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PATCHWORKING
PUBLICS-IN-THE-MAKING

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1 INTRODUCTION

This is a collaborative and practice-based thesis by publication written by Kristina Lindström and Åsa Ståhl, across the disciplines of interaction design and media and communication studies. More specifically this thesis deals with public engagement in mundane issues of living with technologies. Before we go more into detail on this matter we will give an account of the journeys through which we began to know each other and started to collaborate. It is a way of framing what we do today, to give an introduction to some of the concerns that have lingered and informed the work within this doctoral thesis. This chapter also outlines our aims as well as how we navigate in an (inter)disciplinary world.

1.1 Prelude
Both of us were commuting between Växjö and Malmö, in southern Sweden. We lived in Malmö, more or less on the same block, and had jobs in Växjö. Åsa was working as a journalist at Swedish Radio and Kristina was working as a concept developer and web editor at Swedish Television.

Each Monday and Friday we spent about two hours in a car, talking about what we did during the weekend, concerns at work and so on. Most of the time it was only the two of us talking for a couple of hours, without any specific agenda and without much interruption. On the dark roads of Småland in southern Sweden there was more or less no mobile phone reception, which gave us a kind of disconnected exemption from our everyday lives. In the car we shared many stories from our lives, and we also talked about the practice of telling stories in the two big public service broadcasting corporations in which we worked.
At Swedish Radio stories were formatted to fit slots where, as it is commonly understood, an unwritten contract between the listener and the broadcaster sets the rules of what to expect. Folkradion (The People’s Radio) dealt with current affairs for young people between about 18 and 35 years old. The explicit aim of this show was to tell stories that the other news shows did not. Folkradion could report on male prostitutes as well as covering a strike among municipality employees, but always with a youth perspective. There was a constant negotiation among the employees, spread out across Sweden with the central desk in Stockholm, about what counted as worthy for the daily slot from Monday through to Friday. Concerns amongst the employees were thus: what is an issue for this specific public? What can this gathering deal with?

Folkradion worked actively with audience participation. Emails from listeners were read out during the show. A question was articulated in relation to the main topics - this also influenced the priority of the day’s stories so that the topic most prone to start a lively discussion became the headline - and asked during the daily broadcast, as an invitation for the audience to call in to an answering machine. The messages on the answering machine were edited during the broadcast and ended each show as a way of amplifying the people’s voice and recognising their importance in the making of the show. Not everybody agreed that the issues raised were of public concern. The show was repeatedly scolded by some listeners in emails and on the answering machine for being too red, as in politically left-wing, and for being too feminist—often in combination.

At Swedish Television one of the main concerns was how to enable more dialogue between themselves and their audiences, and how to allow the audience to contribute or influence content for their TV shows. While the staff at Swedish Television had a lot of accumulated experience of how to produce TV shows, at that time they did not have as much experiences of how to integrate these with digital platforms such as the internet and mobile phones. Anticipations and hopes of what these fairly new technologies could engender in terms of new modes of participation were confronted by concerns and worries. What if participants engaged in undesired ways, such as uploading images that they did not have the legal rights to, bullying other members of the web community or expressing opinions that went against the democratic values of public service? Even more of a failure, or
risk, was no participation—to invite participation, but have no participants who wanted to contribute, engage or share. One of the reasons for these concerns was most likely that participation also challenged the criteria for success and the notion of the author. The hierarchy or asymmetry between the web and television was constantly manifested through stressing that all invitations for participation should in one way or the other result in something that could be broadcast on television. Participation without a clear outcome that could be shared with a larger audience was less valued.

Our experiences from Swedish Television and Swedish Radio were important in how we began to teach each other as much as we knew, through bringing up dilemmas from our respective working environments and more. Some of these dilemmas were brought into the first joint project that we proposed to Växjö Art Gallery through Kristina’s affiliation with Marie Denward at the Interactive Institute. At a meeting with the director, Bengt Adlers, we presented a sketch of an answering machine-based game of Chinese Whispers, or Telephone in American English, on a fat-stained

Picture 1: Poster inviting the public to play [visklek].
piece of paper. A few months later Bengt Adlers had printed flyers for the coming exhibition, that he had given the name \textit{visklek}\textsuperscript{1}.

Our \textit{visklek} started with workshops with young people in and around Växjö, where we asked the workshop participants to write a postcard from their own neighbourhood. Five stories were chosen and recorded by the authors. Each story was set as a message on an answering machine. Posters with an invitation to play and call a number were put up in the town. When somebody called in they would hear a standard message with instructions, ending with the invitation: “Play with us”. It was followed by the last recorded message, and a beep after which the caller could leave their version of the story. After four calls it went back to the original message. The five answering machines were running for about two months. About a thousand calls were made.

In the design of \textit{visklek} we did not work with avant-garde-technology, but technologies that were already part of people’s everyday lives and relations. The game Chinese Whispers is also a game that a lot of people have played. By putting these into slightly new relations, we designed what we called a non-anxious communication system. Rather than trying to prevent misunderstandings or misuse, the system was designed to connect through misunderstandings, as it was expressed on a blog (Turbulence 2005).

When we started to work on \textit{visklek} we noticed that we were learning together. We were still learning from each other, but more and more—and this points towards the design of this thesis—we were learning together from shared experiences. To be able to continue our joint work we left our jobs at the public service stations and started to work together at the Interactive Institute in Växjö, in the studio called [12-21]. The research approach in the studio was very influenced by the focus on issues, gatherings and democracy in the intersection of Participatory Design and feminist technoscience. During our time at the Interactive Institute we continued

\textsuperscript{1} Visklek is the Swedish equivalent to Chinese Whispers and is literally translated to ‘the whispering game’.
our work with participation and storytelling through mundane technologies, for example through the projects [glasrörd] and [ljudstråk].

Throughout our collaboration the crafting of invitations for participation has been an important aspect of our work. When inviting to [visklek] we used posters, flyers, the message on the answering machine and more. Since then we have continued to craft invitations as a way of articulating an area of curiosity, and a proposal of how to engage with it. This area of curiosity, that we have worked with since then, we now frame as ways of living with technologies.

This area of curiosity also continued throughout the last project that we did at the Interactive Institute. It was called [ordlekar], and was an attempt to bring our work closer to academia. In [ordlekar] we experienced many difficulties and conflicts, most of all related to the role of artistic work in knowledge production. What is knowledge? Who has the legitimacy to define what knowledge is? How can knowledge be produced?

The project we brought into [ordlekar] was stitching together—a sewing circle where we invite people to embroider SMS by hand and using an embroidery machine. Again, we invited people to engage with everyday technologies and practices, but put them in slightly new relations. In this case we combined text messaging with embroidery. Thereby we also re-ordered different kinds of knowledges, practices, temporalities and ways of living with technologies. It became a project where we could, in practice, explore ways of living with technologies, issues it generates and ways of gathering around them.

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2 In [glasrörd] we explore the rituals around gift-giving by collecting and exhibiting stories and gifts. We visited seven young people in their homes and asked them to tell us personal stories about their gifts. The objects were then wrapped again and exhibited at the Swedish Glass Museum in Växjö, Sweden, together with the stories. To be able to hear the stories the visitors had to touch the object.

3 [ljudstråk] is a library of audio walks, told by young people in Ljungby, Sweden. Every audio walk starts at the Museum of Legends, just as the project itself started off with the tradition of oral storytelling in this region, Sagobygden.

4 [ordlekar] was financed by the Swedish Research Council’s division for artistic research and was carried out in a collaboration between the Interactive Institute and Växjö University, as well as with collaborators at Blekinge Institute of Technology, University of Bristol, Universidad de las Américas and IBERO, and collaborators without institutional affiliation.
The conflicts concerning knowledge production in [ordlekar] made us look for contexts where we would feel at home, with common ground in terms of academic and artistic practice as well as philosophy of science. We needed advice and we wanted constructive criticism. We wanted to continue to work together. When there was a call for two PhD positions, one in media and communication studies and one in interaction design, at the School of Arts and Communication, K3, at Malmö University, Sweden, we applied for one position each. We applied with individual letters of motivation, but with a joint project plan, entitled Collaborative knowledge production in and through everyday storytelling which included stitching together. Our applications thus meant that either we did the PhD collaboratively or neither of us did it.

What we brought with us into our collaborative PhD work was thereby not a well-defined problem but an invitation that articulates an area of curiosity—ways of living with technologies—and how to engage with it, although that is not how we framed it at the time. To further explore this area of curiosity we have, throughout our thesis, continued to work with the invitation to embroider SMS, but in new collaborations and under a new name, Trådar—en mobil syjunta, hereafter translated as Threads—a Mobile Sewing Circle and shortened to Threads. This version has been developed and carried out in collaboration with Swedish Travelling Exhibitions (Riksutställningar), Vi Unga (a youth-led organisation for leadership, democracy and entrepreneurship), the National Federation of Rural Community Centres (Bygdegårdarnas Riksförbund), Studieförbundet Vuxenskolan (a national organisation arranging study circles), and Malmö University. Threads, as well as the collaborating partners and participants in Threads, are major actors in our doctoral work and here in this thesis.

Since we were accepted for the PhD positions we have faced the challenge of being able to adhere to the norms and standards of an individualised

5 The title of the applications Collaborative knowledge production in and through everyday storytelling indicates that we had more of a narrative interest at the time, which is now combined strongly with an interest in materialities; and how narratives and materialities are always entangled in each other. However, the title does show that, as is still the case, we wanted to focus on collaboration and knowledge production.
Picture 2: [glasrörd]

Picture 3: [ljudstråk]
meritocracy in academia and yet stay with the trouble of collaborative work. Another challenge has been to find ways to combine our artistic and academic practice.

Through this work two more specific research aims have emerged, which will be more specifically addressed in the following section.

1.2 Aims

Both interaction design and media and communication studies are relatively young disciplines and are continuously challenged, both in terms of content and research methods, by the changing landscapes that they aim to know and possibly participate in making. Furthermore both fields are characterised by interdisciplinarity.

The School of Arts and Communication, shortened to K3⁶, where we are situated, has had the right to grant doctoral exams in interaction design and media and communication studies since 2010, within the shared research area New media, public spheres and forms of expression, shortened to NMOG⁷. Within this research theme, more specific proposals of how to collaborate across these two disciplines have been made (cf. Löwgren and Reimer 2013a and their work on collaborative media practices⁸). Beyond the shared research theme of NMOG, K3 as a research environment is characterised by a push towards practice-based research and collaborations with stakeholders outside of academia. Amongst our colleagues at this department, who have been part of our journey, there are researchers trained in the humanities, social sciences, design and artistic research, who all use different methods, theories and criteria for judgement. Some of them cross the research categories, or were never focused on a single discipline, and others stay loyal to their training.

We have taken NMOG as an invitation to reconsider both what to know and how. The two aims with this thesis try to take such a call for new ways

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⁶ K3 is an acronym for Konst, kultur och kommunikation which literally translates to art, culture and communication (K3 n.d.). It started in 1998.
⁷ NMOG is an acronym for nya medier, nya offentligheter och nya gestaltningsformer in Swedish (NMOG n.d.).
⁸ The book revisits and re-conceptualises some of the research that has been produced at K3, such as Avatopia (Gislén 2003; Gislén et al 2009), KLIV (Hillgren 2006; Björgvinsson 2007), New Media, New Millenium (NM2) (Lindstedt et al 2009) and Arduino (Cuartielles forthcoming).
of knowing seriously. One aim addresses the shared research theme of NMOG, with particular focus on publics. The other one is guided towards ways of doing collaborative and practice-based research across disciplines.

The first aim of this thesis is to explore potentialities of publics-in-the-making, which refers to publics that come out of making things together and where issues and participants are not preset but in the making. This will more specifically be done through the collaborative artwork Threads—a Mobile Sewing Circle. Publics-in-the-making builds on and reactivates notions of publics and should be understood as an alternative to deliberative, linguistic and semiotic understandings of public engagement and participation. Publics-in-the-making is rather an example of what Michael (2012) calls “designerly public engagement” along with others that we characterise as such: participatory design (cf. Kensing and Greenbaum 2012 for an overview), speculative design (Michael 2012b), critical making (Ratto 2011a; 2011b) and media archaeology (Parikka 2012).

The second aim of this thesis is to add an exemplar to the existing repertoire of how to accountably create knowledge across disciplines and practices. This means to recognise previous work, but also acknowledge that it is possible to re-pattern it. The second aim will primarily be addressed through the figuration patchworking, which is an attempt to perform the argument that knowledge is produced in specific relations and thereby challenges the privileging of discrete human knowledge producers.

In the following section we will further situate these two aims.

