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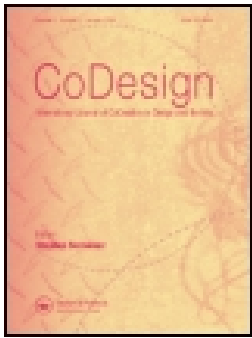
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From within and in-between – co-designing organizational change

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ABSTRACT

This paper focuses on organizational change as a co-design challenge. Organizational change is addressed as a human process of relating that takes place in various interactions. This paper aims to contribute to a better understanding of what to consider when designers are facilitating co-design for organizational change. We draw from literature on both human-oriented organizational change and co-design. To illustrate how interactions take place in an organizational co-design project, we discuss accounts from a research project that aimed at improving collaborative innovation practices. We highlight that the meanings for change surfaced within organizations and in interaction. We bring to light the in-between space revolving around the two organizations: the facilitator team and the company project team. This temporary in-between space of co-design is facilitated by designers but filled in by participants' engagement and entangled interactions.

1. Introduction

Design and organizations come together in co-design and service design practice as designers are ever more often called in to undertake challenges that are of systemic and organizational nature. However, 'engaging people in change can be a messy process', as observed by Light and Akama (2012). In this paper, we aspire to get engaged in such messy processes and to contribute to the call to address the 'microdynamics of participation' (ibid., 61).

Co-design is a form of design practice that engages users and other concerned stakeholders in the creative process of design (e.g. Sanders and Stappers 2008). These participants may be professionals and laypeople, represent various levels of organizational hierarchy, and possess different kinds of knowledge concerning the topic of interest. The presumption in co-design is that people can and should contribute to topics that are of relevance to them and that their experiences are crucial in a design process. Co-designing starts with the belief that by engaging stakeholders in solving a challenge, it is more likely that the created solutions address relevant problems and the participants have agency to implement solutions. The designers' role is to facilitate co-design by staging events and planning engagement, providing tools to elicit experiences and explore relevant themes, ideas and solutions. (Mattelmäki and Sleeswijk Visser 2011)

Akama and Prendiville (2013) propose a shift from more method-based discussions of co-design towards 'being and becoming', i.e. a phenomenological approach in how co-design should be discussed in the context of service design. This shift focuses on the continuous dynamics of people, relations and learning (ibid., 31). These authors propose that designers need to step into what they call an 'in-between space', which is 'dynamic, emergent and relational' and where the designer is both 'crafting' it and being 'crafted' by it (ibid., 32). The authors' proposal is also relevant when addressing co-designing organizational change.

An organization exists to make purposeful joint action possible for human living (Stacey 2001). It does not exist as an end in itself. When a human-centred designer is assigned to facilitate co-design that aims at organizational change, she turns her attention to understanding the participants, what they attempt to achieve and how they thematize the topic, and to helping to solve their challenge. She considers participants as people with human issues manifesting in the private, public, social, cultural, civil and economic levels of life and aims to support 'the dignity of human beings as they act out their lives' (Buchanan 2001, 37). Despite its criticality as a contextual factor framing the design challenge, the organization as an institution can appear as of secondary interest to a designer.

The aim of this paper is to contribute to the discussion on organizational change in design research (e.g. Buchanan 2004, 2008; Deserti and Rizzo 2013) with a particular interest in the role of co-design in striving for change. We look into how managerial efforts, organizational innovation process and participant interpretations as well as facilitators' 'repertoires' (Schön 1991, 60) relate and transition in a co-design space that designers facilitate. We first set the stage with a summary of the literature on human-oriented organizational change, which is then complemented with views on co-designing. Finally, we illustrate these dynamics by foregrounding relational interaction as it occurred in a case project.

2. Organizational change: emerging from experiencing

The systems approach with its variations has been influential in the study of organizations. Particularly, an open systems perspective has provided ways to study interrelations between parts of an organization, as well as the organization and its environment. In this paper, with systems we refer to an understanding of organizations as sociotechnical systems. Central tenets to this understanding are the acknowledgement of an interrelation between the social and technical aspects of systems (including organizational structure, processes and technologies), as well as the openness of the system to its environment. In this view, manipulating one part of the system, e.g. introducing a new technology, inevitably has corollaries to its other parts, such as humans and their work practices. (Morgan 1997) Hence, the development of sociotechnical systems calls for a joint optimization approach to account for the dependency between human and technical worlds in organizations (e.g. Appelbaum 1997). However, in order to account for the interdependency of the social and technical beyond the use context, the relations of technologies to the sites of their production ought to be acknowledged too, since they have implications for the ways things eventually get organized, as e.g. Suchman (2002) details. Hence, an important concern is how joint optimization can respond to this challenge. Furthermore, the kinds of organizational problems optimization provides means for solving is a vital question in the context of

this paper: is optimization able to serve the creation of technology-support for explorative work domains such as innovation?

A human-centred stream of research in organization studies looks into people's experiences in organizational life. These interpretive approaches to organizational research are concerned with the intersubjective processes in which people interpret and make meaning of events around them, to engage meaningfully in the ongoing flow of organizational action (e.g. Smirchich and Morgan 1982; Weick, Sutcliffe, and Obstfeld 2005; Lee 1991). Within this discussion, an approach to systems that is appealing for human-centred design is the systems intelligence perspective. 'Systems intelligence' focuses on the positive systemic effects of methodically attending to human subjective experience, emotions and strivings in organizational settings. Despite dealing primarily with systems, the approach specifically aims to avoid objectifying them and externalizing the researcher or manager from the object of inquiry and instead appreciates the emergence of systems from within. Systems intelligence acknowledges humans' ability to sense systems and act within, even if they do not have explicit objective knowledge about them (Hämäläinen and Saarinen 2008). A compelling duality, which is at the heart of the argument in this paper, prevails in systems: we humans are aware, know and feel that we are affected by, enabled and constrained by human-made systems and natural environments, but we can never perceive or experience the system in its entirety. Our experience of a system is formed through the routes we take to navigate it. We make sense of them by creating representations that try to capture the organizing principles in the form of an idea or thought. (Buchanan 2001) Here, it is important to pay attention to our active role in weaving through the systems that we constitute through our actions. Rather than providing a way to describe systems, the systems intelligence approach offers a mode of inquiry into systemic effects and supports an analytic mindset. Central to the approach is its optimistic grasp and objective to reinforce the already existing positive ways of acting in systemic settings. (Saarinen and Hämäläinen 2004; Luoma 2007)

