; Law 2004; Pickering 1992). Furthermore, by insisting on the empirical investigation of the practices in which technologies and the social are realised, this premise marks a starting point, not the conclusion, of investigation. The task for STS is thus to describe, analyse and reflect on the multiple ways by which the social – conceived broadly as the collective of humans and non-humans – is made, re-made and transmuted. Alongside, another premise of STS is to shy away from determinist assumptions of both 'the social' and 'the technological' in order to study the dynamic qualities of knowledge production, technological development and use (Berg 1998; MacKenzie and Wajcman 1999; Haraway 1990; Pickering 1995). Contributions are thus concerned with interrogating *the coming into being* of knowledge and technology without resorting to general and reductionist explanations, but instead by attending to the specificity and complicity of the particular case. This special issue seeks to contribute to the empirical and conceptual exploration of the relation between the social and design.

STS and design, and especially participatory design, are closely related fields in many respects. Both fields rest on an irreductive understanding of technology – what might also be referred to as a sociotechnical perspective on technology that stress the abovementioned intertwinement of the social/organizational/human and the technical/non-human (Danholt 2010). Accordingly, both fields also challenge the notion of technologies as neutral tools. Technologies are for both fields 'politics by other means'. However, a difference between at least parts of the two fields may be emerging around this topic. In PD the aspiration to transform society by means of technological design is prevalent, thus ideally technologies are or can be socially constructed and determined, whereas, at least in posthumanist quarters of STS, technologies will always be 'trickster' and thus continuously surprise and escape human mastery (Haraway 1997; Berg 1998; Asaro 2000). Another difference, which has been articulated, and is also discussed in this special issue, is the suggestion that design is interventionist whereas STS is descriptive. This difference has been challenged, mainly by STS researchers and primarily by questioning the very premise of the distinction (Zuiderent-Jerak and Bruun Jensen 2007). The problem, it is argued, is that it relies on the assumption that descriptions are merely more

or less adequate representations of the world and not, as shown extensively in science studies, produced in and through practices that are inherently interventionist and performative. Moreover, the distinction seems also to disregard the performativity of representations and thus how descriptions have consequences, as for instance a scientific article, a governmental report or a political statement. Accordingly, it seems more adequate to think in degrees or intensities of intervention and thus what determines the degree of a given account or activity as interventionist must be decided empirically (if possible). However, that said and in accordance with the argument above, the distinction between *intervention* and *description* may be real in its consequences, since it must be assumed that a researcher wanting to be solely descriptive and a designer with an interventionist agenda, will act in substantially different ways. Only it is not solely up to them what the ramifications of their actions will be and if they will make a difference.

Out of the field of design has recently grown a concern with the aesthetic and critical aspects of design. In this guise, design is not about devising functional, efficient or user friendly devices, but about contributing to reflection on technology and ways of life in late modernity and questioning taken for granted, hegemonic ways of understanding, relating to and acting with technology. In this respect design as critical seeks to engage and 'mess' with ingrained relations between the social and the technical, in order for novel practices and ways of life to emerge and the future be reworked.

Along the lines of reforming or re-thinking design, the french STS scholar Bruno Latour has posed a challenge to design practices (Latour 2008). Besides applauding design for understanding and appreciating the intricate relation between technologies and the social, he finds that design should become better at accounting for the *processes* of design and not just the marvelous *outcomes* and products of those processes. He suggests that design should develop tools for depicting and representing the processes of design.

"Design practices has done a marvellous job at inventing the practical skills to draw objects, from architectural drawing, mechanic blueprints, scale models, prototyping etc. But what has always been missing from those marvellous drawings (designs in the literal sense), are the controversies and the many contradicting stake holders that they bears with it." (Latour 2008: 12).

The performative aspects of science-in-action, which Latour with actor-network theory has contributed substantially to account for, is thus what Latour challenges design to become better at making visible.

In a game of mirrors like manner, Pelle Ehn, a central figure in the field of Participatory Design, returns the challenge by suggesting that STS should become better at devising design experiments for the study of science and technology.