1.2.1 Exploring and speculating on potentialities of publics-in-the-making, across disciplines and practices

As mentioned, the framing of NMOG has been one strong influence in shaping our thesis work. In NMOG new public spheres are discussed in plural rather than singular and are argued to be closely related to the development and practices of new media and new forms of expressions. In parallel to these public spheres, which is a concept carrying a strong connection to Habermas (2003 [1964/1984]), that are engendered by new media, we would also like to include publics, that are more issue-driven and share a legacy with Dewey (1927 [1991]). Typically, issue publics gather when the assumed experts, for example in laboratories
(the dominant Western cultural imaginary of where knowledge production and technological innovation is located), or elected representatives, for example in parliaments (the dominant Western cultural imaginary of where negotiations and decision-making about laws and regulations take place), are unable to resolve the issue in question. Such issues and concerns could be surveillance, copyright, authorship, ownership and well-being. Publics that are issue-driven, rather than associated with a specific location such as a coffee house, square or internet forum, do, however, not entail independency of location or material conditions. On the contrary, issue publics are always situated somewhere.

Living with contemporary technologies of all kinds is so complex that all the various ways of living with them cannot ever be fully tested, anticipated or regulated, for example in labs or parliaments. This means that experiments, negotiations and decisions about how to live with technologies also take place in the mundane everyday life. How a mobile phone will come to matter, for example, is not only negotiated and decided upon in usability labs but also through use. And, simply through living with technologies we become implicated in a range of issues. Take the mundane practice and necessity of plugging a digital technology device, such as a mobile phone, into the electricity grid. In Sweden, this means that you are in touch with, for example, nuclear power, since this is one way of producing electricity in this country. In times of proliferating numbers of electronic media devices, it was taken into use in larger scale in the 70s in order to meet the demands of increasing electricity usage. However, nuclear power was taken into use before there was an agreement on how to store the radiating waste for long time periods to come. And there is still no such decision in 2013.

The above example implies that issues of living with technologies are rarely confined to one location but are most often entangled in multiple temporalities and locations, and are thereby not so easy to comprehend, sense, or resolve. It is rarely a given as to who is involved, concerned, or will in one way or another be affected. There are, in other words, several uncer-

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9 Sweden and Finland are two of the countries that have gotten the closest to make decisions on how to and where to finally dispose radiating waste. Cf. Strålsäkerhetsmyndigheten (2013) and Posiva (2013).
tainties and complexities involved, including ethics and politics, which we suggest have consequences for how we could imagine that a public gathers, how issues are understood, sensed, or shared, as well as what we could expect from such a gathering.

We could, for example, imagine publics that are driven by curiosity rather than pressing issues or problems. We could also imagine that these would engage with issues of living with technologies through direct engagement with these technologies rather than through debate and deliberation. In other words, this would mean to gather around specific materialities, technologies or objects rather than issues. Furthermore we could imagine that instead of resolving issues, publics could care for issues, which means to stay with the trouble of living with technologies and make ethical cuts that respond both to constant change as well as sedimentations.

It is in this context that we propose publics-in-the-making. The potentialities of publics-in-the-making will be explored through ours and others’ engagement with Threads. In other words, it will be explored through practice and in collaboration. This is thus the first aim of this thesis.

The second aim of this thesis, which is to add an exemplar of how to accountably produce knowledge across disciplines and practices, will first of all be addressed through our use of the figuration of patchworking. The patchworking ways of knowing is also our response to various calls for new modes of knowing mess (Law 2004) and complexities (Law and Mol 2002) in what we could describe as technological society.

The patchworking ways of knowing is however not only made to know mess or complexities, it also offers ways of knowing that which does not yet exist—in this case publics-in-the-making. It thereby also draws on designerly ways of knowing, which is usually to know through explorations of possible futures (cf. Frayling 1993; Halse et al 2010; Brandt et al 2011; Koskinen et al 2012). Since our research aim is to explore and speculate on potentialities of publics-in-the-making we have also engaged other stakeholders outside academia. Here we align ourselves with other researchers that, both in social science and in design, have done what some would call research ’in the wild’ (Callon and Rabeharisoa 2003).
Patchworking ways of knowing also rests on relational ontology and situated knowledges. For such philosophy of science and understandings of agency we have mostly turned to feminist technoscience and science and technology studies (STS). Ylva Gislén (2003), who was the first PhD student to defend her thesis at K3, put much effort into articulating how feminist philosophy of science could be of great use when it comes to understanding, developing and defending knowledge production through practices such as design, media and art, without claims of generalisability or complete repeatability. Her work was heavily influenced by Haraway and specifically Haraway’s (1991) arguments for situated knowledges. In Chapter Three there will be further discussion on situated knowledges as epistemology and how Haraway has developed it to also express ontology.

Throughout the thesis we will attend to how transdisciplinary, interdisciplinary, postdisciplinary and crossdisciplinary research is proliferating. This also motivates the aim of researching how to do so collaboratively, and at doctoral level. We argue that, to do so, it should be done in practice. The topic of public engagement, we argue, is generatively explored through practice-based research, in collaborations outside of academic institutions and across disciplines.

Different parts of the thesis do different work for the two aims. We will come back to that at the end of this chapter, under the heading walk-through. But first we will discuss disciplinary research in relation to topical research. Then we will situate the specific topic of this thesis—public engagement in issues of living with technologies—in our respective disciplines. This is done in two individually written texts that we call frames. Kristina Lindström is responsible for the frame on interaction design and Åsa Ståhl for the frame on media and communication studies. There is also one co-written frame where we introduce feminist technoscience, which we believe to be helpful in joining our respective disciplines on this specific topic.

1.3 Disciplined—interaction design and media and communication studies
This work both draws on and offers contributions to ongoing movements in the two disciplines in which this thesis is defended: media and communication studies and interaction design. While there are some areas of
these two disciplines that overlap, such as an interest in information and communication technologies, there are also differences. Löwgren and Reimer (2013a, p.10-11) describe one of the main differences between these two disciplines as being in terms of modes of inquiry, which we also understand as different temporalities. Media and communication studies has mostly focused on existing information and communication technologies through critically describing and analysing them. In interaction design the research is mostly done “…through experimentations with the not-yet-existing” (ibid, p.11). The two disciplines thereby have predominantly different researcher positions. Through their work on collaborative media practices Löwgren and Reimer (ibid) also propose joint interests and potentials for the two disciplines. They envision that collaborative media practices are best known through combining the analytical and critical skills of media and communication studies scholars with designerly interventions by interaction design scholars. One way of framing this approach is that they work topically, or thematically, at the same time as using knowledge and approaches from respective disciplines.

In line with Dourish and Bell (2011), who have done interdisciplinary work on the topic of ubiquitous computing, we want to emphasise that doing topical research is more than approaching the same topic from two distinct perspectives or disciplines. In their writing they articulate that concepts and approaches from the respective disciplines are reconfigured in or through such topical encounters:

For us, hybrid practice captures the sense that, as opposed to attempting to conduct work from our individual home disciplines alongside each other, we are conducting a new style of work that draws on each of our perspectives yet is reconfigured for the topic at hand—taking a sociotechnical perspective instead of studying the social and technical in parallel. (ibid, p.191)

Such an approach, Dourish and Bell argue, means to “...engage in interdisciplinary practice rather than interdisciplinary projects” (ibid). This thesis is most of all a result of interdisciplinary practice, where we have had to negotiate disciplinary specificities and come up with concepts that could work for this particular research topic. Patchworking is one such example. There are, however, also some parts that are individually
written, and they do the work of monodisciplinarity. In the words of King (2011a), this would mean doing both intensive and extensive academic work.

In her writing on transdisciplinary networks, King\(^{10}\) argues that both intensive and extensive academic work is needed, but reacts to what she calls the “academic enterprise” of intensive disciplining. The intensive scholarship, she writes, is inwardly a discipline and a more closed membership, whereas the extensive is transdisciplinary and has what could be called peripheral participants\(^{11}\). Characteristic of transdisciplinary research, for King, is:

> [...] making use of what you have on hand and seeing what you can put together with it. [...] Thus, it is not a kind of scholarship that works first to design and control its research model, to lay out a menu of research methods and choose the proper ones, to carefully investigate subject matters that can be seen finally to be integrated at some point of intersecting convergence. Its forms of robust knowledges are clearly contingent and primarily suggestive—in other words pointing beyond itself. (ibid, p.300)

The two of us meet in our joint interest in the topic of **public engagement in issues of living with technologies** (see Frames 1 and 2). This means that we attempt to draw on and aim to displace different understandings, models, ideals and ideas of publics and public engagement. So, rather than gathering around a discipline, such topics or themes often run across multiple disciplines. With King’s concept, we thus do extensive work. To do this kind of extensive work we argue that we need to partly reconfigure concepts and approaches from each discipline. This means to engage with interdisciplinary practice, rather than simply bringing different perspectives to one topic or interdisciplinary project (Dourish and Bell 2011). We draw on emergent turns in interaction design and media and communication studies as well as in adjacent disciplines, towards sociomaterial entanglements, agency in assemblages between humans and nonhumans as well

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\(^{10}\) The book *Networked Reenactments. Stories Transdisciplinary Knowledges Tell* is marked as a cultural studies / feminist theory book by the publisher. It is also, arguably, a book about mass media, globalization and social aspects thereof. King, who did her PhD at the History of Consciousness program at University of California Santa Cruz, writes in a science and technology and posthumanist tradition.

\(^{11}\) See also King’s (2011b) tribute to Susan Leigh Star.
as temporal shifts which focus on ongoing practices. This means that we depart from some of the discursive, linguistic and cognitive genealogies that mark our two disciplines, and turn to work done within feminist technoscience (see Frame 3).

One implication of doing topical research is that not everybody in one’s discipline necessarily recognises the relevance for the particular knowledge production. For example, when the papers in this thesis, and some papers that have not been included, have been returned from peer-reviewers, we have almost without exception had contradictory peer-reviews for the same paper. Whereas one reviewer can dismiss our writings as off topic and without interest for the discipline or field, another can claim that our work is exactly the direction that the discipline or field should head towards. Repeatedly our papers have been sent to yet another reviewer. Furthermore not all practices and references that we discuss as public engagement are articulated as such elsewhere. For instance, most work done in, for example, participatory design, media archaeology or by our collaborating partners outside of academia such as the Swedish Travelling Exhibitions, is not framed as public engagement. Through patchworking publics-in-the-making, in our artistic and academic practice, we thereby aim to make knowledge and practices travel between disciplines, fields, communities, organisations and institutions, which implies the creation of partial connections between them.

1.4 Walk-through
In this section we will provide the reader with a walk-through of the different chapters of this thesis.

In Chapter Two we introduce Threads which we have patchworked and through which we have collaboratively created most of the material on which this thesis is based. First we provide an overview of the project and how it has evolved in relation to the collaborating partners’ interests and more. We also provide a visualisation of how the project has been re-organised over the years, in what we describe as three different phases.

12 See Barry and Born (2013) for a thorough critical and generative discussion on challenges with assessing and evaluating interdisciplinary work.
The visualisation shows an estimation of how many sewing circles have been hosted, and where. We also describe how the invitation to *Threads* is crafted. When we discuss the invitation we primarily focus on three modes of inviting: an educational sewing circle where we hand over the role of being hosts to local actors; the materials that we have put together and that travel with *Threads*; and various web platforms. The chapter ends with a section where we situate the collaborating partners through their focus on 'folkbildning', which is a form of public engagement in Sweden.

In *Chapter Three* we write about politics of method. We position the thesis as a response to various calls for new ways of knowing in both design-oriented research and the social sciences. We do so as a way of staying with our disciplines but also widening the scope. We explain what we mean by *patchworking* as a figuration, partly through relating it to other figurations such as the cyborg. The explanation is also done through making explicit what it troubles, for example linearity and discreteness, and through what it suggests: situated knowledges, multiple entry- and exit-points, co-emergence, collaboration and entanglement.

Under the heading *relations and mutual constitutions* we discuss relational ontology, on which *patchworking* rests. This is done through references to, for example, actor network theory (ANT) and the string-and-knot game cat’s cradle.

*Patchworking* is a practice that suggests specific ways of knowing. It allows us to not only write *about* but to also perform the figuration in this thesis, which thus resonates strongly with aim two. We specify that *patchworking ways of knowing* are to know through collective interventions and to *stay with* such interventions. In these discussions we draw both on work in STS and feminist technoscience, and other methodological references within design research and the social sciences. The section ends with a discussion on the practice of writing collectively. In the last section of Chapter Three we give a kind of reading instruction for the patchwork in Chapter Five. We describe how we have worked with papers and articles as patches and then seamed them together to say something more specific about *publics-in-the-making*. 

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In short this implies that the patchworking figuration suggests and enacts ways of knowing, and a narrative position, that rest on relational ontology.