Another approach is 'complex responsive processes of relating' (hereafter CRPR). This framework explores and examines the processes of knowledge creation in human interaction in organizations (Stacey 2001). It is also an analytical tool to study how transformation emerges through communicative processes. CRPR is rooted in complexity sciences and leans on symbolic interactionism (ibid.), which is a school of thought in social psychology. We have identified a promising theoretical connection between design as human-centred and experience-driven practice and experience-driven discussions on organizational change. This perspective supports understanding how local and subtle meanings are the components of change. In the context of this co-design paper, we extend the ideas of symbolic interactionism to consider co-design in organizations. This paper thereby builds on the line of enquiry on empathic design research (e.g. Mattelmäki, Vaajakallio, and Koskinen 2014) and relates particularly with Katja Battarbee's (2004) conceptual framework for 'co-experience'. The main point in this enquiry is that people act on meanings and that meanings are created in interaction (see Blumer cited in Battarbee 2004).

CRPR provides a way to explore how novelty in human interaction emerges. A related work is reported in Norman et al.'s article (2015) that highlights interactions and 'potentially transformative' communicative processes, a study that also draws from Stacey, Griffin, and Shaw (2000)'s concept of CRPR. Accordingly, the study focuses on local interactions

and describes the process as follows: 'It is from the complex interweaving of these connections that this work evolved. In other words, none of us can say really when the project started, and how and we do not consider it finished. So, if we cannot explain our approach in the tidy way of a project plan and method – how are we understanding human interaction and the emergence of novelty in the patient falls work?' (Norman et al. 2015, 2). In line with these authors, we unfold accounts of transformative interactions, to examine how they are interwoven. At a micro-level, interaction between individuals features both repetition and change in thematic patterning. The repeating element enables the experience of familiarity and stability whereas deviation brings about transformation. The change is in small nuances of difference. (Stacey 2001)

Organizational becoming, as discussed by Tsoukas and Chia (2002), is yet another experience-driven way to understand organizational change. Unlike CRPR, with its focus on symbolic exchange, organizational becoming is oriented to understanding the dynamics of cognitive representations in organizational action. Change is seen as continuous, omnipresent and undetermined. In this view an organization is regarded as a locus of change in a two-fold way: it is a means to channel lively human efforts towards certain ends, but when doing so, the organization is also generated by this process, or 'emerging from change' (ibid., 570). Looking at the organizational change from within concerns socially adapting shared cognitive categories to respond to changes in local circumstances, that is, to enable coherent organizational action. In the process, actors alter their 'webs of beliefs and habits of action' by gaining new experiences (ibid., 580).

To sum up, organizational change arises from within, is emergent and takes place locally at the level of interaction. The analytical focus is on meanings that people create and act on in interaction. The differences in themes that emerge in interaction bring about transformation.

3. Co-design facilitation in emergence of organizational change

Co-design is typically organized around events (Brandt 2001; Brandt and Agger Eriksen 2010) as sites of exploration, experimentation and transformation. They are purposefully planned and facilitated occasions aimed at creating something new, make use of a pre-planned agenda, and employ adjusted techniques to gather and create new knowledge. What takes place in co-design workshops has been discussed by using the concept of magic circle (Huizinga 1950 in Vaajakallio 2012). Magic circle refers to a realm of play characterized by impermanence and negotiated limits of time and place. They are 'temporary worlds within the ordinary world' which have their own settled rules for action as well as logics for the progression of time (ibid., 118). Co-designing often makes use of playfulness through which participants can explore experiences, distance themselves in time and place, try out roles, envision possible futures, as well as create and experiment with different solutions (ibid.).

We assume that emergence can be facilitated through crafting favourable conditions for new experiences to take place, which then enables creating new meanings. A fine-tuned understanding of co-design facilitation that goes beyond the problem of creating an appropriate methical strategy has been outlined in Light and Akama (2012) and Akama and Prendiville (2013). They pay particular attention to the designers'/facilitators' practice of participation and through practical examples show how the

outcomes of collaboration are dependent on delicate gestures on the part of the facilitators. They also break away from object-centred design processes and call for co-design as an embodied continuum (ibid.). They relate designers' competence with how they become implanted in the contexts and fused with their enacted tools and methods. The bodily and social embedding taking place in design engagements builds on and gradually expands the co-design facilitators' 'repertoire' (Schön 1991, 138) of 'knowing-in-practice' (ibid., 60–61). This implicit 'feel for the stuff' (ibid., 49) stems from the designers' accumulating experiences of 'reflection-in-action' (ibid., 50) on the design challenges, situational factors, strategies of problem-solving and conceptions of the phenomenon in focus. In co-design projects that deal with the facilitation of emergence of change, organizational development is approached from within, meaning that all those participating will undergo change, including the facilitators of the process (Akama and Prendiville 2013).