"In its short history, science and technology studies has done a marvelous job at following the actors and analyzing social-material controversies. But what has often been missing is a performative dimension of these analysis and in making the things public. What can be learned from design? Are there more designarly ways of doing actor-network theory, beyond mere analysis and mapping, for example as active and constructive interventions as the studies networks are re-constructed and unfold?" (Ehn 2012).

Ehn thus in return proposes that the study of scientific practices might develop their methods and means of inquiry by appropriating designerly approaches.

This special issue is not devised to respond to either of these challenges. In fact, the contributors to the issue may not even consider these challenges to be relevant, valid or interesting, but it is relevant

to remark the mutual engagement and interest between design and STS which is being played out currently and we, the editors, in all modesty considers this issue to contribute to the exploration of this relation. The issue embarks on considering and exploring design and the social and how problems of relevance to both design and STS are articulated. Problems concerning engagement, intervention and the speculative; knowledge production, ethnography and design; and relations between critique, capitalism, technology and design.

The background

The special issue emerges out of a PhD. seminar convened by one of the editors, Joachim Halse. The seminar was held in 2011 and entitled "Design and the Social". It is with great appreciation that Joachim recalls the discussions of the interdisciplinary PhD seminar. The seminar explored boundaries and conjunctions between design research and different praxis-oriented approaches from the social sciences such as STS. Over three morning seminars six guest lectures introduced theoretical and methodological concerns in public lectures, and continued the discussions into afternoon hands-on workshop formats around the particular research topics of the sixteen enrolled PhD. students from quite different disciplinary backgrounds.

The topic of the seminar series was originally developed by PhD students Sissel Olander, Tau Ulv Lenskjold, Christina Lundsgaard, Maria Foverskov and Signe L. Yndigegn, while Joachim Halse chaired and moderated the seminars and workshops. The seminar series was held at The Royal Danish Academy of Fine Arts - School of Design, sponsored by The Danish Doctoral Schools of Architecture and Design. The seminars were organized around three themes: Infrastructuring & Strategies of Democratization, Performance & Design Interventions, and Speculative Design & Science and Technology Studies.

Infrastructuring and strategies of democratization

The aim of the first seminar was to elucidate and discuss the role of design and design research in participatory design projects that deal with social, cultural and technological innovation in the public sphere. In this domain the question of what is being designed and for whom can be a challenge to grasp, as designers and design researchers deal with actors, relations, technologies and issues that are constantly in the making in public spaces. Guided by Erling Björgvinsson and Peter Danholt, the seminar discussed and investigated the concept of *infrastructuring* as an object and a strategy of design and democratization. The questions explored in relation to this theme included: How can designers engage in creating participatory infrastructures of social innovation in public space? How can participatory design traditions and methods contribute to a democratization of innovation?

Performance & design interventions

The field of design anthropology has put the spotlight on the performative aspects of designing and the designer's role in orchestrat-

ing articulations of future possibilities onto a shared stage. Within the field of participatory- and co-design users and other stakeholders are considered to be active players and participants in the design process. A recent focus in this area has been the incorporation of anthropological knowledge of everyday practices.

In the seminar Brendon Clark and Henry Larsen juxtaposed an ontological assumption of 'performativity' with theatrical stagings of new physical prototypes and practices. With Clark and Larsen the phd students explored performance and design interventions, and located a common ground between them, through questions such as: What does it bring to study everyday life as a performance? How can we stage design interventions in an everyday context? How can the act of performing be used to explore bodily interactions and experiences?

Speculative design & science and technology studies

This seminar focused on the growing convergence of STS and the area of speculative design, understood as design practices that seek to articulate and materialize issues of concerns, and contribute to the formation of publics and alternative futures.

Brit Ross Winthereik and Alex Wilkie introduced to discussions about tensions and overlaps between complex ethnographic descriptions with designerly speculations as to how things might be different: How can an sts approach contribute to the development of new insights in speculative design projects? To what extend can speculative design challenge or augment existing STS methodologies in co-constructing publics around issues of concern?

