ENGAGING ACTORS IN CO-DESIGNING HETEROGENEOUS INNOVATIONS

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ABSTRACT

In this paper we share and analyze our experiences staging a co-design process in which we through different interventions engage important actors in designing. Our experiences are taking from an innovation and research project about user-involvement in textile design processes. As the project focused on textiles role in healing hospital environments, the co-design process analyzed is a process of designing textile products for these environments.

During the co-design process we engaged architects, engineers and textile designers. The focus in this paper is specifically on the challenges related to translating and transporting the results of these different events due to the institutional and professional framing of projects and design processes. We are analyzing these through an actor network approach and use the translation term to describe how the participants slowly became engaged in our project's agenda by going through the different stages of translation.

The paper is finalized with reflections on the difficulties in engaging actors in a co-design process and transporting results into the existing framed context of design and architectural work.

Keywords: co-design, professional framing, textiles, healing environments, actor-network theory

INTRODUCTION

The three-year long research and innovation project *User-driven innovation and communication of textile qualities* started in May 2008 as a collaborative project with partners from Danish textile companies, universities and design schools. The focus of the research project has been to explore methods of involving different actors in developing new textiles and textile products. Early in the project the project partners chose to focus the projects efforts on analyzing the use of textiles within a specific area of application. The hospital setting was chosen, as textiles seem to slowly vanish from this environment making it an interesting opportunity for textile innovation.

We started doing ethnographic field studies in Danish hospital environments to gather knowledge of the practice and to collect photos and quotes for use in the subsequent co-design process. The research at the hospitals experienced an environment that seemed designed around agendas of efficiency rather than care for the patients. This triggered our wish to influence the design of Danish hospital and we set forth facilitating collaboration between hospitals and the textile industry. This collaboration came into being as a co-design process through which hospital designers and textile designers jointly designed textile solutions for the healing hospital environment of the future.

In this paper we share our experiences facilitating and engaging in this co-design process. It lasted for approximately one year and consisted of a number of seminars and design interventions, which we call design-laboratories [1]. Through this paper we wish to highlight how the actors during the process have been engaged and how their interest has been directed towards solving the problem of textiles vanishing from the hospital environment. We therefore describe the co-design process through a theoretical framework and terminology that emphasizes the dynamic nature of the relations created between human and non-human entities. Drawing from Science and Technology Studies (STS) we use Actor Network Theory (ANT) [2] and the concept of scripts [3] as key inspiration to highlight the complexity of socio-material relations. It is characteristic of ANT that it does not distinguish between human and non-human actors and see them interacting in an interwoven network. That means that physical artifacts as beds, walls, ceilings, curtains, colors, bacteria etc are important 'actors' in the network and interact with the hospital staff, the patients, the relatives etc. This address the heterogeneous relations between all these human and non-human actors involved, e.g. in different settings and departments of the hospital.

According to ANT [2], the relation between actors and artifacts is not stable but constantly created, broken down and recreated. In other words – an actor-network is dynamic – constantly in the making. New networks and relations come into existence through what Latour [2] calls translation processes. Each translation consists of four steps; *problematization* (a problem/agenda is set forth), *interessement* (actors become interested in joining the network and starts negotiating the terms of their enrolment), *enrolment* (the roles of the actors are defined and interlinked) and *mobilization* (the actors actively work for the networks agenda). These terms are used in the paper to describe the translation process that the facilitated co-design process can be seen as. This paper is thus a story of how an actor-network working towards developing textile products for healing hospital environments, came into being – a story explaining the translation process that resulted in a mobilization of important actors [4]. In the co-design process in the design laboratories we were using mediators as pictures, hospitals plans and quotations to present and enroll these actors in the design process.

As this article is written retrospectively the experiences may appears more straightforward through the story we present than was the case. But instead of starting with sharing what might have gone wrong during the unfolding process, we have chosen to focus on describing the efforts, which proved to assist forwarding the process – the story of success, so to say. But first some background information about co-design as a design methodology and the rationales behind existing hospital designs.

CO-DESIGN AS DESIGN METHODOLOGY

Co-design is a rather new though very popular term that refers to a process in which different designers or designers and other actors engage in jointly designing a product or a service. The 'co' is thus a reference to 'collaborative' which shows that the traditional role of the designer as the sole-creator of new 'things' is changing – actually changing rapidly.