This thinking seems applicable when working with organizational dilemmas and resonates with CRPR. Due to the experiential nature, the facilitators enter into the organizational process, or the 'in-between', prepared to cohabit it with the organizational participants for a while. For the time of the project, participants, including the facilitators, form a project organization in which there is an internal division of responsibilities. Roughly, the facilitators' task in this temporary project is to design a facilitation strategy or create a general frame to plan, conduct and follow-up on a series of events that align to the project whole. The organizational participants' part is to bring in and share their knowledge of work roles and collaboration practices as well as to actively engage in exercises designed for creating new experiences concerning the topic of interest. In practice, actions and influences of both parties feed on each other.

An essential part of creating favourable conditions for change to emerge is addressing issues that are significant concerning the topic and the participants involved. For the facilitator, this requires entering into a dialogue with relevant people from within, to better understand the topic and to explore their practices and interactions. The brief, gained contacts and background knowledge of the topic lay the groundwork for drawing up a preliminary facilitation plan. The initial plan is characterized by its drafty nature and openness to change, which are essential. The plan works like a string bag, a loose, semi-transparent container for ideas that allows influences and interpretations to flow through but enables carrying the contents over the process. It acts as an evolving object of collaboration around which the in-between space begins to formulate.

These acts are shared endeavours between facilitators and organizational participants that aim to give form to things that do not yet exist. In acts of co-design, the facilitators lend their capacity to create landscapes of future experiences. This does not mean that designers define what could become on behalf of participants, but rather they create 'scaffolds' (Sanders 2006) as temporary, mobile, incomplete, ambiguous, and generative structures for people to project their ideas, needs and dreams upon (Sanders 2002). Various means and materials can be used to create shared experiences that enable new meanings to surface. Especially open-ended interpretations in co-design facilitation encourage different readings on the material (Mattelmäki, Brandt, and Vaajakallio 2011) and through sharing them, new meanings can emerge. Prendiville (2015) and Prendiville, Gwilt, and Mitchell (2017), who are familiar with the dilemmas of systemic and human-scales through their work with big and personal data in service design,

propose a co-design approach based on sense-making. Central to their approach is translating large-scale data into a socio-culturally meaningful and personally relevant form through e.g. visualizing how individuals and organizations relate and data flows between them (ibid.).

In co-designing with organizations, the focus is as much on the process as the outcomes, since the gained experiences and insights are outcomes of the collaboration process. In the following section, we will briefly introduce a case that has served us as a repository for analyzing, reflecting upon and illustrating the focus of this paper.

4. Organizational change as a co-design challenge

For this paper, we have gathered and analyzed data in a cumulative manner over six years' time. The example case presented here was originally part of a research project that explored virtual collaborative innovation by developing prototypes, new managerial principles and novel processes for ICT-enabled collaborative innovation in a real-life organizational context. Later, follow-up interviews were carried out to collect feedback on the activities and their impacts. For this paper, the case was analyzed to delve into mundane and strategic organizing of co-design (see Figure 1).

At the time of the initial data gathering in the first project, the globally operating mechanical engineering company employed ca. 38 000 employees in over 50 countries. The focus was on helping the company to improve its collaborative innovation process and related practices across eight R&D units located on different continents. To overcome the geographical and temporal boundaries, the company had introduced an online digital tool for creating, developing, and evaluating new ideas. The research collaboration with the university aimed at supporting the introduction of the tool. The tool was to be taken into use by first piloting it with a limited number of users and then, if the results of the piloting proved to be successful, the user base was to be gradually expanded. At the time of the project the number of globally distributed user accounts increased from ca. 700 up to ca. 1000.

The series of five co-design events formed a space for face-to-face interaction and material co-design over two years' time (Figure 2). Two of the researchers, including one of the authors of this paper, were new media designers by education, trained in co-design and facilitated four co-design workshops. They were supported by a number of other researchers with backgrounds in e.g. learning sciences, organization, management and business studies, and IT. The researcher team members shared tasks in data gathering and analysis, as well as switched roles according to their skills and interests as the work proceeded. The first workshop, facilitated by organization researchers, had 25 participants and the subsequent ones 11. The company employees who participated in events included the R&D director and managers, R&D engineers, patenting and marketing experts and designers, but the composition of the participants varied slightly between workshops.