In Chapter Four we expand upon our area of curiosity: ways of living with technologies, for example by, stating that through materialities and practices such as the use of media devices and the internet, humans and nonhumans are dependent on others’ decisions. We argue that multiple uncertainties of living with technologies paradoxically call for engaged publics and public engagement projects, with the aim of democratising science and technologies, and that, simultaneously, engaged publics and public engagement projects seem insufficient. To discuss this paradox further we draw on and divert from various ideals, ideas and models of public engagement and publics to suggest a direction towards publics-in-the-making.

The concept and practice of publics-in-the-making is meant to provide an approach or means to handle the paradox of public engagement outlined above. What characterises this proposal, or direction, is that it invites direct engagement with everyday entanglements of living with technologies, and that we understand publics as emerging. Our understanding of publics as emerging is partly based on Marres’ (2012a) reading of American pragmatism in combination with other scholars such as Latour (2005a), Stengers (2005) and Haraway (2008). These discussions are then coupled with different modes of public engagement. Based on Michael’s (2012b) ideal types of social science public engagement with science and designerly public engagement, we propose some different versions of designerly public engagement that draw on both social science and design. We are primarily referring here to speculative design, participatory design, critical making and media archaeology.

The fourth chapter ends with some tentative discussions on how publics-in-the-making align with and deviate from the other modes of designerly public engagement.

In Chapter Five the two aims are drawn together through practising our patchworking way of knowing in order to explore the potentialities of publics-in-the-making. This means that Chapter Five is a kind of patchwork that consists of patches, seams and re-patternings. The patches
are already published and peer-reviewed articles, papers and one book chapter that are all based on Threads. These texts have responded to specific calls and circumstances.

Through three seams we reactivate the patches to articulate what we consider to be potentialities of publics-in-the-making. The first seam deals with how Threads is becoming to matter though relational reorderings and patchworking which requires the investment of effort. The second seam enacts a shift from representation of issues to co-articulation of issues. In the last seam we argue that the engagement in Threads also becomes a way of practising caring curiosity, in contrast to solving issues. Whilst the patches are placed in more or less chronological order, the seams allow us and the readers to move across time. The patchwork ends with two individually written texts where we discuss how our work with patchworking publics-in-the-making contributes to possible re-patternings of interaction design and media and communication studies, in regard to the topic of public engagement in issues of living with technologies.

Chapter Six is a summary and conclusion of the thesis in English, and then follows Chapter Seven with a summary in Swedish.
Media and communication studies – public engagement in issues of living with technologies
Written by ÅSA STÅHL

Descriptions and boundary making of media and communication studies differ over time and space. As Katz et al (2003) put it in their grouping of canonic texts in media research, since the 1940s there have been the so called Columbia school, the Frankfurt school, the Chicago school, the Toronto school, and British Cultural Studies (the Birmingham school). All of these research traditions still have followers. I expected to grow up academically with some of the scholars in the latter one, British Cultural Studies, when I came to do an MA in Radio at Goldsmiths, University of London.

Looking at the work carried out at Goldsmiths today, one can find different ways of grasping the discipline, of which I will stay with two. One recent simplified model of media research can be found in Couldry’s latest book Media, Society, World: Social Theory and Digital Media Practice (2012). He is a professor at the department of Media and Communication Studies, who, coming from audience research, currently teaches a course on Media Rituals. His description of media research looks like a pyramid which holds, depending on the researcher’s focus, emphasis on political economy of media, media studies/textual analysis, medium theory and socially oriented media theory (2012, p.7). In other words, he points to media production, distribution and reception, media texts, technologies as such and the use of technologies and media content as the defining parts of media and communication studies. Couldry regards his contribution in this book as “...theory focusing on the social processes that media constitute and enable. Its disciplinary connections are primarily with sociology, not literature, economics or the history of technology and visual communication” (ibid, p.8).
Kember and Zylinska, professors at the same department, who collaboratively have been teaching a course called After New Media, state in their latest book *Life After New Media* (2012) that media studies can be divided into two broad methodological frameworks:

Those from the social sciences and communication-based disciplines typically approach the media through a mixture of empirical research and social theory, with questions of political structures, economic influences, social effects, and individual agencies dominating the debate. Those from the humanities in turn predominantly focus on what different media “mean”; that is, they tend to look at media as texts and at their cultural contexts. (ibid, p.xiv-xv)

Whereas the historicising that Kember and Zylinska make of media and communication studies and the one made by Couldry are rather similar, their positionings differ.

Kember and Zylinska position their book as a way out of the generalising dichotomisation between different methodologies portrayed above. They do so by stating their philosophical lineage to partly be that of feminist critical thinkers such as Donna Haraway and Karen Barad. I regard Kember and Zylinska as media and communication studies scholars working with the tradition of science and technology studies (STS) and feminist technoscience and thereby as part of those who study language and materiality, culture and politics together, without separating those or other oft-used binaries such as theory and practice. In explicit relation to Couldry they put forward that his research is based on too much of a “...static model, one that positions media as a primary term, a thing than then gets “mediated” and becomes part of a “media flow” as a result of something (interpretation, circulation, etc)” (Kember and Zylinska 2012, p.20-21). The separation Couldry does, in line with many other scholars, of more or less discrete entities, such as the social and the media between which there is a gap in need of mediation, is ontologically different from one that takes mediation as an originary process (ibid).
At the same department at Goldsmiths, which is globally influential, an agreement on the historicising is thus as notable as are the major differences in what are considered wise continuations of media and communication studies.

Koivisto (2012) writes that just because media and communication studies exist as a field does not mean that there is a shared set of concepts, or that it is even clear what object to study. Rather, media and communication studies is defined socially and institutionally. As Hjarvard (2012) states, in Sweden and the neighbouring Nordic countries, the discipline has grown out of social sciences and humanities, psychology as well as technological studies. Melin (2013) specifies the Swedish disciplinary history as being linked with political science, sociology, psychology and cultural studies. In the contemporary landscape of media and communication studies in Sweden, it can be noted that the PhD education at some departments is run in programmes with other disciplines such as gender studies at Södertörn University, and, as in our case at Malmö University, interaction design.

In dialogue with, for example, Nordic media and communication scholars who have written on the topic of field and disciplinary development, Corner (2013) revisits the issue of fragmentation within media research. He argues that media and communication studies should neither be considered a field nor a discipline, but as several fields.

To recognise that, despite overlaps, these draw on rather different conceptual resources, position themselves within diverse interdisciplinary coordinates, hold different aspects of media as objects of primary interest and have relationships in which disjunction and mutual indifference are becoming as prominent as dialogue. (ibid, p.1012)

However, if there is one concept that media research has showed sustained engagement with, then Corner suggests that it is that of ‘public sphere’, which I will come back to in this framing.
Concerning what object to study, Fornäs (2008) had another approach than Corner, when he wrote of ten contemporary currents in media studies a few years ago. I cannot fully do justice to them here, but they span the humanities’ close readings of texts and the social sciences contextualisations, and their intersection with technological studies that digitization contributes to. He also foregrounded archival research and an interest in historicity along with spatiality and presentism. Fornäs thus emphasised different temporalities. What he called the material current also invites “...creative methods from arts and design research as well as from science and technology studies (STS)” (ibid). Fornäs made an effort to conceptualise them all as beneficial for each other, and stressed that the differences should not be seen as gaps. Fornäs’ effort is commendable, but in my view such an effort risks effacing the edges of each current and that risk means that they cannot be as generative as they have the potential to be. To me it raises questions on incompatibility, such as what is left of a concept and a practice when they are moved between different academic traditions that have mutually excluding features? This thesis suggests an answer through consequently staying with the philosophy of science that is outlined in Chapter Three and concretised through the figure of patchworking. In Chapter Five I will also explicitly address it in relation to media and communication studies.

Perhaps the broad range of objects of study, concepts and methodologies that has been flagged above creates openings for media and communication studies to engage with what has been previously outside of the dominant traits. For example, the collaboration between media and communication studies and interaction design that this thesis pursues is not part of the normal curricula in media and communication studies. However, it is one that has generative potentiality. In ”Pushing at the Boundaries of New Media Studies”, Wakeford (2004) reviews four texts from material culture studies and feminist technoscience that she, at the time, considered to be helpful for new media studies because they suggested an awareness of “...connections between mundane technological experiences and wider social and cultural transformations” (ibid). An important aspect in Wakeford’s push of new
media studies was to sustain critical dialogues with designers and producers of new technology. She called for interventions that drew on the feminist technoscience fare, which has, in collaborations with systems designers, challenged universality and standards based on experiences in the margins, and Kember’s cyberfeminist, or feminist technoscience, discourses to engage with hard- and software developers, as well as Haraway’s constant attention to responsibility in the construction of technologies.

What Wakeford drew together is thus kin with what we do here in this thesis: media and communication studies together with interaction design that overlaps through feminist technoscience and its attention to materialities and practices.

Despite its openness for transdisciplinarity, there are few media and communication studies scholars in Sweden and the Nordic countries who have allowed the currents of new materialism into their practice (for a few exceptions cf. Strandvad (2011) “Materializing ideas: A sociomaterial perspective on the organizing of cultural production”, Sundén and Sveningsson (2012) Gender and Sexuality in Online Game Cultures. Passionate Play, Gansing (2013) Transversal Media Practices. Media Archaeology, Art and Technological Development and Vestberg and Raundalen who run the Ecology, Environment, Culture Network that kicked off with a symposium in 2012). However, elsewhere it is proliferating, which can be noticed through heterogenous references such as Stacey and Suchman (2012) Kember and Zylinska (2012), Dolphijn and van der Tuin (2012), Wajcman and Jones (2012), Gabrys (2011), King (2011a) Cubitt (2011), Packer and Crofts Wiley (2012a; 2012b) and Parikka (2011a; 2011b; 2012). Stacey and Suchman (2012), for example, outline how media studies, or more specifically film studies, and feminist technoscience, or with a broader scope, STS, can have a generative dialogue on “...technical recreation of life. More specifically, a concern with the moving practices of animation, and with what gets rendered invisible in discourses of automation, is central to debates regarding the interdependencies of bodies, machines, labour and care” (ibid, p.3). With new technologies, labour is delegated to machines, but, importantly, the labour is only displaced, it has not
gone away. Media technologies, for example, need care in order to work. Situated in a department of media and culture studies at Utrecht University, Dolphijn and van der Tuin write:

New materialism is a cultural theory for the twenty-first century that attempts to show how postmodern cultural theory, even while claiming otherwise, has made use of a conceptualisation of “post” that is dualistic. Postmodern cultural theory re-confirmed modern cultural theory, thus allowing transcendental and humanist traditions to haunt cultural theory after the Crisis of Reason. New materialist cultural theory shifts (post-)modern cultural theory, and provides an immanent answer to transcendental humanism (Dolphijn and van der Tuin, 2012, p.110).

Gabrys (2011, see also Gabrys 2012) has followed digital rubbish, which makes her draw conclusions of overlapping temporalities, since the electronic waste (e-waste) has effects in all kinds of uncertain directions.

To the historicising and presentism that has traditionally marked the discipline, this current, materialist, turn adds an engagement with the not yet existing. This opening for an understanding of multiple temporalities has consequences for philosophies of science, for methods for knowing as well as for how to write on scholarly topics. Let us therefore turn to the topic of this thesis: public engagement with issues of living with technologies and how it relates to media and communication studies.

Media and communication studies scholars have had a long-standing interest in technologies. To start with, this primarily concerned mass media. However, in line with the development of new technologies and the rise of new media, the discipline is also changing. Two polarised understandings emerge in the sketching out of its history, which are of importance when dealing with the topic of living with technologies: on the one hand, technological determinism, which can be used as an invective (and more often the ones who position themselves as such would call it medium theory) and on the other hand the social shaping of technology or constructionism (cf. Thacker 2004; Lievrouw 2006a; Livingstone
and Lievrouw 2006; Boczkowski and Lievrouw 2008; Potts 2008; Morley 2009; Wajcman and Jones 2012; Kember and Zylinska 2012; Bolin 2012; Gansing 2013; Melin 2013). It is worth noting that although I write here that there are two understandings, it must be kept in mind that this is not a clear-cut dichotomy: few scholars would say that they are either or, and especially, few would say that they are determinists. However, from what I have seen in the discipline, it has consequences for what one focuses on as a researcher as well as whether the technological or the social is deemed the most important.

Technological determinism works with the material as if it has properties that lead to unavoidable effects, the antagonists would say. Those scholars often focus on historicising through a particular media, rather than on content or socio-economic factors (Potts 2008). McLuhan (cf. 2001 [1964]) and Kittler (cf. 1996) are often boxed as technological determinists because of their work with technological changes as shaping culture. In giving account of technological determinism, Durham Peters says that the ongoing debate around what I think of as concerns with technologies, media, materiality, causality, effects and agency “… reproduces the late nineteenth century debate of free will versus infinitely retraceable causation” (2012, p.40). When polarised, the other hand holds what Potts (2008) calls the critical Left position, which is the social shaping of technology. Intention and human agency are arguably characteristic of the social shaping of technology (ibid, p.4).