In the fifties designers started seeing the potential in understanding the lives of the future user of their products. Designers therefore started doing 'User-Centred Design', where the user is seen as a subject of study and is quietly observed and analyzed. During the next couple of decades designers gradually moved closer to the subject (the user), who in the seventies was allowed to participate in the design process. The methodology 'Participatory Design' had been born and the designer now started asking the user questions and getting the user to test prototypes. The role of the user was though still to inform the experienced designer who still created the new design.

The new term co-design is a further development of Participatory Design in which the user not only informs the designer, but also collaborates with the designer [5]. Doing co-design therefore means going the final step towards the user from observing the user (user-centred design), to engaging the user (participatory design), to collaborating with the user (co-design).

Even though user-centred design and participatory design have been recognized design methodologies for decades, some industries have been slow to adapt these approaches, e.g. the Danish textile industry. This seems to be a paradox as textiles are becoming increasingly complex e.g. with inherent miniature electronics [6]. The increase in complexity means, that collaboration with multiple disciplines and thereby co-design is necessary. During the research project we have facilitated a co-design process in which we have allowed the future users of textiles (patients, relatives and hospital staff) as well as textile buyers (architects, engineers and hospital planners) to collaborate with textile designers on designing textiles and textiles solutions for hospitals.

To facilitate the collaboration we arranged a number of interventions in which the different actors were going to co-design. Binder and Brandt have proposed the term Design:Lab to describe this type of inquiry were stakeholders engage in open collaboration [1]. In their view, the Design:Lab is a deliberately staged activity were a controlled environment for design exploration is created. This descriptions suits our interventions well and we therefore chose to use the Design:Lab term in the following.

Collaboration among actors in a design process has been analyzed by many researchers. E.g. Ehn [7] sees the collaboration as a meeting of different language games and Bucciarelli [8] sees the collaboration between engineers as the crossing of what he terms object worlds. Wenger [9] has also analyzed the collaboration between different 'communities of practice' and sees collaboration as something that is created and maintained through participation and reification. The latter describes, that through collaboration often something is created as a result of the collaboration – in design maybe a drawing or a mock-up. The physical representation of the collaboration helps maintaining it but also assist the collaboration. E.g. Brandt [10] writes about how mock-ups in design collaboration becomes

'things-to-thing-with', that supports the collaboration and Star [11] writes about boundary objects which are created when social worlds intersect. Star describes boundary objects as both abstract and concrete and as something that the social worlds can use to represent their knowledge to other social worlds.

In this paper we will also see how knowledge is represented through physical objects and how these become important actors in the process of engaging different stakeholders (architects, engineers and hospital planners) in co-designing textiles solutions for hospital environments.

RATIONALS INVOLVED IN HOSPITAL DESIGN

During the project we have parallel to the co-design process worked towards building an understanding of how Danish hospital environments have come into existence and which rationales have influenced their current design and thereby the role of textiles. Several rationales are playing a part in the design of hospitals of which

In the design process the architects work with a specific virtual device called standard rooms creating a middle level of standardized components that translate from specific demands into calculable square meter and facility demands. These standard rooms institute elements that can be combined and related creating a defined boundary between the processes anticipated to be handled within these physical confinements and those based on moving around staff and patients between rooms with dedicated socio-technical functions. At the same time the functional configurations of these rooms serve as devices for negotiating future anticipated practices based on the existing experiences and procedures among the hospital professionals. Due to the framing of this exchange confined by the workshop format of professional spokespersons and the devices introduced by the architects' theses processes seem to end up in pre-structuring, mirroring and preserving already established medical practices.

One very serious, though often not for-fronted problematic development in hospital treatment is related the problems of maintaining hygienic conditions in hospitals to avoid the spreading of 'alien' infections to patients already weakened by their illness. Such infections are classified as hospital infections and comprise of a number of bacteria that have developed resistance towards classic antibacterial medication. The number of patients dying not from their illness but from hospital infections is growing and the classic hygienic measures have not been too efficient in fighting these. At the same time questions are raised concerning the cure of patients leading to criticism of the impact of hospitalization. This is also supported by medical professionals arguing that current tendencies in hospital developments are counterproductive. Several studies have shown that noise, light and other aspects of being hospitalized even reduces patient's immune responses instead of increasing it leading to longer periods of hospitalization and weaker patients. Also the ageing of populations and pressure on hospital employees leads to growing concerns with the future of health care institutions as patients may need more treatment and staffs is exchanged more frequently.