In the next section, we will show glimpses of interactions and reflect on them through two particular lenses: on constructing meaning of the design brief from within and on the dynamics of relating among the facilitators. We then conclude with discussions on shifts in the in-between. In support of our argument of the sustaining role of co-design facilitation in the emergence of organizational change, we also share
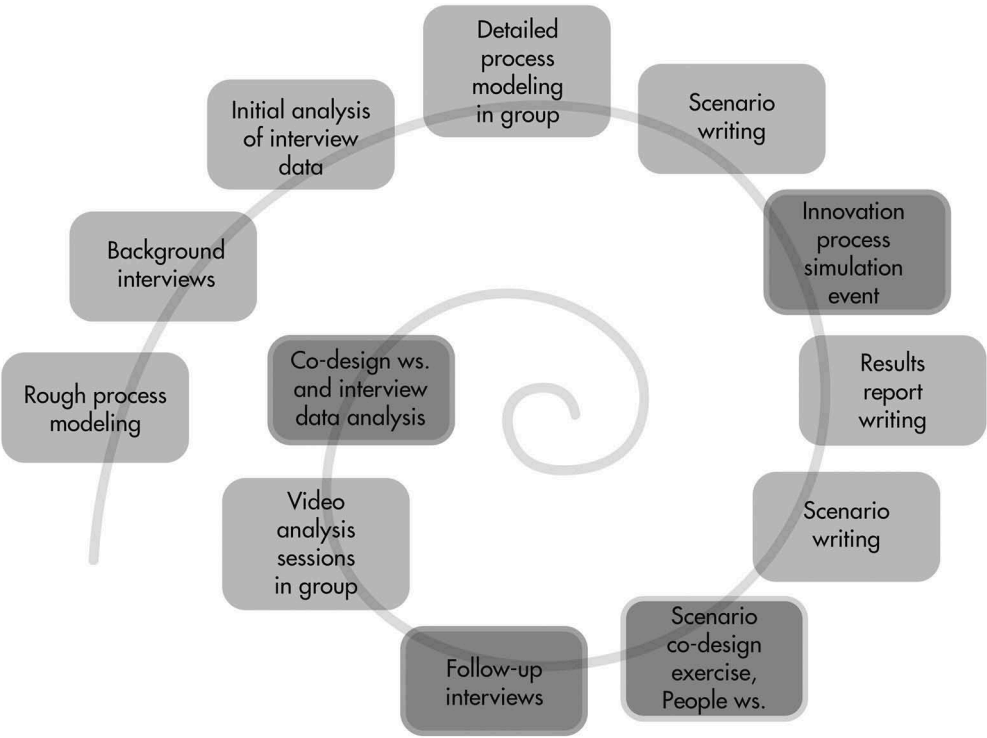
Figure 1. Key data gathering and analysis activities for this paper graphically represented as a progressive spiral to illustrate the continuity, relating and accumulativeness of knowledge-building activities. The excerpts presented in this paper originate from the encounters in darker gray.
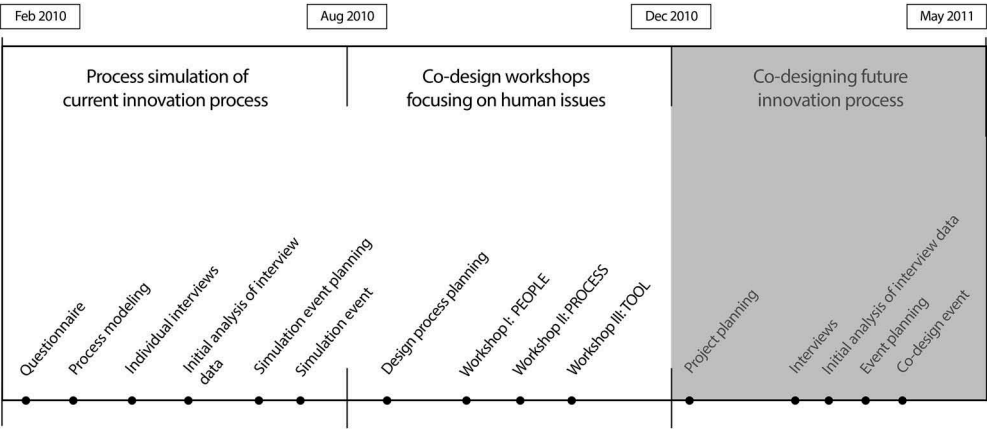
Figure 2. Research collaboration process between researchers and company team in a timeline.

impressionist narratives that aim to capture features of local interactions in workshops, as well as around their organizing, and focus on the relational aspects of collaboration.

In this project, interviews were audio-recorded and transcribed. The actual interactions, i.e. process simulation and co-design events, where people created meanings,

were video-documented with parts around pivotal moments in interaction transcribed into text. In each encounter written notes were also taken. We, however, in line with Norman et al. (2015), Stacey (2001), Light and Akama (2012), wanted to also look outside of the workshops, on dynamics that were relevant to what happened. We reconstructed the relevant turning points through follow-up interviews enhanced with stimulated recall with the key people. The purpose was to capture, with the help of video and photographic documentation, how the process unfolded, what kinds of motivations, drivers and inspirations guided the process, as well as what kinds of impacts the co-creation had within the company. Our diverse reflections on the data, in different researcher configurations along the research path, guided the framing for this paper. In the analysis, we employed interaction analysis (Jordan and Henderson 1995) and other frameworks. We underline the intertwining of the researcher interactions with the contexts and their repertoires in the analysis process. The actual embodied engagement of one of the authors of this paper in the data collection has indeed informed the analysis. In this complexity of relating, it is not easy to say where things began and ended or which interaction and influence led to particular insights.

4.1. Realizations from within: changes in the focus of the design brief

Only in theory does organizational change happen by drawing up a project plan and implementing it. In the same vein, the focus of attention in our project took a different course from what was originally anticipated. The following aims to capture significant turns.

The first workshop was conducted using business process simulation (Smeds, Pöyry-Lassila, and Huhta 2010) enhanced with persona-scenario descriptions (see Salmi, Pöyry-Lassila, and Kronqvist 2012). Process simulation is a collaborative inquiry and process design method that gathers stakeholders of an existing or emerging process to discuss the meaning and vision of the collaboration relationship, as well as tasks, roles and data flow that the process entails (ibid.). Accordingly, the participants were gathered in front of a process map projected onto a wide screen, depicting the company's innovation process as proposed by the tool.

Prior to the event researchers had interviewed 17 company employees worldwide, carried out a process modelling group session with eight employees, and, based on the analysis, modelled the innovation process in collaboration with the R&D development director and the IT system administrator from the company. Up until the simulation event, some of the researchers had had concerns about focusing on the innovation tool to understand creative practices in the organization. However, they understood that the management needed information about the use and fit of the particular technology to support virtual collaborative innovation. The process map included, among other things, a phase for innovation challenges, which were cross-unit campaigns for collecting ideas on specific topical themes identified by the management. These challenges were events that enabled face-to-face interactions such as workshops around the 'high priority areas for innovation', as the director called them, identified by the global R&D unit managers.

The event started with the development director's introduction that centred around the tool: its purpose in the organization, its history and planned future. The facilitators from their part introduced employees' roles in the innovation process, as defined by the tool, and raised the issue of innovation challenges. The discussion that followed

touched upon innovation promotion campaigns and their connections to everyday activities, and brought forward a realization that *'the tool has not become part our culture yet!'* (participant XX) (see Figure 3).