This thesis positions itself in neither technological determinism nor social, cultural or human determinism. Rather, in Chapter Three it is argued that this thesis situates itself in understandings of agency that draw on and are kin with feminist technoscience, or what is sometimes called STS, actor-network theory (ANT), ANT and after (ANTa), material semiotics, material turn, feminist materialisms, new feminist materialism and posthumanism. In 2004 Couldry explored the possibility of combining ANT and media studies. We argue that it is timely to pick up an ANT-heritage and, in comparison with Couldry’s dismissal from being “…a total theory of media” (Couldry 2004, p.11) because of “…its insufficient
attention to questions of time, power and interpretation” (ibid), this thesis leans more toward later versions of ANT and feminist technoscience, which are explicit about temporality and power, in its focus on, for example, care and labour. This is, as mentioned, attended to in Chapter Three. Another difference in relation to Couldry (ibid) is that this thesis engages itself in practice with what Couldry was sceptical towards in text. Throughout the thesis what this situating entails is developed, but in short it tries to work with the specific topic of public engagement, with issues of living with technologies not from the perspective of audiences, users, representation or institutions, but with an understanding of performativity and agency in assemblage of humans and non-humans. I will now move on to the question of publics, which is another important aspect of our topic.

According to Livingstone, the study of publics has a long academic history in disciplines such as political science, philosophy and those dealing with culture, whereas audience studies have been developed in media and communication studies (2005, p.17). In either case, the two concepts of publics and audiences are inter-related. Livingstone outlines the relationship as sometimes foregrounded as an opposition, sometimes as if they have imploded.

When writing on the topic of publics in the western world it is almost unavoidable to pass by the theorician Habermas. His (cf. 2003 [1962/1984]) theories on preconditions for public discussions have influenced a wide range of disciplines, including media and communication studies. He wrote of an idealised form of publics, which was exclusive for the bourgeoisie, because they were capable of pursuing rational, deliberative, critical discussions and thus forming a public opinion that could have political consequences (see also, for example, Livingstone 2005; Lunt and Livingstone 2013). The relation between publics and capacity to act is central in this reasoning. With such conceptualisations of publics and publicness “...only certain groups, certain forms of communication, certain channels of participation meet the demanding criteria for ‘the public’ or ‘publicness’; others fail to qualify” (Livingstone 2005, p.25). Indeed, Habermas excluded plebeian publics (Dahlkvist 2003,
p.v. See also Peter Dahlgren 2002; 2005, p.152). These limitations in Habermas’ work make it peripheral to the work carried out in this thesis, although Habermas updated his ideas in the 1980s and “...moved away from a commitment to a singular conception of the bourgeois public sphere so as to recognise a plurality of public spheres” (Lunt and Livingstone 2013, p.92). For example, in one of Habermas’ (2006) later articles he puts forward empirical evidence of his ideal democracy, the deliberative; he writes optimistically of issues as a driving force for the formation of gatherings: “Although a larger number of people tend to take an interest in a larger number of issues, the overlap of issue publics may even serve to counter trends of fragmentation” (ibid 2006, p.422). Bruns (2008) engages with this very quote from Habermas and goes what he calls “beyond the public sphere”. Bruns writes of the possibility of networked issue publics, which consist of several, overlapping, publics. Bruns figures a patchwork based on the overlappings of issues and puts it in contrast to a mass-mediated public sphere:

What we see emerging, then, is not simply a fragmented society composed of isolated individuals, but instead a patchwork of overlapping public spheres centred around specific themes and communities which through their overlap nonetheless form a network of issue publics that is able to act as an effective substitute for the conventional, universal public sphere of the mass media age; the remnants of that mass-mediated public sphere itself, indeed, remain as just one among many other such public spheres, if for the moment continuing to be located in a particularly central position within the overall network. (ibid, p.75)

Mass media and newer kinds of media are constantly played out against each other, although, as Livingstone writes: “In a thoroughly mediated world, audiences and publics, along with communities, nations, markets and crowds, are composed of the same people” (2005, p.17). This means that Livingstone recognises that publics and audiences go together, which can be taken to emphasise that publics are also of concern for media and communication studies and not only for political science and philosophy as in her own historicising (see above). Baym and boyd (2012), for example, edited a special issue of the *Journal of Broadcasting and Electronic*
Media that takes Livingstone’s quote as its point of departure in exploring how contemporary publics and publicness can be understood in relation to social media, new media, networked culture and digital technologies.

One dividing line between publics and audiences is usually that of activity and capacity to act versus individuals that are unrelated to each other, but which can be traced and gathered by researchers. In Jenkins et al’s (2013) study on what they call spreadable media, which is a form of networked culture, they add nuances to such a distinction:

[...] fan communities often take on several key aspects of publics, complicating any model that would paint these fans as passive audiences. Instead, a media text becomes material that drives active community discussion and debate at the intersection between popular culture and civic discourse – conversations that might lead to community activism or social change. Some activist groups seek to transform audiences into networked publics with which they might work in promoting their causes. (ibid, p.168)

Not only does this thesis work with publics that include both humans’ and nonhumans’ capacity to act, it also decentres the privileging of text, talk, discussion, language and discursivity which Jenkins et al (2013) put forward, which I take to be one of the ways in which Habermas continues to influence contemporary media and communication studies (see also, for example, Miegel and Olsson 2013, p.9; Dahlgren 2005, p.149; 2002, p.10-11).

Carpentier (2011), for example, makes another dividing line, which goes between representation and participation, where the latter is divided between minimalist and maximalist democratic participation (cf. figure p.17. See also Jenkins and Carpentier 2013). Along these lines Dahlgren (2009) and Carpentier and de Cleen (2008) distinguish between public engagement and public participation. To them it is a gradual, but hierarchical, difference between public engagement, which is an early step, towards the more active public participation. However, this thesis does not deal with
representation or participation in formal political institutions, but rather with how publics, its members and their engagement as well as issues co-emerge.

Media and communication studies works predominantly with understandings and theorizations of publics, public engagement, technology and issues. There is not much precedence in media and communication studies in Sweden and the other Nordic countries on bringing creative practice into the work with these topics, although media archaeology (cf. Gansing 2013; Parikka 2012; Hertz and Parikka 2012) is put forward as one example in Chapter Four of this thesis. Chapter Four also expands on critical making (Ratto 2011a). Another encouraging recognition of how artistic and academic practice can go together is Kember’s and Zylinska’s writing on ‘creative media’, which they explain as: “...a new paradigm not only for doing media critique as media analysis but also for inventing (new) media” (2012, p. 203. See also Kember’s science fiction writing *The Optical Effects of Lightning* (2011b), which I understand as an integral part of her academic practice as a scholar in media and communication studies.).

The account of public engagement with issues of living with technologies in this thesis follows Marres’ (2005; 2012a; 2012b) version of American pragmatism and her dividing line between participation that is effortless and participation that requires work and labour. It is in line with the feminist technoscience approach in the rest of the thesis, which is stubborn in its acknowledgement of work that is so often obscured in relation to technologies through delineations of discreteness, linearity and (hu)man-centeredness.
Interaction design–public engagement in issues of living with technologies
Written by KRISTINA LINDSTRÖM

Interaction design is often defined roughly as: the practice of shaping or designing digital things, services or artefacts. Furthermore, most definitions also include an understanding or proposal of how these things become part of people’s everyday lives, through use. For example, Löwgren states that “Interaction design is about shaping digital things for people’s use” (Löwgren 2013, italics in original) and Crampton Smith describe interaction design as the practice of “…shaping our everyday life through digital artefacts – for work, play, and for entertainment” (Crampton Smith 2007, p.xi). Interaction design is thereby not only about designing new things but also about participating in the making of new ways of living with information and communication technologies.

Since interaction design is a fairly young discipline, it comes as no surprise that it is also often described in terms of how it draws on as well as diverts from other disciplines. When the term interaction design first started to be used in the late 1980s and early 1990s (cf. Moggridge 2007 for one such account), to describe the emerging practice of designing interaction between people and technological objects, it was most of all enacted as a combination between disciplines such as social informatics, human computer interaction (HCI) and industrial design. Since then interaction design has also been coupled with other disciplines such as service design, social innovation, art and media and communication studies. The reason for this is partly that information and communication technologies today are not the same as they were when interaction design first started to emerge as a discipline, and thereby also needs to expand its body of knowledge. For example, one of the...
Reason for coupling interaction design with media and communication studies at K3, is that computers today are used to a large extent as (collaborative) media rather than as tools (Löwgren and Reimer 2013a; 2013b). Other examples of research themes or programs within interaction design that are articulated in relation to emerging technologies and the practice of using them are mobile computing, physical computing, ubiquitous computing and the internet of things. Recently there has also been an increasing interest in potentialities of open hardware, for example through the articulation of open design (Van Abel et al 2011). Important to note here is that technologies and ways of living with them do not simply emerge, they are also made through the practice of interaction design and use. For example, a program such as ubiquitous computing and its arguments for seamless integration of computers in the fabric of everyday life (Weiser et al 1999) is not simply a response to computers moving beyond the computer screen. It also enacts such movements (cf. Dourish and Bell 2011 for similar reasoning).

Depending on how interaction design is assembled, it does different kind of work. Without making any claims to encompass all parts of interaction design, I would say that one of the most important objectives within interaction design in general has been to make technologies fit the needs, desires and dreams of people and thereby offer an alternative to the technologically driven innovation put to work, for example, in computer science. How this is done does, however, differ in terms of what kind of methods are used, what knowledges are put to work, how the relationship between actors involved is enacted and what motivates such engagements. To illustrate this point I will briefly attend to adjacent and overlapping fields that more or less share this objective with interaction design, but that approach it differently.

In early work done within HCI, so-called human factors were often articulated as a set of general human physical and cognitive capacities. These could then be used alongside technological capacities, in the shaping of new technological systems. The aim here was primarily to support work-tasks and to enable easy and error free
use. User-centred design (Norman and Draper 1986) on the other hand has a stronger focus on specific contexts of use and those inhabiting it. To gain such knowledge empirical methods such as surveys and detailed observations have often been used in combination with scenarios, personas and storyboards (cf. Bødker 1999; Carroll 1995; 2000; Nielsen 2013). However, user-centeredness does not necessarily mean that the design process is participatory. Instead users are often “...involved as records, subjects, or cases” (Carroll 1996, p.285). It is primarily within participatory design and co-design that potential users have been actively engaged also in the making of new designs, for example through prototyping (Ehn and Kyng 1991). This also means that, within participatory design, participation has been treated as an epistemological category (Ehn 2006). Another difference between participatory design and user-centred design is, according to Carroll (1996), that user-centred design justifies its focus on use on technical grounds (to make better designs) whereas participatory design has a stronger political agenda with a foundation in workplace democracy. This also means a movement from labs to workplaces and from treating humans as factors to competent actors (Bannon 1991). The reason for engaging potential users within participatory design is, in other words, not only a matter of preventing errors or to design systems that are easy to use, but also to take ethical and social implications of a new design into consideration. I would say that interaction design draws on all of these approaches, but tend to lean more towards one of these traditions (for overviews of methods used in interaction design cf. Saffer 2006; Buxton 2007). At K3, Interaction design is for example heavily influenced by participatory design. An important move within interaction design has also been to move beyond the rather instrumental version of use put to work through concepts such as usability, and to also include aesthetic and ethical aspects of use (cf. Binder et al 2009; Löwgren 2013 for similar reasoning).

Yet another important factor in assembling interaction design, or this larger field of disciplines I sketched above, is application of theoretical or conceptual frameworks of how the relationship between humans and nonhumans is imagined. This, I argue, is
important because it influences how we can understand and enact the relationship between the various actors involved and where to draw the boundaries of design projects. I have already mentioned that much of the early work within HCI had a strong cognitive focus, and was mostly situated within labs. Since then several competing and complementing frameworks have been put to work. Early alternatives were offered by Suchman in her book *Plans and Situated Actions* (1987), where she argues that human action is always situated in particular contexts, and by Ehn (1988) who used Wittgenstein’s language games to articulate collective design as a kind of intertwined design games. At more or less the same time, a phenomenological perspective was brought forward by Winograd and Flores (1986), which has also been explored by, for example, Svanaes (2000), Dourish (2001) and Kozel (2007). By the mid 1990s several complementing conceptual frameworks such as activity theory (Bødker 1991) and distributed cognition (Hutchins 1995; Hollan et al 2000) had been put forward. These theoretical frameworks can partly be understood in relation to some of the challenges posed to the cognitive focus, by computers moving beyond the screen and desktop, into everyday objects to become ubiquitous (Weiser 1991). Or, put in a slightly different way, what these approaches all share is that they offer alternatives to locating meaning making within the mind as the cognitive tradition of HCI did.