Hospital planning has in most countries become more and more professionalized and the construction of buildings involve a still growing number of standards prescribing normalized demands ranging from space, logistics, and hygiene to the use of materials and information systems. In correspondence with the growth in medical knowledge and specialization this has lead to an institutionalization of medical care involving a centralization to still larger hospitals opening for more and more specialized treatments and medical clinics within these large institutions.

Architectural planning of new hospitals is supposed to integrate and balance the different needs and challenges into a coherent and reliable set of solutions. As architects (in cooperation with engineers) often also are the coordinators of the overall construction process, they also meet the economic demands that often change during the construction process either due to changes in political priorities or due to excess costs. When transformed and translated via the professional involvements of medical professionals, the construction of standard rooms, and the synthetic visions of architects the healing environment ends up being represented by rather limited and specific choice of daylight, better noise insulation, single patient bed rooms, but without taking into account the knowledge gaining from ethnographic studies on hospital care emphasizing the role of waiting time, loneliness, patient-staff contacts etc. that would ask for different approaches to also the design of intensive care units where relatives could be involved, for patient rooms not isolated completely, for waiting areas that are either empty or viewed as alien spaces – spaces for anybody thereby often ending as spaces for nobody.

AN ACTOR-NETWORK IN THE MAKING

In the model below the main parts of the co-design process are visualized. The small boxes in the middle symbolize the process elements mentioned in this paper.

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    │   DesignLab1    │
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│   Design:Lab 2   │
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Figure 1: The process of engaging the participants

PROBLEMATIZING THE LACK OF TEXTILES

At the beginning of the research project our focus was to understand the constellations of the actor-network that hospital environment constitute and which role textiles play in this network. We thus set forth understanding the socio-materiel relations that Danish hospital symbolize through a preliminary research and therefore applied a mixture of qualitative methods such as observations and interviews. The observations were made at different Danish hospitals where we 'followed the actors' (staff, patients, relatives etc) in their daily duties and practices [12]. The ethnographic research was done parallel to desk research of historical documents, information about hospitals, health care and design practices. This resulted in a large amount of material, especially as pictures from the hospital setting and quotes from patients and hospital staff.

By observing the life at the hospital, feeling it on our bodies and documenting it through pictures and descriptions we noticed that textiles were used for hospital clothing and beddings, but not for interior such as curtains, carpets or upholstery. Textiles had a very small role in the socio-material network the hospital environment represents. As mentioned textiles seemed to be slowly vanishing, as the hospital actor-network is increasingly aligning around an agenda with strict rules in relation to hygiene; an alignment that forces textile actors out of the network because they do not fit within the network alignment. E.g. curtains are now being seen as a risk in regards to the spread of infections and blinds between glasses is used instead.

But the lack of textiles is not the only change in hospital environments. Efficiency and hygiene standards seem to be the rationales around which all parts of hospitals are designed. This has resulted in a new set of standards for hospital design in which it is recommended, that shelves are banned from hospital bathrooms as it takes time to clean them and they are seen as unhygienic. Hospitals seem to become efficient machines in which the human behind the patient cloth is disappearing – a machine in which the human becomes a "thing" that can be fixed.

The patients we talked to reinforced our fear of the becoming (or maybe existence) of the "healing-machine". They shared with us descriptions of the hospital environment as a cold and hard place in

which they lost their individualism and felt uncomfortable – a place where they were becoming 'patients' and where they were in a wait position.

Figure 2: The cold and barren environment present at Danish hospitals

We reacted strongly towards these facts as we envisioned hospitals becoming barren environments designed for efficiency and cleaning routines rather than a place for humans to heal. For us this seemed like the opposite of the healing environment we thought a hospital should be. We therefore set forth influencing these rather gloomy prospect and saw our 'textile agenda' as a way of talking about hospital environments as a place that should be warm, soft, friendly, welcoming etc. Thereby the lack of lack of textiles has been problematized and a translation process had started. We hoped that this process could translate the heterogeneous and aligned actor network that the Danish hospital environment symbolizes.