All these questions raised by guest presenters were discussed in relation to the PhD students' own work. The PhD students brought pictures, quotes and concepts from their particular research projects into the mix of more general theoretical concern. Through various tangible tools and formats, like game boards, string and push pins, the participants established, explored and negotiated possible contradictions and overlaps between specific aspects of their work.

The papers

In the four contributions to the special issue, the abovementioned themes are recurrent. Particularly the general notion of intervention and the specific roles ascribed to subjects and objects, in both STS and design, are considered. The various ways ethnographic realities may be enacted, staged and re-appropriated is discussed and problematized. The relations between experimentation, innovation and capitalism are analysed.

In the first paper entitled: *Different generalizations of the elderly in design of welfare technology* written by Marie Ertner, Ertner points to how elderly people are enacted in and through a design project. This empirically driven paper is based on Ertner's work as an anthropologist in a design project concerned with aging and the elderly. By drawing on the work of Helen Verran and Brit Ross Winthereik on how 'the general' and 'the particular' in terms of 'wholes' and 'parts' intersects, Ertner shows how an STS-informed perspective enables recognition of the different enactments of imagined users that occurs in the design project. Moreover, the paper discusses and reflects on the qualities and limitations of the ethnographic account in relation to design and innovation.

In the paper by Tau Ulv Lenskjold entitled: *Objects of speculative design in the formation of publics,* Lenskjold engages in a discussion of the relationship between speculative/critical design and actor-network-theory. Drawing on and analysing the design research project *Material Beliefs,* Lenskjold discusses how this project aims at engaging with the public and producing new *publics* and as such may

be considered a textbook example of a Latourian attempt of forming heterogeneous publics. But this leads Lenskjold on to discuss the ontological qualities attributed to objects in actor-network theory and in speculative realism. Lenskjold suggests that speculative design (informed by speculative realism) seeks to co-construct new heterogeneous publics. As such objects affects the formation of publics in ways that are not adequately encompassed by actor-network theory.

Ann-Christina Lange discusses in her paper *Experimental Capitalism – A study of Design for 'Future Digital Manners',* how the experience of pain is central to students, clients and tutors of a critical design brief that took place at the Royal College of Art in London. Through an investigation and analysis of the particular methods of experimentation employed in the project, the frustrations of the students as they struggle with their projects of exploring future digital manners becomes evident. On this basis Lange develops a discussion of how 'devices of innovation', as she names them, leads to break downs of perceptions of reality and consequently how these devices may be viewed as affective means of innovation, where pain is theorised as an innovation strategy of contemporary capitalism.

The final paper of the issue holds the title: *Texts as events – or how to account for descriptions as intervention.* The paper is authored by Sissel Olander. Olander engages with the argument concerning agency of non-human entities and particularly texts and their interventionst potentials. Olander analyses selected contributions by organizational STS researcher Signe Vikkelsø and anthropologists Brit Ross Winthereik and Helen Verran. According to Olander these writings are concerned with strategies of enhancing the interventionist powers of texts. Olander discuss how such strategies can be seen as particular 'research set-ups' in which the process of writing the analysis or the account, is continually mixed up with claims about how the text will somehow intervene in a future to come. Olander draws on the work of Hans Jörg Rheinberger in her analysis of the intersection of text and experiment.

Taken together, this volume is an exposition of on-going discussions and concrete practices of analysis and intervention in the borderlands between design and STS. While some resemblances are rendered visible between the fields, there are also important differences, frictions and eventually several potentials to be explored.

In conclusion, we, the editors of the special issue, would like to thank the authors for their stimulating, challenging and thought provoking contributions to the issue from which we have learned a lot. Also thanks to our dear colleagues inside and outside of our respective institutions for their meticulous and painstaking reading and reviewing of the papers. Their efforts have been highly appreciated by the authors and us and have contributed considerably to the completion of the issue. Thank you so very much!

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Biographical note

Peter Danholt, PhD. is Associate professor at Information Studies, and Head of the Centre for STS-studies, Aarhus University. His research is about STS and intervention in relation to design, governance, social work and healthcare.

Joachim Halse, PhD. is Associate professor at the Royal Academy of Fine Arts, Center for CoDesign research. His research is about co-creation, design and democracy and design processes as future rehearsal.