One facilitator then read out a fictive scenario that elucidated practices around the innovation challenges as identified in the interviews, such as facilitating workshops virtually, ideating face-to-face in small groups, and inserting ideas in the tool as a group, as well as announcements of the challenges during lunch breaks. The first reaction from the participants highlighted misbelief: *'I don't believe that it is a very effective way to start the ideation process by saying, go to your computer and start to work individually'* (director). This was supported by a follow-up comment: *'Excellent! Physical interaction! That's the first thing'* (manager). One of the participants then called for a motivational component, such as assisting a colleague: *'Let's all help him out. So, this sort of stuff, to make it, you know, to touch the listeners more'* (participant 3).

The discussion continued over the process map, and the participants talked about the company's strict data protection policies that inhibit using social media resources inside the company network. The facilitators moved on to read another scenario that related a story of two employees working in separate R&D units, connecting by ideating in the tool and finally meeting face-to-face to make progress on their idea together. The scenario prompted questions on the focus: *'I think we are focusing too much on the tool and everything [that] happens there. I think there should be much more happening outside of this tool and probably we also describe the process of what is happening in different phases outside of the tool'* (participant 15). This point of view was supported with the next line: *'This is only a tool, it is basically nothing unless we have a culture which supports it, unless we have [enriching interaction], interaction between people, meaningful interaction between people, all those things, they are all above this tool'* (participant 16).

These comments prompted by the workshop materials played a key role in reconsidering the brief and shifting the focus from tool-centeredness towards human and social interaction related issues of innovation. In particular, the comment in which the participant called for motivation was an attempt to challenge the legitimate theme of substance-centeredness in innovation and drew attention to a shadow theme of the qualities of doing things.

Another example of thematic sense-making from within surfaced in a discussion that addressed alternative views on using internet and social media resources at work. A tension between ideas and practices was recognizable, and a division between 'us and them' began to emerge. These themes were raised again half a year later prompted by narratives created by the facilitators, in which e.g. an employee of a younger generation in the company used discussion forums in the web in his spare time to find information and customer experiences about his life's important purchases such as buying a car. He preferred having such tools at full disposal also at his workplace. As one participant questioned the use of such tools, the director brought into awareness competing views of different generations: *'There is probably a generation of young people entering the company, some of them have entered already, who find it very familiar to work this way, and as they already have this competence, why don't we use it.'*

'Any organizational change, any new knowledge creation, is by definition a shift in the patterns of communicative interaction, hence a shift in power relations …' (Stacey 2001, 156). Power differences in interaction can be preserved using ideology. Ideology is

1. The first challenge that we piloted was working quite well because we promoted it very heavily and we had the advertisements and all kinds of happening around that but I think it is very important and quite good example. ...

X

X = Participant X
F = Facilitator
3 = Participant 3
D = Director
M = Manager

F

2. So promotion is very important?

3. I think it is very important

4. Yeah, promotion is very important, because I remember you sending the last challenge but I don't remember any more what it was, [...], I remember it was quite a long time ago but there was these posters even in the men's bathroom, so you had to look at the poster when…

3

5. Yeah I think we discussed that and in a way this issue was identified that very good commaunication and promotion is important that I would say that as an organization we need to learn how to do that so that everybody understands and is aware.

X

6. This means that this tool has not come part of our culture yet!

7. That is correct, we still have to learn how to use it for focused priority areas.

D

8. Yes, I think that what I liked in this case, was that they used this group work, they were splitting into smaller groups to get attention of the people because I don't believe that it is a very effective way to start the ideation process by saying that go behind your computer and start to work individually I think that it is much better to get this group together and promote the idea, explain the reasons and maybe kick-off the ideation process and then insert the idea into the tool.

3

11. Yeah there should be a motivational part in this challenge communication so when the challenge is communicated it should not just say that ok, we want some stainless steel [products], but it should have a motivational concrete part like, [employee name] is having this problem and now let's all help him out. So, this sort of stuff, to make it you know more, to touch the listeners more.