FINDING INFLUENTIAL ACTORS
As our project started, the Danish government decided that a large number of mega-hospitals were to be build to modernize the overall Danish healthcare system. The process of designing these hospitals had slowly started and one of the hospital designs were well on its way. This presented a mayor opportunity for influencing Danish hospital environments and the role of textiles in these. We therefore realized that we needed to influence the design of these new hospitals as they would become influential actors in the Danish hospital network and set the agenda for future alignment within the industry.

We decided to get in contact with the architects and engineers who had started designing the first of the new hospitals. Our idea was to engage them in a co-design process focusing on textiles solutions for hospital environments through which we would be able to transform the actor-network they were creating before it aligned around the rationales of efficiency and hygiene that we had experienced at existing hospitals.

OVERCOMING RESISTANCE
It instantly became clear to us that engaging the architects and engineers would be a difficult task. First it was difficult to get hold of the person who were in charge (actor A) and were able to take any decisions and second, when finally getting in contact with actor A it was difficult for him to find time to meet us as he battled constant budget changes. It therefore took a year from our initial contact until actor A was able to engage in constructive dialogue.

When our dialogue first was initiated we were able to create some interessement from actor A and he accepted starting a dialogue with us and some textiles designers and his employees. He though demanded that we should pay part of his employee's salaries. We agreed on his terms and together with him created a plan on how to involve some of his employees in a co-design process. This plan consisted of various events; we were allowed to look into their design material, have interviews with his employees, a one-day seminar and two design laboratories.

When the plan had been laid out we needed to select the people who were to participate in the different activities. Actor A wanted to select these and aimed at creating diversity in competencies and

roles in the organization, but also let the selection be highly influenced by which employees had available time. The selection was thereby partly random and we did not have any particular influence on it, except that we asked for diversity.

CREATING INTEREST

First part of the plan that we came up with, was for us to be allowed to come and visit their offices and have a look into their design material. By looking through this we gained insights into their thoughts and visions for the future hospital and which aspects of the design of the hospital they seemed to favor. Hereby our knowledge surrounding hospital designs went through a number of translations and became more heterogeneous.

Having some insight into the design material and their work and thoughts we started talking to the employees' actor A had selected for us. We set up a number of interviews with them were we asked about their work and thoughts. As we had insight into their design material as well as knowledge of existing hospital environments it was possible for us to engage in a conversation on rather specific topics of their design, which obviously made the interviewees realize that we were somehow on their level. The purpose of the interviews was for us to gain insight into their visions and ways of working, but the interviews also assisted us in slowly getting their interest and thereby starting second part of the translation process - interessement. By being able to speak "their language" the employees saw that we did understand some of their difficulties designing hospitals and that we represented knowledge that they could also benefit from. This made their willingness to become part of our network bigger – they became interested in what we had to offer.

ENROLLING ACTORS

After the interviews some of the participants started showing deep interest in our project and the research we had done. Next step in the process was a seminar in which we were to present some of our research findings.

During the seminar we therefore gave three presentations, which gave the participants insight into our ethnographic studies at hospitals, insight into the dynamics that had created an alignment around the extreme hygiene demands and our knowledge of textiles as a very diverse material. After each presentation we engaged in a dialog with the participants and they asked questions to our findings.

After the seminar it became obvious that the participants were very interested in our findings especially in regards to the possibilities that textiles materials offer. And they were very eager to get on with the design laboratories. We had thereby through the seminar been able to enroll the participants in our network working towards more textiles in Danish hospital environments.

MOBILISING EFFORTS

The next step was to mobilize the hospital designers in our network and thereby get them to work towards designing hospital environments with more textiles. We therefore planned two so-called design laboratories in which the hospital designers together with textiles designers were to co-design textile products for the hospital environment. Design laboratories are by Binder [1] characterized as deliberately staged activities during which a controlled environment for exploration is created and open collaboration between the participants is facilitated. Our design laboratories can thereby be seen as staged design interventions in which we engaged actors with different backgrounds in investigating the possibilities of using textiles in creating the healing hospital environment of the future. Arranging design intervention gave us the opportunity of bringing the designers away from their usual context and facilitating them through a fast faced creative process focusing on textiles. At the two design laboratories we involved the hospital designers as well as textile designers and design researchers.