Yet another alternative, which has become increasingly influential within interaction design in recent years, is actor network theory (ANT) and similar approaches within science and technology studies (STS) that treat agency as mutually constituted between humans and nonhumans (cf. Suchman 2007). This interest is, for example, visible in some recent dissertations in interaction design and adjacent fields (cf. Gislén 2003; Björgvinsson 2007; Danholt 2008; Wilkie 2010; Eriksen 2012; Moll 2012; Andersen 2012). One consequence of such approach, which is put forward by Björgvinsson (2007), is that meaning making is not only located in human agency and managed by users. Instead he argues, with support from Suchman (2004) and Star (1991), that the social and material is highly intertwined, and that meaning making is not
simply situated in the immediate present, but is also interlinked with other times and actors or places. As a consequence of this reasoning, designers need to “...pay a close attention to where they locate themselves and the artifacts in the networks of relations entered” (Björgvinsson 2007, p.100). As I understand this reasoning, Björgvinsson argues that locating meaning making simply in the social becomes a way of escaping responsibility for the things we make as designers. If we instead align with the understanding of the world as sociomaterial, a more distributed agency and accountability is put to work, which also implies challenges for how to conduct design work and where and when to draw the boundaries of the design projects that we engage in. In other words, such understanding of the world implies that ways of living with technologies are not determined in one moment, through design or use, but are continuously remade. Not purely as a social construct but also material.

While there have always been uncertainties about how a design will engender new ways of living, I would argue that as technologies are becoming increasingly connected, mobile and in some cases open for adjustments, the uncertainties as to which social material entanglements a design will become part of become even greater. I would also argue that the human-centeredness of interaction design, for example expressed through the objective of making technologies fit needs, desires and dreams of people, is challenged by this approach. If agency is always mutually constituted between humans and nonhumans I would claim that we can never fully separate desires and dreams from technologies that are part of our imaginaries.

In this thesis we will propose patchworking publics-in-the-making as one way of dealing with distributed accountabilities and the multiple uncertainties related to living with technologies. Furthermore, publics-in-the-making will be situated as a mode of design-erly public engagement with issues of living with technologies. This means that our interest lies in how design practices and objects can be used to engage publics in societal issues, or more specifically in issues of living with technologies, rather than making techno-
logies fit into the fabric of everyday life as seamlessly or effortlessly as possible. While public engagement is not a term that is commonly used in interaction design, there is much relevant work on this matter to draw on within interaction design. I am here primarily referring to two currents. First I would like to return to participatory design, that primarily have engaged communities or publics in what we usually understand as the design project. Secondly, I will discuss critical and speculative design. Typically these are designs that are exhibited in galleries to address a wider public on issues related to new emerging technologies. I will also briefly mention design that, in line with the other two approaches, aims to engage people in a specific issue of living with technologies, but in the context of use rather than in a project or a gallery. One thing that these different approaches share is that their objective is not primarily to serve industry, as much other work within interaction design does, and they are usually practised as part of design research.

What characterises participatory design is that it aims to democratise design, through engaging those who might be affected by a design in the making of it (Robertson and Simonsen 2012). Kensing and Greenbaum (2012) put forward that the argument for participation in design is twofold. First of all it should be understood as a political argument, emphasising “...that people should have the right to influence their working conditions” (ibid p.27). Secondly, participation is argued to foster mutual learning between experts and participants, and thereby result in better designs. In other words, participatory design recognises that development and implementation of new technologies are never innocent, and aims to involve future users in processes of giving shape to future designs and technologies. The early projects, in the 1970s and 1980s, were most of all situated in workplaces and addressed issues related to the introduction of technologies in that context. Even though most of these projects did not explicitly speak of publics but communities of practice (Lave and Wenger 1989; 1998), these initiatives can certainly be understood as public engagement projects, where various stakeholders gathered around an issue, such as deskilling caused by introduction of new technologies. Rather than engaging
with these issues through debate, prototypes and lo-fi paper mock-ups, such as cardboard boxes, were used to support design games of envisioning possible futures (Ehn and Kyng 1991). These mock-ups were not only used to test, communicate or validate ideas, but also to try them out and to allow them to be developed gradually, as a mode of “design-by-doing” (Greenbaum and Kyng 1991).

Since then, ways of living with technologies have changed, and so has the practice of participatory design. Today participatory design is practised in a range of different contexts such as: large scale public projects (Dalsgaard 2010), facilitating awareness in communities on the topic of bushfires in Australia (Akama and Ivanka 2010), activist new media (Lievrouw 2006b), setting up a maker space (Seravalli 2012). Some do also work explicitly with the notion of the public or publics. One such example is the Neighbourhood Networks Project, where DiSalvo et al (2012b) aimed to prompt: “...critical engagements with technology and enable people to use technology to produce creative expressions about issues of concern” (ibid, p.48) Through a series of workshops, emerging technologies such as robotics in the context of urban communities were explored through building a range of prototypes. In a final event, prototypes, in combination with documentation of the process, were used to enable conversation between the participants, other residencies and city planners, about these new technologies, the process of making the prototypes, concerns of the neighbourhood and possibilities for interventions. This means that they consider both the making of an artefact and the artefact that were made as discursive activities, that can potentially enable people take part in public conversation. Other examples are put forward by Björgvinsson et al (2012) and Binder et al (2011b), who make use of Latour’s (1999) notion of the “Thing” to conceptualise participatory design as a kind of ongoing “infrastructuring” process of design Things. This means to work without pre-set partners or issues, and to create platforms and infrastructures that can handle disagreements and conflicts, rather than providing final solutions. Infrastructuring as a particular kind of practice used within participatory design to support the constitution of publics is also picked up by DiSalvo et al (2013). The design Thing and infrastructuring
as a form of designerly public engagement will be further explored in Chapter Four.

I would argue that one of the main challenges to participatory design, and in interaction design in general, is that as technologies are becoming increasingly connected and mobile, the uncertainties of how and who a design will affect becomes hard to anticipate. Similar reasoning is put forward by Redström (2006) who articulates two challenges within participatory design. First of all, users of a thing that does not yet exist, do not exist. The other challenge is that “…although people active in the domain one is designing for certainly possess knowledge about that domain, their ideas about future use is just as much a prediction as anyone else’s” (ibid, p.136). Instead of designing answers to questions of use, Redström thereby argues that we should explore how to design objects that asks questions of use, for users to answer in-use. To adhere to such challenges, approaches such as design-after-design (cf. Binder et al 2011 b), have gained interest within the participatory design community. This interest was noticeable at the participatory design conference hosted in Roskilde in 2012, where there was a whole session dedicated to these issues (Participatory Design Conference 2012b). Ironically, Redström (2006) suggests that inspiration for this kind of design work is to be found within critical design, which has been highly critical of participatory design. This is also the second approach to public engagement within interaction design that I would like to mention in the framing.

Dunne and Raby who are both situated at the Royal College of Art in London, conceptualise critical design as “…design that asks carefully crafted questions and makes us think” (2001, p.58). This kind of design is thereby to be understood as a counterpart to mass produced design, that affirms norms such as faster, bigger and cheaper. One concrete example of critical design that explores potential issues of living with technologies can be found in Hertzian Tales (Dunne 1999) where an increase of radio and magnetic waves due to the use of digital and electronic devices is addressed through a set of artefacts placed in different homes. Another example, is the exhibition Is this your future? (Dunne and Raby n.d)
in which a collection of artefacts incorporated in scenarios were displayed to raise issues of biotechnology and energy consumption. The aim of the project is expressed as using technologies that exist today, and to imagine what kind of futures these could be part of (Interview with Dunne and Raby in Moggridge 2007, p.603). Even though these are technologies that exist today, I would say that these technologies are not part of most people’s imaginaries.

While some of these designs have been placed in homes or exhibited in galleries open to the public, these designs seem to mostly address other designers. Speculative design, on the other hand, has explicitly been framed as designerly public engagement (Michael 2012b) through projects such as Material Beliefs (n.d; Beaver et al 2009). Speculative design will be further explored in Chapter Four, but for now I would just like to mention that one of the main objectives with speculative design, as described by Michael (2012b), is to engender “inventive problem making” (Fraser 2010). This would be design that does not provide a fixed and clear articulation of the issue, but aims to engender future negotiations, and (re)articulation of the issue. While Michael (2012b) does not write much about how speculative design actually managed to accomplish inventive problem making, I find this potentiality of public engagement to be of great importance, since it acknowledges that issues of living with technologies are continuously at stake.

This point is also made by Mazé (2013) who describes that within the discourse of design for sustainability, there is a tendency to push responsibility from production to consumption and use, through emphasising that it is the behaviours and routines of the consumer that need to change. For example, in the project Static!, Mazé herself worked with a set of designs that were made to make their energy consumption visible, and rewarded good (reduced) consumption with aesthetically pleasing expressions. In hindsight, Mazé argues that instead of making design that disciplines people to behave in ways that fit policies of sustainability, and thereby assuming availability of consensus, we need to recognize that issues such as sustainability are:
always and continuously at stake, as forms and solution continue to be negotiated in everyday life (and a range of other politics besides those of policy and design). Something that might be a solution for someone in some place at a given time may generate problems for others, elsewhere, or later on (ibid, p.109).

Since issues of living with technologies are not only settled, determined, negotiated or imagined in one location or in one moment, I would say that all of these approaches to public engagement do important work. In this thesis we will explore the potentialities of what we call publics-in-the-making, which in short implies publics that come out of making things together, and in which issues are not pre given, but are in the making. We will, in other words, put emphasis on the co-emergence and inseparability of publics, their members and issues. When doing so we will draw on some of the scholars and practices that I have outlined in this framing. In Chapter Four parts of what I have outlined here will also be further explored together with some other approaches from the social sciences, primarily media archaeology (Parikka 2012) and critical making (Ratto 2011a; 2011b), to elaborate on what we in this thesis frame as designerly public engagement. Our understanding of publics as emerging will also be further expanded in Chapter Four, where we discuss American pragmatism in combination with STS and feminist technoscience.

In this framing I have situated the topic – public engagement in issues of living with technologies – in interaction design. Since this topic is not only of relevance within interaction design, but also also design research in general, we will, in this thesis, also draw on neighbouring design disciplines. Brandt et al argue that “...whereas design education traditionally focuses on a given discipline, such as graphic design or textile design, design research often aims to cut across such practices” (2011, part C p.5). Another way of distinguishing between different kinds of design research would be in terms of what kind of knowledge it aims to produce and what role design or design work has in this production. Ever since design started to become a discipline, there has been ongoing discussions about what characterises ‘designerly
ways of knowing’. In the early 1980s, Cross (1982) argued that design should be treated as a third area of education and research, in parallel with science and humanities. One of the most cited scholars on this issue is Frayling (1993) who distinguishes between research on, for and through design. Brandt et al (2011) make the distinction between design theory, design studies, design science and practice-based design research. What characterises the last approach is that it, in line with research through design, starts off in practice and aims to explore new terrains for design and designer. This is also where I would place this thesis. In Chapter Three designerly ways of knowing will be further explored in relation to approaches from the social sciences. This is also where we describe the patchworking ways of knowing that we have used throughout our this thesis.
FRAME 3:

Feminist technoscience

Feminist technoscience really means going beyond the kinds of institutions we have now. It’s filled with different kinds of work processes and knowledge-practices, including reshaping time and space. Furthermore, to interact effectively at work, to work with people, really involves rethinking time and careers and the speed of research. (Haraway 2000, p.157)

During the last decades feminist technoscience has grown out of STS, ANT, cultural and post-colonial studies as well as feminist theory (Åsberg et al 2011b, p.213. See also Weber 2006; Lykke 2008; McNeil and Roberts 2011.) In the Nordic countries, however, it is not a very big field (Åsberg et al 2011a, p.222). More particularly in Sweden, feminist technoscience has been scattered, but has had some kind of critical mass, for example, at Blekinge Institute of Technology, at Luleå Technical University and not least at the Department of Thematic Studies in Linköping. In Linköping there is now a Posthumanities Hub from where important special issues of feminist journals have emerged during recent years (cf. Åsberg and Lykke 2010; Åsberg et al 2011a; 2011b)

The important work that feminist technoscience has done over several decades is to keep opening up the sex/gender divide, rather than taking biology as a determined given, nor singling out language or culture to be markers for what it means to be a human. Feminist new materialism, the material turn, new materialisms or posthumanism, which is closely connected to feminist technoscience, can, in short, be described as expanding feminist matters to also include materialities. We do not regard it as a break with feminist issues; rather, it builds on and expands how to understand, for example, the ongoing feminist discussion on bodies (Christensen and Hauge 2012, p.3), by, for example, adding nonhumans into the previously discursive-dominated frame of analysis. Another ongoing discussion amongst feminist technoscientists, which this thesis continues, is the topic of public, which Wajcman (2013) puts forward in a video dialogue with Balsamo.
As editors of a special issue of *Feminist Theory* called "Feminists theorises the nonhuman", Hird and Roberts write that there is a “...vitality and urgency of the questions raised by attempts to address the multiple ways in which nonhuman actors (be they rats, aliens, syringes, robots, plastinates or virtual deer) affect who we are and how we (might) live" (Hird and Roberts 2011, p.115). In taking 'things' seriously “...we come to recognise more fully how these come to be constituted and thought in and through particular worlds in which 'we humans' are but one nominated set of players” (ibid).