9. Excellent! Physical interaction! That's the first thing.

M

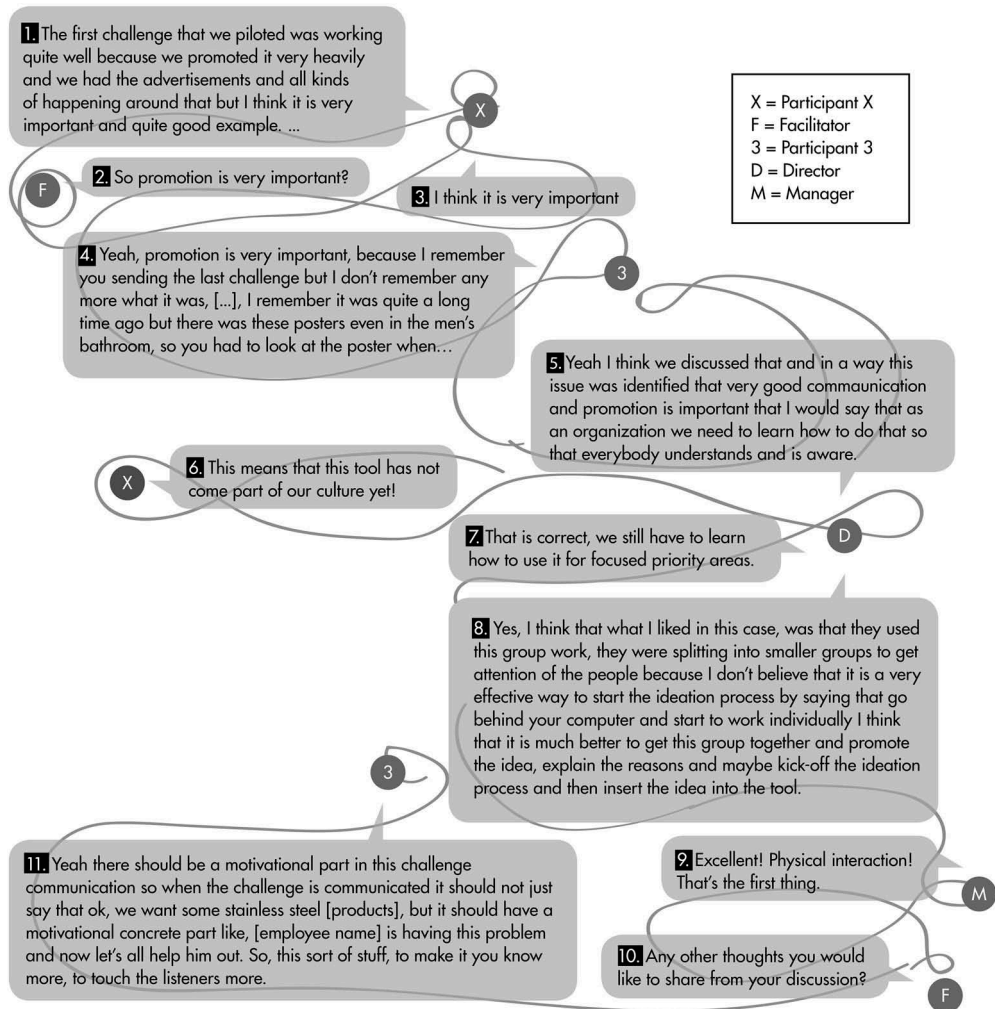**10.** Any other thoughts you would like to share from your discussion?

F

Figure 3. An excerpt of the flow of dialogue in which new knowledge about the focus of the project gradually emerges. In the footsteps of Prendiville and Akama (2013) who draw from Ingold (2007), we are inspired by the metaphor of 'line-making' to understand the continuity and connectedness of knowing in interaction.

characterized by its use of polarization as a mechanism of creating difference, e.g. into 'good-bad', modern-outdated, 'us-them', or 'in-out' (Stacey 2001, 153). The use of polarization was abundant overall in the interviewees' and participants' communication in the project, with e.g. pairs identified: local-global, linear-iterative process, open-closed innovation, knowledge-intuition and control-autonomy. Disruptions to the prevailing patterns of collaboration and power structures are a prerequisite for novelty and hence change to emerge (ibid.). Here, the old habitual ways of innovating are challenged not only by new technology, but also by a new culture that does not limit itself within the boundaries of the organization but is inspired by contemporary cultures.

The first phase of the project indicated there was a need to rethink the way the innovation process was conceived in the company. Apparently, the design challenge we

designers were called upon to work on was not one of optimizing the fit between humans and technical aspects of organizing in a well-known, predictable terrain, but rather an exploration of a future that signalled significant changes in the environment and had consequences on the ways of organizing innovation in the company. We do not claim that the need to reconsider only emerged because of the events, but that the events, as platforms that brought together relevant people and representations of the intangible innovation practice, provided a space for the themes to the pattern in the discussion. In addition, we, as designers in the role of facilitators, concluded our interest to focus on the development activities regarding individuals' experiences and, based on that, constructed alternative views on the mechanistic conception of innovation. This was recalled as follows:

> They had this stage-gate model that they considered very slow. How to make it more effective. We made this kind of a process model or a blueprint. It was the first thing, we identified that we cannot find any ways to make it leaner, that we need to challenge the way this is done.... It was then, I think, this insight was created, that it does not get better by tightening the screw. (Designer X)

4.2. Influences from within the facilitation team

The insights above brought about a shift in the focus of the brief (for a more extensive review see Salmi, Pöyry-Lassila and Kronqvist 2012; Kronqvist, Salmi, and Pöyry-Lassila 2011; Lee et al. 2018). Around the same time, there were changes in the composition of our research team. The project manager, who was an expert in process simulation, left the project. Nevertheless, according to the plan the project was to continue with the same methodology, enhanced with new tool prototypes, throughout the span of the project. However, we felt that breaking away from the plan, by shifting attention from technology to people and entering into a creative state of 'not-knowing' how to collaboratively innovate in the company in the future, was crucial to responding to the expanding design challenge. Additionally, we believed that a design approach would allow us to prototype solutions for a more holistic, integrated and encompassing future innovation process. This realization made room to advance our agenda of exploratory co-designing into practice. This was recalled by designer Y as follows:

> ...We took the challenge pretty boldly and applied methods, because there were no directly applicable handbook techniques. We worked a lot, on developing and applying different kinds of personas, blueprints and others, and used different theories, for example on tacit knowledge, was it Polanyi? No, Ihde .... This was for us one of the first big design processes that was not grounded on particularly clear objectives. We negotiated a lot with the client and then took it further. It was mostly, or actually all, about the organization's internal processes that we developed. The challenge was that we started to define an internal customer, who were the employees, and then the management who was our client, and there was not really, in design, any kind of material to refer to. And when it is about innovation processes... about creative work, [it] made this particularly challenging. And it was about interaction in a digital environment. Perhaps those three things made it a quite unique case and that required customizing rather than applying a particular process or techniques. ... There were the design methods, and a confidence in experimenting with them, like, would this work, and hey, I found this one, let's try out with that....

Backstage, among the researcher team members, there was a distinction between 'us-them' and 'in-out' that emerged from the differing educational backgrounds and hence methodological orientations. The difference of identities fuelled categorizing into ideological themes, eventually giving rise to changes in power relations.