The purpose of the first design laboratory was to generate ideas on how to use textiles to create a healing hospital environment. During the laboratory we put emphasis on slowly developing the participants' reflective capabilities and give them a foundation for idea generation. Before the laboratory they were therefore asked to make a home assignment in which they were to take two pictures or find them on the Internet. The first pictures should visualize the place in which they felt the best and the second picture should visualize the place in which they felt the worst. The purpose of this assignment was for the participants to start reflection on why you feel good somewhere and why you feel bad. At the beginning of the first design laboratory the participants were to present these pictures

and afterwards go into a discussion on which attributes defines a "good" space and which defines a "bad" space.

After discussing how one feel different places the participants were given a diversity of pictures of existing hospital environments in which they were to highlight positive and negative elements. This made the participants evaluate existing hospital environments and they started reflecting on different hospital elements, such as the bed and medico-technical equipment, role and impact in the environment.

They participants were also given a number of pictures showing positive elements of the city environment. These pictures were to be used as inspiration for generating ideas of interior for the hospital environment. This assignment was designed because we in the design material of the hospital designers had seen that they had included city elements in there design proposal for the future hospital, e.g. the largest hallway was called "The Square". In the picture below participants are seeking inspiration in city pictures.

Figure 3: The participants looking at the city pictures

The last exercise of the day was to create a mind-map of ideas of textiles products in hospital environments. For creating this map the participants were introduced to "The Connection Game" – a game with different game pieces to be used. The game pieces consisted of pictures of alternative uses of textiles, quotes from evidence based design describing important aspects of hospital environments and pieces with textiles attributes such as warm, flexible, single use etc.

The participants were to draw one of each type of game piece and generate ideas for textile products with these pieces in mind. On the picture below the participants are playing "The Connection Game".
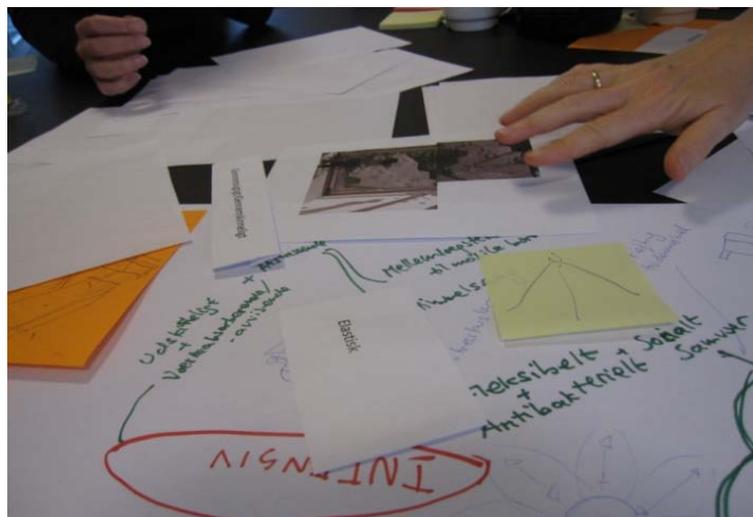

Figure 4: Two pictures showing the the participants playing "The Connection Game"

The different assignments the participants did during the day resulted in a large number of ideas on how textiles could become an important part of the interior hospital design. But it was equally important that the design laboratory made the participants more eager to work with textiles in the hospital environment and their efforts were thereby mobilized.

After the first design laboratory we collected and organized the generated material and analyzed it. We used this material, our experiences and the ideas generated to design the second laboratory, which was to take place the following week. Unfortunately not all of the participants from the first design laboratory were able to attend the second and a few new people came and took part instead.

During this second design laboratory the ideas generated at the first laboratory were developed further through a number of new exercises. An important exercise of the day was the mock-up session in which the participants were asked to created small physical models of the ideas. They were allowed to chose materials from a large selection of materials including of course textiles, but also pieces of felt, foam, colored plasticine, colored paper, colored wooden sticks, pipe cleaners and small plastic dolls.