To us, feminist technoscience is about bringing in the materialities of bodies, in plural, where the divide between sex/gender and nature/culture for a long time made biology untouchable for feminists and instead steered its focus on constructions and gender. To us, feminist technoscience means not only to open up the body, but also, for example, to open up the mobile phone, which entails not understanding the mobile phone as a discursive, linguistic device for representation, but as materials that are related in somewhat stabilised ways, but which can be rearranged.

Hird and Roberts also comment on the relation to Marxism: “Sometimes referred to as ‘new material feminism’, what distinguishes these diverse analyses from Marxist feminist materialism is a critique of the initial ontological conditions that separate nature from culture” (ibid, p.111). The relationship to Marxism can, for example, be noted in how Haraway first published her *Cyborg Manifesto* in *Socialist Review* in 1985.

Åsberg draws on the cyborg and Haraway’s work to conclude that the cyborg was about our unavoidable entanglement with technology, which has implications for how we live our lives.

A socialist feminist at core, she pointed to how women all over the world, working under extreme and poor conditions in exploitative industry settings (or rich enough to be subjecting themselves to body enhancing cosmetic surgery), was part of an integrated circuit of capitalist society, how women, otherwise seldom associated with technology, in effect were an intrinsic part of the machinery of society. We are all here implied, and in that sense Haraway contended that we are all cyborgs now. (Åsberg 2010, p.16)
Feminist technoscience and the material turn is not embraced by all parts of feminism, and certainly not by all parts of media and communication studies or interaction design. For some it is too much of a break with the long-term effort to allow women to be humans - and here comes a challenge by nonhumans - and for others it is an ongoing effort to not fall into technological determinism. We do however find feminist technoscience to be of great value to both of our disciplines because of its attention not only to the discursive but also material, in one move. That is specifically done through recognising relationality and co-constitution of agency rather than discrete entities divided into binaries. Feminist technoscience help us stay focused on the simultaneity of parts and whole sewn together by seams, through its work with ontologies, epistemologies, ethics and methodologies as entangled. It thereby helps us go beyond only considering the concerns of the user in issues of living with technologies.
2 THREADS–A MOBILE SEWING CIRCLE

This chapter tells different kinds of stories of Threads—a mobile sewing circle. First we tell a story of how we came to start hosting sewing circles where we embroider SMS and how we and others have engaged with the project since then, as well as how it has traveled. Then there is a visualisation of the tour and its (re)organisation. It is followed by three aspects of inviting to Threads to make it travelable: educational sewing circles, specific materials and web platforms. The collaborating partners are also introduced in terms of how they are all involved in what in Swedish would be called 'folkbildning’, which is a kind of public engagement (however, not necessarily with science and technology, as is the focus of this thesis).

2.1 stitching together and Threads

In December 2006, for the first time we invited the public to embroider an SMS in a sewing circle at Växjö konsthall, a council run art gallery in southern Sweden. At the time it was called stitching together, and was part of the project [ordlekar]13. Together with Agneta Råhlin, art pedagog at the art gallery, we had set the tables in the art gallery with threads, needles and mostly domestic second hand linen or cotton fabrics to embroider on, and homemade pastries to make it feel homely although it was in an institution.

The participants brought their mobile phones as well as text messages. We had started the development of an embroidery machine that could

13 [ordlekar] was a collaboration between the Interactive Institute and Växjö University, financed by the Swedish Research Council’s fund for artistic research.
embroider text messages, but at this point the project only offered the opportunity to embroider by hand. There were sheets of instructions for different kinds of manual stitches. The fabrics to embroider onto were cut to A4 size because we had decided that the embroidered text messages would stay with the project and be put into a modular patchwork which would be kept together with velcro and would thereby be changeable.

In 2006 text messages could of course be saved in the mobile phone, but the storage space was limited. If the inbox was full no more SMS would be delivered until some older ones were deleted. This prompted users who wanted to keep some SMS as well as being continuously reachable via SMS to regularly delete messages. The limited storage space for messages and emerging practices of how to deal with this issue was one of several reasons why we started to invite people to embroider an SMS.

We wanted to explore this way of living with technologies through doing it, which meant that the invitation to embroider SMS in a sewing circle was both about everyday communication as well as everyday communication in itself.

In spring 2007 our first version of an embroidery machine that could be connected to a mobile phone was developed. The participants could forward an SMS to a mobile phone, that was connected to a computer which translated the text message into a file format that was readable for the embroidery machine. We then transferred it to the embroidery machine, using a USB-stick. In the next iteration the computer was connected directly to the embroidery machine. A certain standardisation was exercised. For example, only letters in the Latin alphabet could be handled, and they would all be embroidered in capital letters. The spacing for an embroidered SMS is also different from a mobile phone, which makes a certain diffractive mark in the transition from one material to another.

With this version of assembling the mobile phone, a computer and the embroidery machine, we hosted sewing circles in a range of different contexts such as festivals, an event for young gamers, a kickoff for a mobile phone company, a yearly meeting for a crafting association, a symposium for new media and much more. Most of these only lasted for one or two
days. At the exhibition *Digitally Yours*\(^\text{14}\), however, *stitching together* lasted for about six weeks. Some participants brought their embroidered text messages with them, while others left them in the gallery space. Some of the messages embroidered in all of these sewing circles were later on stitched together in the patchwork we started to make in Växjö in 2006. Beyond the making of this patchwork these sewing circles were held as separate events.

When, in 2008, we sent an application to the Swedish Travelling Exhibitions (Riksutställningar), a Swedish authority under the Ministry of Culture, who had an open call for proposals, it became an opportunity to craft a mobile sewing circle. To make the sewing circle more travelable meant to distribute some responsibilities and at the same time find ways to make connections between each sewing circle. In the application we described the invitation to embroider SMS as a hands-on approach to discussing past and contemporary ways of meeting and communicating. The *Stitch n’Bitch* movement was a reference point in the application, since that movement is characterised by actions in both digital and physical public spaces (Minahan and Wolfram Cox 2007). We proposed to travel together with the sewing circle to libraries and other institutions around Sweden, to invite people to embroider SMS for a short period of time, and then travel onwards.

The Swedish Travelling Exhibitions had an ambition to work in a participatory manner and to reach out to parts of Sweden where they would not be dependent on established municipal, regional or state cultural institutions. Therefore they agreed to do a pilot tour together with three other partners who shared their interest: Vi Unga (a youth-led organisation for leadership, democracy and entrepreneurship), the National Federation of Rural Community Centres (Bygdegårdarnas Riksförbund), Studieförbundet Vuxenskolan (a national organisation arranging study circles), and Malmö University, where we are situated. What joins the collaborating partners is partly that they have previously worked together, and that they all have a focus on ’folkbildning’, which is a form of public engagement or non-formal adult, and sometimes child, education.

\(^{14}\) *Digitally Yours* was produced by Milla Järvi petäjä and co-curators were Maija Koskinen, Harri Palviranta, and Andy Best at Aboa Vetus and Ars Nova museum, Turku, Finland, in 2007.
Although the collaborating partners share a history and a focus, they also had more specific interests that motivated their engagement in *Threads*. The Swedish Travelling Exhibitions, for example, was looking for a small participatory exhibition that could easily be transported across Sweden beyond established cultural institutions. The National Federation of Rural Community Centres wanted to reactivate the rural community centres, located in rural areas all over Sweden, as public meeting places. Consequently they contributed with premises to host *Threads*. Studieförbundet Vuxenskolan wanted to try out new forms for study circles. They were also looking for relevant topics for study circles. *Threads*, for example, came to differ from most study circles, in that it lasts for a shorter time in each location, but also continues through the travels. Topically it differs in that it does not articulate what will be taught or learned, but what will be explored. Vi Unga had an interest in supporting the youths’ entrepreneurial capacity to organise events. All collaborators’ central organisations contributed with big temporal investments as well as their local contacts, who in turn have passed on the invitation to *Threads*. This has been part of enabling *Threads* to travel.

After the pilot tour in 2009, when the project travelled with the two of us and Lisa Lundström from the Swedish Travelling Exhibitions to three locations, the collaborating partners agreed to develop *Threads* to make it travelable. Part of the agreement was that we would hand over *Threads* to local hosts in eight educational sewing circles in eight different regions. We also developed a new technological assemblage, where a mobile phone could be connected directly to the embroidery machine without the transferral and transformation in a computer. Two blue boxes that could fit into the trunk of most cars were also custom built to fit the material and to be easily transported between the hosts in one region. A website (*Trådar n.d.b*), was created, where the schedule for the tour was to be announced and where participants could upload and thereby share images of their embroideries via a mobile phone with an off-the-shelf application ¹⁵.

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¹⁵ This development was done just before applications and web services like Instagram became popular. Our application is built like a blogging tool from which one can upload images. It is limited to uploading from one specific device, which is then different from, for example, the possibility to upload from many devices to the same web platform. Like platforms for images, such as Facebook and Instagram, the uploaded material is shared on a website.
The website was also meant to be a way for previous and possible future participants to get in touch with the project.

It was discussed at great length amongst the collaborating partners whether the project should be collected, for example, into a patchwork as the two of us had done with stitching together, or at an exhibition, and in that case where and when. However, it was decided that the participants could take their embroidery away with them from the sewing circle, in contrast to our previous sewing circles, and that the website with the uploaded images should perform one kind of collecting and exhibiting work.

The tour in 2010 and 2011 came to include eight planned educational sewing circles, and yet there were more requests coming in to travel to rural community centres as well as other places that had not been prioritised, such as libraries, short events and art institutions. The two of us decided we could not keep on travelling to host educational sewing circles, and the Swedish Travelling Exhibitions had a new director-general and a new assignment from the Ministry of Culture, following which they were instructed to stop producing travelling exhibitions. The main responsibility for Threads was therefore moved from the Swedish Travelling Exhibitions to Studieförbundet Vuxenskolan. As part of these changes it was decided to invite the former local hosts, along with those who had shown interest in being first-time hosts, to an educational sewing circle in 2012. In January 2012 we thereby hosted our last educational sewing circle with the presumed hosts for 2012. This marked a new phase for Threads, in which Threads would both revisit some places and travel to new places.

One consequence of this third phase, after the pilot tour and after the extended tour, was that the two of us would be at a greater distance from the daily chores of Threads. Previously we had always either been the hosts or handed over to the new hosts. There had also been an agreement amongst Threads collaborators that to host Threads required that at least one of the hosts had participated in an educational sewing circle hosted by either the two of us or somebody that we had handed over to. One agreement was made that Amanda Dahllöf, who got in touch with Threads through the collaborating partner Vi Unga, would host an educational sewing circle with local hosts in one part of Sweden. Not long after she had done so, we googled the name of the project and found an article in a
main newspaper in that region where two women were interviewed about *Threads* (Henricson 2012). Next to a paragraph stating that the project started as a research project, there is a quote from one of the local hosts (our translation from Swedish): “It used to be that embroidery clubs were a place for women to speak freely about what could not otherwise be spoken openly about. We’re looking forward to what discussions this leads to today, says Catrine”. Without ever having met Catrine, we recognised some of our phrasings written in the manuals (that were developed for the educational sewing circle) in this article, for example the potential of reproduction as well as transformation in the sewing circle as a particular form for meeting.

Not only did 2012 mark the beginning of a new phase for *Threads* and our relationship to it, it also travelled in other directions. For example, Nordiska museet, Sweden’s largest museum of cultural heritage, included *Threads* in a permanent exhibition on the theme of ‘folk art’, and more specifically in a temporary part of it addressing “What do people do with their hands today” (Nordiska museet n.d.). *Threads* was also included in a report from the Swedish Arts Council to the Ministry of Culture (Kulturrådet 2012) as what they called a ”learning example” on collaborations between civil society and cultural institutions.

At the time of writing this it seems that *Threads’* two blue boxes stopped travelling in January 2013 after having been at one of those cultural institutions, Bildmuseet in Umeå, northern Sweden (Bildmuseet 2012). At this time several of the people who had been working with *Threads* had other positions within their organisations or moved to other jobs. Lisa Lundström, for example, with whom we had worked and travelled so much to host educational sewing circles, had changed jobs to Bildmuseet, to which she invited *Threads*.