In the following planning meeting, based on the conclusions from the first phase, the changes in the available competences and personal agendas, the designers proposed to the company development director to continue the process with more exploratory co-design. Parallel to this, in the company, there was a growing interest in co-design methods, and some of the R&D employees had previously been involved in university research collaborations that drew on co-design in their methodological approach. The director accepted the change in the project plan. As a result, one of the designers took on the project leadership in the researcher team.

Exploration with new ways of innovating rested largely on the designers' willingness to be engaged with 'not-knowing'. This turn made room for exploration, refraining from imposing structure and allowed sensitivity for perceiving, associating or creating meaning and reflecting. This kind of open-endedness is at the heart of explorative practice in co-design (Mattelmäki, Brandt, and Vaajakallio 2011). Various thematic openings were made both by facilitators and participants that eventually were not thoroughly worked through, as remembered by facilitators:

> Designer X: Perhaps we also guided [the scope], although not all of it was verbalized, for example, that we cannot take this open innovation even if you wanted...

> Designer Y: Well, if you think of it afterwards, you could have, but you did not even realize it then, we were just doing it; if we had had time to reflect, perhaps we could have been more explicit. For example, to discuss with [the director] that we have recognized that the [company] open innovation concept is quite different from how Chesbrough has defined it....

In the co-design workshops that followed, we were involved in a joint effort of learning and giving form to a new way of working. As facilitators, our overall aim was to support a process of change in the organization's innovation process. As we broke away from developing the institutional innovation process as proposed by the tool, we began creating handles for gaining a grasp of what it means to innovate in the organization through co-designing. This facilitated process of making meaning created the basis for meaningful action, or creating routes to navigate the 'abstract' (Prendiville, Gwilt, and Mitchell 2017, 228) system. It was about making the large-scale system personally relevant (ibid.). For us, it was not an option to create a future innovation process for the organization, but rather to design it with the people. We experimented with co-design facilitation in the organizational context, which in practice meant adjusting design tools and skills for this purpose. In shaping the future innovation process, we brought our expertise in visualizing, method making, condensing meaning, as well as gearing the process towards solutions (see Figure 4). The participants on their part brought in their knowledge of and experiences with innovating and collaborating in the company, as well as their input in formulating the problems and prototyping solutions. As an implicit aim, we sought to elicit feelings of agency in the participants to enable them to take the lead of the change.

Figure 4. In the workshops, open-ended and visual materials were applied to prompt, enable and direct the co-design, meaning-making and relating. In this paper, we have focused on dialogues; however, the material and embodied interactions with it also played an important role. These issues have been discussed in other articles by the authors.

5. The in-between: interdependence of effects of engagement

When examining projects that see organizational change as emergent we should not focus only on the practical results, but also on the qualities of the process. Changes appear in the form of concrete outputs such as roadmaps or other planning documents, but they can also express themselves more tacitly in the ways of relating, i.e. as new relationships, new themes as well as shifts in power and roles. In the examples above, we have illustrated how meaning-making from within is central to organizational change. In line with Luoma (2007) we see that 'change has less to do with the identify-design-implement cycle' as proposed by systems thinking 'and more to do with something more subtle'. More precisely, in terms of sense-making, '…order in organizational life comes just as much from the subtle, the small, the relational, the oral, the particular, and the momentary as it does from … the large, the substantive… the general, and the sustained' (Weick, Sutcliffe, Obstdfeld 2005, 410). We may even argue for finding a term with a more nuanced undertone to describe changes that occur at the micro-level of interaction. Perhaps discussing them as transitions would better capture their character. Paralleling Light and Akama (2012), who state that '…engagement and transition are not the result of the method so much as of a fluid negotiation around the formal processes established to give shape to the sessions' (p. 68), we find that the facilitator and her gestures and responses to the groups' gestures are entwined with the enactment of techniques and situational factors emerging as the project unfolds. What follows is that organizational change concerns both the participating organization and the facilitators (Figure 5).

The change is perceivable as difference in the thematic patterning at the level of interaction, as the following example concerning the use of language in the exchanges between the facilitators and director aims to highlight. At the beginning of the project, we noticed how the director spoke about innovation. Themes focused on the tool and its efficiency in producing innovation, manifesting in expressions such as *'taking the most out of the tool to test its capacity'* and *'plugging it off, if it does not work'*. The director's phrasings mattered, as they were uttered by an employee in a position of formal power and as such they established the predominant and legitimate themes. Leadership entails an entitlement to 'frame the reality and experience' of those who 'surrender their powers to interpret and define the reality for others' and 'accept that definition as a frame of reference for orienting their own activity' (Smirchich and Morgan 1982, 259 and 270). As a mechanism for establishing power difference, 'ideology is … a form of communication that preserves the current order by making that

current order seem natural' (Stacey 2001, 152). We observed how the participant group did not challenge the mechanistic way of talking about innovation, and hence we consciously added an image of an innovation machine as part of a metaphorical design exercise in one of the co-design workshops. Furthermore, in our own planning meetings of designers, we discussed providing a richer vocabulary to discuss innovation. Gradually, throughout the project we noticed a change in the themes of speaking about innovation. The communication turned towards themes concerning e.g. roles, social interaction, motivation and rewarding. In a follow-up interview, the director reflected on the work done to elaborate innovation-related roles and the effects of that work in practice:

> Well, for us, particularly useful was the work with the champion persona … as we had put particular effort on choosing these individuals but also on their sparring and even educating, [so] we quite soon realized that how the process works is dependent on them. But then we came to think about how the whole process should work and what we require from each one. In this, creating the user profile (persona) was certainly effective. Directly or indirectly.
>
> You could say that the persona descriptions that we did were useful in that way, that we had to think about what kind of a role it really would be and to which direction it should
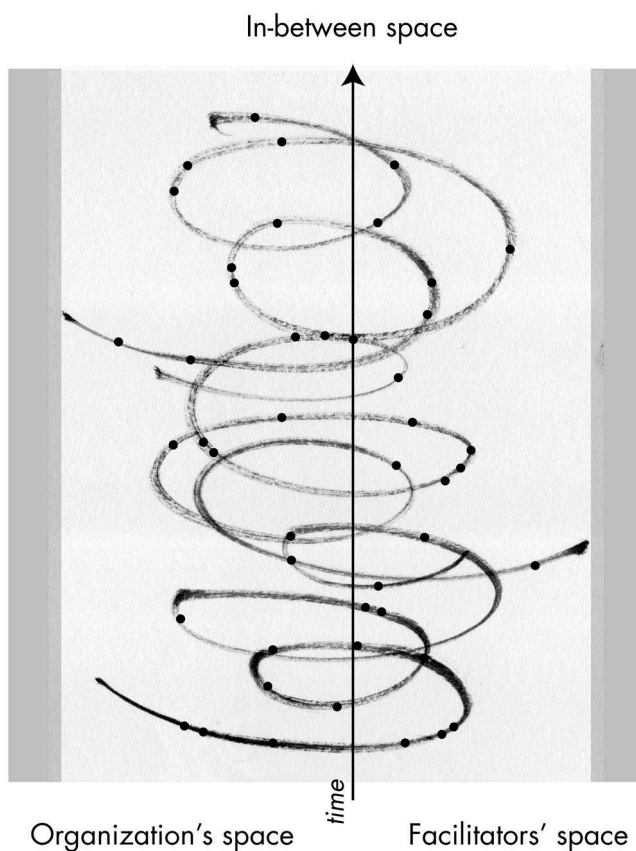

Figure 5. Formulation of the in-between space between an organization and facilitators. Differences in themes emerge and shape interaction in a pattern that is interdependent of both parties' engagement.

be developed, and this (exercise) initiated very good discussions.... And after the discussion this led to choosing people and changes in already completed choices.

In addition to difference in themes, change can be theorized as emerging new knowledge or learning, for which co-design events can create a fruitful platform. Designer Y describes this as follows: '...we tried to create such an environment where it would be safe to challenge thinking, as they did pretty well, in my opinion; it was not too rigid or authority driven, but problems were touched upon pretty bravely.' In another instance, he reflected on his own learning: 'I am a pragmatist, I try to make the most out of this, all ideas, thoughts and observations and such, to figure out how this could be made to work better.'

From his part, the director recalled the learning as follows:

It was clearly a challenge, how do we get this to our... technology R&D organization..., to get people actively engaged in this front-end innovating process. We knew already before the implementation of the corporation tool that IT does not solve this issue, that it brings along an easy element to create this kind of social interaction. But this kind of front-end innovation process needs to be led, and it has to have face-to-face methods, and quite a lot of face-to-face methods and various kinds of group work, brainstorming and others.

The narratives above aimed to illustrate how organizational change emerged as a result of differences in thematic patterning at the level of interaction, or in relating, both in the researcher team and among the organizational participants. Partly, co-design facilitation, the use of the process map and scenario methods supported the emergence of differing themes. The changes were mainly emergent from the interactions among people and the context and not planned in advance. However, due to the complex nature of the changes, their causal relations are difficult to pinpoint, and in retrospect it is not possible to reconstruct which difference led to another. This underlines our view that organizational change is a dynamic continuum which is not completely plannable in advance or from outside.

6. Conclusions

In this paper we have examined organizational change and how it emerges from experiencing, using a real-life industrial case as an example. Our contribution aims to advance co-designers' repertoire to include an understanding of local interactions between people and ways of relating when facilitating organizational change.

We have shown how transitions emerge through communicative processes that are facilitated. Facilitation aims to create favourable conditions for new experiences to take place, i.e. meaningful, open-ended scaffolds for sharing experiences and co-creating meanings as drivers of change. Meanings for change surface within organizations or in interaction between actors, including facilitator teams and managers, among participants and in power plays that make use of ideologies setting distinctions between them and us, in and out.

In the case illustrated in the paper, a collaborative IT tool had a central position in organizational change. However, the tool did not transform organizational practice as a sociotechnical system through optimization, nor did it disrupt the ways of doing through materially configuring the action. Rather, as we have discussed, the tool earned its role in the change process through the organizational participants' meaning-making. The participants made the system a personally relevant relational entity that they could enact and further appropriate in interaction.

Co-design workshops have been studied as magic circles where new solutions are co-created and where meanings are materialized with the help of co-design tools. In this paper, we examined workshops as in-between spaces. They are temporarily co-habited learning platforms where two organizations relate, the one of the participants and that of the facilitators.

We should not only study co-design workshops as platforms of change, but pay attention to dynamics outside of the workshops as well. What are the influential components in planning the co-design scaffolds, such as the dialogues between the clients and facilitators, their external drivers, as well as the dynamics among the facilitators, their identities and repertoires? When co-designing in organizational settings, we need to consider the wider forces at play between managers and employees. What are the elements of experience within the organizational reality that actors bring to the surface through their actions and that guide their interpretations of these actions?

In a context such as the one presented in this paper, designers need to let go of the traditional way of seeing the design process as identify, design and implement. Facilitating organizational change requires sensitivity to the ways of relating and conceptual understanding of thematic patterning, such as changes in vocabulary – from tool to roles, interaction, motivation, rewarding and face-to-face methods. Increasing designers' awareness of the ways in which participants make systems graspable would extend designers' repertoires and competence to facilitate organizational change.

Disclosure statement

No potential conflict of interest was reported by the authors.

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