Figure 5: Left: Materials for the mock-ups. Right: Participant is showing her mock-up during the mock-up session. The mock-up is made in plasticine.

Figure 6: Two mock-ups created during the second design laboratory

NETWORK BREAKS DOWN

After the second design laboratory the participants were very enthusiastic about some of the ideas and saw great potentials in the resulting concepts. Also some of the participants presented great eagerness in continuing collaboration.

The purpose of engaging the hospital designers had been to influence their design process and also influence Danish hospital environments in general. The process of sharing our knowledge with the hospital designers and engaging in discussions with them could maybe have done the job. But after the two design laboratories we found a few of the concepts to be interesting and worth pursuing further. We therefore wanted to continue the development of these concepts. Unfortunately we quickly

realized that the hospital designers were not allowed to engage in further development with companies who could deliver products for the future hospital, as it would influence the conditions of competition when the order would be put out to tender.

This resulted in a breakdown of the network we had fought to establish. The six months that followed we tried to recreate the network through different network constellations for the development of the ideas to continue.

NEW NETWORKS ARISE

When the network broke down we realized, that we needed to mobilize actors that did not be obliged to obey under certain rules of competition. Members of the project and people working at the textile company that was part of the project fitted under this category and we therefore started our search through this rather narrow field of potential candidates.

Through our contact with architects, engineers and hospital designers we had experienced that knowledge was an important factor when pursuing the interest of actors. The process of mobilizing them had also given us additional knowledge and understanding of the difficulties present in hospital environments. With this in mind, we started forming two design briefs – inscribing our knowledge into a concrete format. The process of engaging with the hospital designs proved during this inscribtion process to be valuable, as we were able to depict in rather specific detail which attributes a first-rate design would embrace. The process therefore has been valuable regardless the unfortunate outcome of the efforts.

With two strong non-human actors in the shape of design briefs in hand; one describing a textile solution for the patient ward and one describing a textile solution for a ambulatory waiting area, we started contacting potential actors. This resulted in the formation of two new networks in which only one of the former participants (an architect) engaged as he was allowed to by his executive. In addition to the architect the networks consisted of an independent textile designer (had earlier worked for the textile company who was project partner), a textile design researcher (project employee), a textile salesman (employed by the textile company project and had an education as textile designer) and three design engineers (two consultants and one project employee).

NETWORKS ALIGN - DESIGNS EMERGES

The actors were divided into two groups; one designing for the patient wards and one designing for the ambulatory waiting areas. Each group engaged in two design laboratories; one where ideas were generated and one where ideas were selected and further developed. Between the two laboratories, the participants were asked to develop some of the ideas further. Though they did not seem to be able to find adequate time for this task and the ideas had only slightly evolved between the laboratories. During the laboratories it was though no problem orally agreeing on the direction of the idea development and thereby aligning the networks. Though the process was only successful as, two of the design engineers were in charge of the process and each had a full month for the task. This proved to be essential for the process, as they were able to gather the ideas and information generated during the design laboratories and condense it into the resulting three concepts for textile solutions. By being in charge of the process they were able to detect the alignment and visually represent it through 3D drawings and written descriptions and the process therefore resulted in the three concepts shown underneath.

Figure 7: Left: Flexible and decorative art modules for patient ward. Middle: Flexible and decorative ceiling decoration and window blinds for patient ward. Right: Furniture modules for ambulatory waiting area

REFLECTIONS

Staging co-design processes is by no means a simple task, which the above case description shows. Getting actors interested in your network agenda can be difficult and enrolling and mobilizing them is equally demanding. Facilitating the translation process which mobilizes important actors therefore calls for facilitation that finds and interests the actors in the network agenda and is able enroll and mobilize them. Though just as importantly, they have to continue to be mobilized so the network stays intact.