The invitation has stayed the same in the different phases, since it was first articulated as “Welcome to embroider an SMS”. However, living with technologies has changed since 2006. For example, most users of mobile phones are dealing with more generous capacities to store SMS. Another difference is that whereas earlier most SMS were stored as individual messages, they are now often stored as a conversation thread. Throughout the different phases the composition of *Threads* has changed as technol-
logies that we live with have changed. We have here pointed out that in the first sewing circle there was no embroidery machine. Soon thereafter there was a relatively cheap embroidery machine that had a USB-port, through which we could import an SMS that had been translated in a computer. The next version was to have a computer constantly connected to the embroidery machine as well as to a mobile phone. In the third phase a mobile phone could do the work of translating the text message into the eligible file format and could thereby be directly connected to the embroidery machine. This change made the composition smaller and allowed us to design a graphical interface that, for example, showed how many messages are in the queue. This also made it easier for others to manage the embroidery machine.

Parallel with changes in mobile phone communication, proliferating interest in handicraft in new contexts can be noted around the world. Threads has been just one among many expressions of an interest in the combination of textiles and computation. In Sweden alone there have been three major exhibitions emphasising slightly different aspects of living with mundane technologies and textile craft: Craftwerk 2.0 (cf. Åhlvik and von Busch 2009; we make money not art 2010), Open Source Embroidery (cf. Carpenter 2012; n.d.) and Points of departure (cf. Fiber Art Sweden n.d). stitching together has been a part of these with both the patchwork and with sewing circles, which means that stitching together and Threads have been co-existing. However, in this thesis we will focus on Threads.

In the coming figures we make an outline of the different phases of the project with focus on the tour and (re)organisation of Threads.

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16 For example, the technology publisher O’Reilly started the magazines Craft (Craft magazine n.d.) and Make (Make magazine n.d.). Also, the seminal book Subversive Stitch from 1984 by Rozika Parker came with a new introduction in 2010 where she outlined similarities and differences between politics and textile craft between 1984 and 2010 and noted that “The historical association between embroidery, collectivity and political protest is evident in the recent world-wide movement of Craftivism” (2010 p.xvii). She also draws parallels to the Arts and Crafts movement more than a century earlier, which have two points in common: wanting “...an end to the divide between fine and decorative arts” and “...believed in the transformative power of the arts not only on society but also on the lives of the practitioners” (2010, p.xxi).
### 2.2 Tour and (Re)organisation

<table>
<thead>
<tr>
<th>Phase</th>
<th>1. PILOT TOUR &amp; CRAFTING INVITATION</th>
<th>2. TOUR</th>
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<tbody>
<tr>
<td>Sewing circle</td>
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<td><img src="image" alt="Diagram" /></td>
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<tr>
<td>Project leader</td>
<td>Swedish Travelling Exhibitions (RU)</td>
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<tr>
<td>Collaborating partners</td>
<td>National Federation of Rural Community Centres (BR), Studieförbundet Vuxenskolan (SV), Vi Unga (VU) and</td>
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<tr>
<td>Sewing circle hosted by collaborating partners</td>
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<td>Educational sewing circle hosted by collaborating partners</td>
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<td>Sewing circle hosted by local hosts</td>
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<td>Revisiting sewing circle hosted by local hosts</td>
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Each circle represents one location where one or more sewing circles have been hosted.

### 3. EXTENDED TOUR & RE-VISITS

<table>
<thead>
<tr>
<th>JAN. 2012–JAN. 2013</th>
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<tr>
<td>Malmö University (MAH)</td>
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<td>VU, BR, MAH, RU</td>
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</table>
Phase 1. PILOT TOUR & CRAFTING INVITATION
March 2009 — September 2010
Åsa Ståhl, Kristina Lindström and Lisa Lundström hosted three sewing circles in Sweden as a way of trying out how the project would resonate with possible participants. It also became a way of connecting with already existing relations and creating new ones. An emergent network was thereby starting to perform itself. About 10–20 persons on each occasion.

Lisa Lundström, Helene Broms, Therese Jonasson, Marie Grundström, Stefan Löfgren, Eva Hennevelt, Katarina Gustafsson, Kristina Lindström and Åsa Ståhl crafted the invitation to *Threads*, partly through naming the project, designing a website, composing manuals, making posters and flyers, putting together inspirational materials and much more.

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**Project leader:** Swedish Travelling Exhibitions  
**Collaborating partners:** Vi Unga, National Federation of Rural Community Centres, Studieförbundet Vuxenskolan and Malmö University.  
**Commissioned crafts:** Michaela Green, Nicklas Marelius and Unsworn Industries.
Åsa Ståhl, Kristina Lindström, Lisa Lundström, Amanda Dahllöf and Viktoria Günes hosted educational sewing circles with local hosts in eight regions: Gotland, Bergslagen, Dalarna, Jämtland, Skaraborg, Småland, Västerbotten and Skåne. Altogether about 45 sewing circles were hosted in 27 different locations by local hosts. About 10–20 persons on each occasion. Stefan Löfgren and Therese Jonasson contributed to organising the tour.

In this phase the collaborating partners also hosted sewing circles that did not aim to hand over the role of being host to anyone, but to communicate the project to different groups and collectives. Threads was for example hosted at an event on culture as a source of power for the future, change and inspiration organised by Studieförbundet Vuxenskolan, at a yearly international gathering for contemporary art, called the “intense days” organised by the Swedish Travelling Exhibitions in Visby, and as part of an exhibition at the Textile Museum of Borås in connection with the Ambience conference, where Kristina Linström and Åsa Ståhl presented the paper “Working Patches”.

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**Project leader:** Swedish Travelling Exhibitions  
**Collaborating partners:** Vi Unga, National Federation of Rural Community Centres, Studieförbundet Vuxenskolan and Malmö University.
Phase 3. EXTENDED TOUR AND RE-VISITS

January 2012

January 2013

VÄSTERBOTTEN

Stockholm

Umeå

Sundsjön

Hissmofors

Edsåsdalen

Lit

Undersåker

Änge

Östersund

STOCKHOLM

Kalmar

Långlöt

Sorsele

Alböke

Kungsbacka

Grimeton

Säffle

Halmstad

Falkenberg

Varberg

Hyltebruk

SKARABORG

Lugnäs

Barne-Åsaka

Vallegården

Upplands Bommarsot

UPPSALA LÄN

Uppsala

Halland

Södertälje

Skövde

Örebro

JÄMTLAND

Hammerdal

Bispården

Bräcke

Rissna

Åre

Mörsil

Häggetorp

Hammarö

Säffle

Vara

Varberg

Skövde

Kalmar

Långlöt

Sorsele

Alböke

Kungsbacka

Grimeton

Säffle

Halmstad

Falkenberg

Varberg

Hyltebruk
Åsa Ståhl, Kristina Lindström, Lisa Lundström, Stefan Löfgren and Britt-Marie Jobacker hosted one educational sewing circle in Stockholm where experienced and new hosts gathered.

In totally 30 locations about 40 sewing circles were hosted by local hosts. These took place in rural community centres that Threads had previously visited, new rural community centres and other cultural institutions such as Biotopia in Uppsala and Bildmuseet in Umeå. About 10–20 persons on each occasion.

In this phase there were, in line with phase 2, sewing circles hosted by the collaborating partners that were not educational sewing circles. Threads was for example hosted during the National Federation of Rural Community Centres’ yearly meeting in Säffle and during an event where a report from the Swedish Arts Council was handed over to the Swedish Ministry of Culture. Threads was included in the report as one of five learning examples on collaborations between cultural institutions and civil society. Materials produced in Threads were also included in an exhibition at Nordiska museet, Sweden’s largest museum of cultural heritage, on the topic of “What do people do with their hands today”.

Project leader: Studieförbundet Vuxenskolan
Collaborating partners: Swedish Travelling Exhibitions, Vi Unga, National Federation of Rural Community Centres and Malmö University.
2.3 Inviting

The invitation “Welcome to embroider an SMS” has been more or less the same throughout *Threads*’ different phases. We regard it as a wide framework, but also specific. The invitation to *Threads* is crafted and performed in multiple materialities and temporalities. It is made by the two of us as well as other actors involved. We will here mention at least three important means for inviting to *Threads*: the educational sewing circle where we as the hosts have distributed some responsibilities to new hosts, the materials that travel with *Threads* in the two blue boxes, and the web platforms.

2.3.1 Educational sewing circle

*Welcome to Threads—a mobile sewing circle! We, Åsa Ståbl and Kristina Lindström, have been hosting this sewing circle since 2006, and we now hope that you will take over the role of being hosts for Threads.*

*All of you have gotten a folder with some articles, patterns and more. We hope that these will be of help to you in preparing to be the hosts yourselves, but most of all the day is set up to engender learning by doing.*

*Some of you have probably attended sewing circles before. What’s particular about this sewing circle is that participants are invited to embroider a text message from their mobile phone—to choose one out of all the messages stored in their inbox and to make the SMS into a message out of thread and fabric.*

*We’ll continue on some embroideries that we started upon last time. Here’s one with a code, sent as an SMS, to log into a bank account. And here’s one which another new host sent us some time ago. She asked us to call her since she had a technical problem that she could not solve, but which she thought would go away by simply pressing a button. But which button...*

*We’ll make sure today that you don’t have to wonder about that particular button.*
If you have a look around, you’ll see already embroidered messages hanging on clotheslines. These are messages that have been shared and embroidered by previous participants of this sewing circle. On the table, that we all are gathered around, we have placed fabric, needles and threads that you are welcome to use, unless you prefer to use your own. Later on, the table will be set with coffee, tea, and biscuits. And there’s lunch planned for noon.

On the table in the corner you will find an embroidery machine that is connected to a mobile phone, through a USB-cable. For those who wish to have their message embroidered by the machine you are welcome to forward that message to the phone. But please keep in mind: the machine is slow. It takes about one hour to embroider a full message, with 160 characters. It might take even longer to do it by hand.

At the end of the day you can decide whether you want to bring your embroidered SMS with you or leave it here to travel further. You can also upload a picture of it to Threads website. We will have a sum up of the day and gather here around the table again at about 3 o’clock to talk about what we have all embroidered, learnt (if that is the case) and experienced today.

After that everybody hopefully helps out in packing the things into two blue boxes that have been designed in order to make transportation of Threads easier, and so you know yourselves how to pack it when you are the hosts.

Apart from embroidering and learning by doing we will also take the opportunity to adjust the schedule for the tour in this region, which the central organisations have been outlining. By the end of today we should be able to know who delivers the blue boxes to whom as well as update the website. We’ve experienced many times that the educational sewing circle opens up for unexpected local connections that were not possible to foresee during the preparational planning since some of you have not met before. For example, one educational sewing circle
ended up with one of the participants packing the blue boxes into the trunk of her car and bringing it to her school as part of her classes in textiles where Threads would be part of an on-going challenge in the school on whether to allow mobile phones in the classrooms or not.

Threads has been made possible by a collaboration between Swedish Travelling Exhibitions, National Federation of Rural Community Centres, Studieförbundet Vuxenskolan, Vi Unga and Malmö University, where we are PhD students. We will take notes and pictures during the day that we will use in our research and if you don’t want to be a part of that just let us know. It is also important that you inform your participants that this is part of research, and that they will not be included if they express that they do not want to be so. (One version of how the two of us have invited people to become a host at the start of the educational sewing circles.)

As an important part of making Threads travelable through distributing responsibilities to new hosts, the two of us have developed what we call an educational sewing circle in collaboration with the other partners. What stands out in an educational sewing circle, compared to other sewing circles hosted in Threads, is that all of the participants should be able to host Threads themselves by the end of the day.

The educational sewing circle is set up, more or less, like a regular sewing circle and lasts about six hours. We believe that one way of successfully learning how to host Threads is through practice. This includes getting familiar with some of the technologies that are part of Threads. For example, the future hosts need to be able to handle the embroidery machine, to know how to upload images to the website, and perhaps also how to embroider by hand. Instructions for these details are also to be found in a manual and one copy of the manual is included in the blue boxes. Usually there are at least two hosts, which means that the skills and tasks can be shared and distributed.

The aim of the educational sewing circle is also to familiarise the hosts with the themes of Threads and how it can be organised. To support this we have made a manual which suggests different ways of setting up a sewing
circle, as well as themes to focus on. In the manuals the hosts can make their own notes. We have tried to engender several entry points to the project, so that each host can make it relevant to themselves and their context.

The educational sewing circles have also proven to be an important event for doing more detailed work on the scheduling of the tour, and to find unexpected local connections.

In *Threads* we have rarely been the ones who have done the direct invitations before the educational sewing circles, and other sewing circles, have started. Rather, the invitation has sometimes been circulated by the central organisations of the collaborating partners or by the local contacts. However, during the educational sewing circles, we regard the invitation to be performed in many different ways, partly by us.