THE NECCESITY OF PRELIMINARY KNOWLEDGE CREATION

During the described co-design process we experienced, that we succeeded in getting the important actors (architects, engineers and hospital planner) interested (interessement) when we were able to demonstrate applicable knowledge about hospital environments and the rationales behind their designs. Through our preliminary research we had thus formed a knowledge base that we were able to present by bringing non-humane actors such as quotes and anecdotes from the hospital environment, into play. That is, using boundary objects to represent our knowledge and being able to speak the 'language game' of the actors, which our study of the architectural design manuals had helped us learn. The actors became interested as the socio-material network we, together with our knowledge, constituted, appealed to them. They thus seemed to find it useful for their own agenda of designing and building the perfect hospital and saw a potential for them in engaging with us. Our preliminary research, which started the creation of our socio-material network, was thus a preceding necessity for interesting the hospital design actors in our network agenda of designing textiles for hospital environments.

ESTABLISHING A CO-DESIGN FOUNDATION – THE CREATION OF MEDIATORS

The architects, engineers and hospital planner were enrolled and mobilized through the seminar and the two design laboratories. During these laboratories we used the pictures we had taking during the ethnographic field studies, different design games and tangible materials to create mock-ups. These non-human actors became enrolled in the heterogeneous web of the network were they assisted in the process of enrolling and mobilizing the participants as the non-human actors served as boundary objects allowing the participants to represent their knowledge and ideas to others. With the notion of mediators from ANT the pictures, games and physical materials mediated the relations between the actors in the network which assisted forming these relations and thus the network agenda. As the network slowly formed, the dialogues took different directions constantly changing the network and its constellations. In the end mock-ups emerged as the network slowly aligned.

This process made us yet again realize the importance of throughout preliminary research. Our research gave us a precious understanding of the actors involved and how to communicate with them, as well as the possibility to materialize potential boundary objects that could facilitate the communication among the human actors and help mediating the networks internal relations. We hence realized that staging design interventions, such as the two design laboratories, is not only about the intervention itself, but as much about staging the process leading to the intervention. Finding and identifying the actors, understanding their engagements, preparing them for the design process and setting appropriate boundary objects into play, does question the neutral role of the organizer. Taking on this task asks for continued engagement and interventions to maintain the continuation of the design work, but does give the organizer a tremendous influence on the process and its outcome. But if the involved designers and researchers do not actively engage in maintaining the goals, the question is whether the process may end up in a mess and the involved actors therefore looses confidence in the process resulting in a network breakdown. Should the network be allowed to determinate its own fate or should we forget about the idealistic co-design process and the neutral role of the organizer as just one of the designers?

THE NOT NEUTRAL ROLE OF THE DESIGNER

In the described case, we ended up with a network breakdown, because architects, engineers and hospital planners (the co-designers), had to accede the unwritten rules of public procurement. We could have given up and accepted the fate of the network and thereby accepted a failed design process. But we chose to let the network re-emerge in a different form as we found the purpose of the process and the energy thrown in was too valuable to disregard. When the network re-emerged as to we went a

different approach than the first time. This time – we became the un-neutral designer, who formed the design brief and rounded of the final design. We got a result that on paper is a co-design, but the question remains - how much we ourselves contributed compared to the other actors.

CONCLUDING REMARKS

When engaging actors in co-design heterogeneous innovations or experiences show that one should establish a heterogeneous socio-material network that can interest influential actors and thereby trigger the translation process mobilizing them. This can be done by doing preliminary research and getting an understanding the actor-network these influential actors themselves constitutes. In our case the influential actors were architects, engineers and hospital planner designing a new mega-hospital in Denmark. Our preliminary research therefore focused on hospital environments and the recent work of the influential actors making us able to speak their 'language game'. At the same time it created a socio-material network including appropriate boundary objects through which the influential actors could communicate. These different mediators helped establish the relations between the engaged actors and thereby the formation of the actor-network. Staging co-design interventions is therefore as much about staging the process leading to the intervention – creating a socio-material network with appropriate boundary objects.

Even though we had vast success forming a heterogeneous actor-network it broke down. The hospital designers could no longer work for the network agenda because it had an unjust effect on the market conditions for hospital interior. As we engaged new actors and had to force the process forward by inscribing our established knowledge in design briefs we had to accept that our influence on the construction of the network was tremendous. We therefore wish to end by questioning the neutral role of the organizer (or designer) of co-design processes and the actual heterogeneity of the resulting innovations.

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