Of all different kinds of invitations we have made, one that is particularly important is the one we do when we, as hosts, start an educational sewing circle. Most often we have been moving around in the room as we have performed this invitation, pointing to and grabbing hold of the things that we are talking about, for example the technologies, the clothes-lines where previously embroidered text messages are hung, along with accompanying artworks and inspirational literature on a table. It has also often been the case that we have been holding either a mobile phone or an embroidery to show what we will be embroidering ourselves during the educational sewing circle. One anecdote that we have told is from an early sewing circle where somebody called embroidery the technique of slowness. Other short stories from previous sewing circles are often told during the introduction as well as throughout the day. We regard them, and our telling of them, as part of the knowledge production.

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17 Schön used anecdotes in his writings on learning by doing and reflection on action (1983), which have been formative in how the educational sewing circles have been set up. For recent, helpful references, cf. Cubitt (2013) on the high resolution of an anecdotal method and its unwillingness to fit into formats of systems and databases. See also Michael (2012a) on the performativity of anecdotes, which he calls anecdotalization, where he outlines how the telling of the anecdote reworks not just the story, but also the one telling it. We have also been inspired by Ahmed (cf. 2010a; 2010b; 2013) and her frequent use of anecdotes in knowledge production. For further discussion on our use of anecdotes and anecdotalization see Chapter Three.
At the end of the day, the participants in an educational sewing circle gather around the table again in order to share what they have done, experienced and possibly learnt during the day. In a combination of telling stories based on the embroideries and other materials in the room, this session of reflection on action (Schön 1983) is a way of building capacity for those who will be making invitations on their own. This is also an opportunity to try to deal with possible worries for the future hosts. Therefore, the two of us have also been active in retelling stories of what we have heard, seen and experienced that we think can be of help to future hosts.

As we got better acquainted with Haraway’s writings during our doctoral education, we started to think of this moment with the future hosts not only as reflection, but rather as diffraction (1997, see also Barad 2007; von Busch 2008; van der Tuin 2011). By diffraction, we mean to emphasise difference and a heterogenous history rather than originality or a reflection that would be a “...displacement of the same elsewhere” (Haraway 1997, p.273). The educational sewing circle in Stockholm in January 2012 was, for example, highly influenced by diffraction throughout and not only in the final gathering around the table. On this occasion, the experienced hosts were sharing dilemmas and challenges as well as what had gone well with each other as well as with the new local hosts.
2.3.2 Materials

Two blue boxes: To make Threads travelable we have put together the materials that travel with Threads in two blue boxes. The boxes are made so that they can fit into a car.
Embroidery machine and mobile phone: To make it possible to embroider an SMS by the embroidery machine, we have connected it to a smartphone, with bespoke software. The messages that are forwarded to the phone are placed in a queue, and can be embroidered one by one. It is also possible to skip the queue. One full text message of 160 characters takes about one hour to embroider.
Tablecloths: There is no particular space in the blue boxes for participants to place materials that they produce so that the materials can travel with Threads. There are, however, three tablecloths to set the table with, on which participants are invited to embroider.
Mobile phone: During the pilot tour we used a camera, an instant printer and a physical photo album for documentation. In later phases, to be able to share the documentation with a broader audience, beyond future participants of Threads, we provide a mobile phone which participants can use to document the day and upload images on the website.

Durable goods: Participants are invited to bring their own textiles to embroider on. We also provide some threads and second hand textiles. These durable goods are refilled continuously by the project and participants.
Textile file folders: In addition to the tablecloths there are five textile file folders in which participants can embroider. Each file folder has a pair of oppositions embroidered on the front: digital/physical, fast/slow, transient/long lasting, private/public, hand/machine. In the file folders there are textile pages on which participants are welcome to embroider thoughts and parts of conversations on the theme, that will hopefully challenge the oppositional character of the dualities on the front.
Clotheslines: Clotheslines are used to hang artworks and embroidered messages by participants. The clotheslines were chosen so that Threads could easily be set up in varying contexts.
Artworks: The artworks were selected by us and Lisa Lundström on the theme of clashes between old and new means of communication and ways of living. One criteria for these pieces was that they should be able to be hung on clotheslines. They are to be on display as an exhibition in the room and can be used as one of many ways to enter, direct and expand some of the themes in Threads.
Inspirational materials: Inspirational materials such as books and articles on, for example, SMS-novels in Japan and contemporary and historical enactments of sewing circles, can be read or flicked through. This was included partly because we want the participants to be able to shift activity during the day and to get input if they get stuck or if they do not want to participate in discussions.

Manuals: A manual is distributed to new hosts and is also to be found in the blue boxes. It includes suggestions on how to organise the day, possible discussion topics and instructions about how to use the technologies.
Promotional material: As a complement to the posters we embroidered text messages on clothes that can be hung outdoors to generate curiosity.
Posters: Three different kinds of posters are used to announce Threads locally. Dates and times can be written by hand.
**Added materials:** During Threads travels, goods have been added to the assemblage. For example, at one point we found glittering glue on the tablecloth and a tube of the leftovers in the blue boxes. T-shirts with Vi Unga printed onto them were also found at one point. In the autumn 2012, an invitation to embroider Christmas greetings was left in one of the boxes. Before the exhibition at the contemporary art museum Bildmuseet, the accompanying artworks were updated with an embroidered Wordfeud and a Noughts and Crosses.
2.3.3 Web platforms
The invitation to participate in Threads is also enacted through various web platforms such as a website designed for Threads (Trådar n.d.b), a Facebook page (Trådar n.d.a) and the collaborating partners’ respective websites.

On the project website the invitation is, for example, made through announcing time and place for each sewing circle. Yet another important way of inviting to Threads is to explain through images of previous sewing circles. Therefore the website was developed to also display some of the materials that had been produced in Threads (see picture 4). The images on the website are mainly taken by the participants, who have uploaded them via an off-the-shelf mobile phone application. The images are displayed on clotheslines, and are organised according to the sewing circle in which they were taken and uploaded. Some images are also associated to themes that the two of us have articulated, based on the content uploaded by participants. Some of these threads, as we call them, are: connected/disconnected, newborn, mixed technologies, tablecloth (see picture 5).

To allow for the invitation to reach beyond the official travels of Threads, we also articulated a pattern (see picture 6) of how to host sewing circles without the materials and educational sewing circle.

To complement the project website, and to make it easier for local organisers and other participants to invite within their own networks, we also made a Facebook-page (Trådar n.d.a) for Threads. This page has also been used by the collaborating partners to announce upcoming sewing circles as well as, for example, link to media coverage on Threads. The Facebook-page is also accessible for people without a Facebook account.

2.4 Collaborating partners and ‘folkbildning’—a kind of public engagement in Sweden
There is no perfect translation of public engagement in Swedish. One way of translating it would be ‘folkbildning’, which is a central part of the collaborating partners’ activities. ’Folkbildning’, according to Waldén (1996), started to grow as the industrialisation of Sweden picked up speed. Then it was a kind of bookish and theoretical self-education, to conquer the necessary knowledge that was demanded at the time, as Waldén expresses it in a Swedish Government Official Report, published by the Ministry of
Picture 4: Front page of Threads’ website displaying a random selection of uploaded images.

Picture 5: An embroidered message on Threads’ website, that we have tagged to the thread called Connected/Disconnected.
Education. However, she also argues that handicraft, the not necessarily bookish and theoretical, should have a place in ‘folkbildning’ (ibid p.186)\(^{18}\).

‘Folkbildning’ is explicitly used in relation to the Swedish Travelling Exhibitions in a recent historiography over this Swedish governmental agency (Broms and Göransson 2012). The Swedish Travelling Exhibitions was created in the 1960s, by the Social Democratic government, based on cultural politics which had “citizen influence”, “participation”, and “own activity” (ibid, p.18) as keywords. The idea was to distribute the culture of arts to the people in Sweden no matter where they lived nor what their class was. They would also be educated to appreciate what the higher classes had previously had privileged access to (Löfgren 2012b, p.11). The Swedish Travelling Exhibitions are described as, in various degrees and in various times, a channel for the social democratic state to communicate with its citizens as well as, mostly, a less predictable Governmental agency which has been part of alternative movements despite its financial source and administrative belonging (Broms and Göransson 2012; Löfgren 2012a, pp.255-256 and 260).

Under the heading *The two publics* Löfgren (2012a, pp.253-256) writes of partly an established public, such as institutions, and partly a more unruly one. When the people’s movement got formal power as the Social Democratic government, the people’s movement partly merged with the established institutions. Löfgren argues that The Swedish Travelling Exhibitions have been, simultaneously, both inside and outside, as well as with and counter, formal institutions and established politics.

However, during the collaboration with *Threads* the Swedish Travelling Exhibitions got a new brief from the non-social democratic government, which meant that they stopped producing exhibitions that would travel, and became an organisation for consultancy. On their website it now says: “The Swedish Exhibition Agency is a government agency under the Ministry

\(^{18}\) Some of the governmental budget for ‘folkbildning’ is distributed by the Ministry of Education and Research via a ‘Council for Folkbildning’, such as to study circle (cf. Folkbildningsrådet n.d.b; n.d.c.). For a short description in English, with a somewhat limited scope of what ‘folkbildning’ is, see Folkbildningsrådet (n.d.a.)

However, arguably, as with the case of the Swedish Travelling Exhibitions, it can also be said that some means for ‘folkbildning’ are distributed by the Ministry of Culture. Also mass media such as the public service media Swedish Television and Swedish Radio are arguably part of ‘folkbildning’ in Sweden.
GÖR SJÄLV

MÖNSTER FÖR DIN EGEN MOBILA SYJUNTA

1. Bjud in vänner till en syjunta.
2. Be sjyjundettagarna ta med mobiltelefon och något att brodera på, till exempel nya och gamla tygbitar, kläder eller textila bruksföremål som örngott, tygpåsar, handdukar.
3. Hänvisa till mobilsyjunta.se för vidare inspiration.
5. Duka fram med en stor duk, kakor, något att dricka, trådar, nålar och sådant som du har i dina gömmor som går att brodera på.
7. Ta er tid att berätta vad som hänt före och efter sms:et.
8. När ni vett sms är det dags att välja tyg och tråd.
10. En möjlighet är att göra ett gemensamt lapptäcke av era individuella sms-broderier.
11. Om du vill kan du erbjuda dina vänner att brodera på den stora bordduken, som ett bestående minne av syjuntan.
12. Broderi kan beskrivas som långsamtets teknik så kanske kommer ni fortsätta var och en för sig eller träffas igen i en ny syjunta.
13. För att koppia ihop er med resten av Trådar – en mobil syjunta får ni gärna dela med er av era broderier här på mobilsyjunta.se så att de kan ingå i ett större samtal.

Picture 6: Pattern for hosting a sewing circle beyond the official travels of Threads.
of Culture. Our brief is to promote development and collaboration within the exhibition field” (Riksutställningar n.d.). The name in English has thus changed whereas it has stayed the same in Swedish.

Also Studieförbundet Vuxenskolan uses the word ‘folkbildning’ to describe what and how they do non-formal adult education and its effects (Studieförbundet Vuxenskolan n.d.). They have about 300 local offices, with some paid employees, spread out all over Sweden. Their main activity is to conduct study circles, in which there are paid leaders. One of their slogans is the reverse of a Swedish idiom “Mycket snack och lite verkstad” (lots of talk and no shop), which means that Studieförbundet Vuxenskolan emphasise that their gatherings are less about talking and discussion, and more about doing and making.

In 1967 liberal and rural traditions of ‘folkbildning’ merged into what it is now. Already in the 1930s one of Studieförbundet Vuxenskolan’s predecessors, the Svenska Landsbygdens Ungdomförbund (SLU), which could be translated to the Swedish rural youth organisation19, formed a study organisation which needed places to gather. The Svenska Landsbygdens Studieförbund (SLS) therefore built rural community centres, which nowadays have a central organisation based in Stockholm, just like Studieförbundet Vuxenskolan.

Without necessarily using the word ‘folkbildning’, the National Federation of Rural Community Centres (Bygdegårdarnas Riksförbund n.d.) today describe themselves as a condition for democracy and citizens’ influence, as well as a mundane people’s movement. The National Federation of Rural Community Centres organises about 1400 associations all over Sweden which provide the local community with a rentable meeting place. Most of those who work locally do so as volunteers.

Vi Unga is a youth-led organisation all over Sweden, which works with leadership, democracy and entrepreneurship (Vi Unga n.d.a; n.d.b.). Vi Unga was founded in 1955 as an organisation driven by young people,

19 Landsbygdens ungdomförbund (SLU) is today called Centerpartiets Ungdomsförbund and is the youth organisation of one of the parties in the Swedish government.
with the aim of fostering responsible citizens who would be active in non
governmental organisations. In the beginning Vi Unga mostly focused
on farming activities as well as ‘folkbildning’ on societal issues, and has,
in line with Studieförbundet Vuxenskolan, a historical relation to SLU.
However, Vi Unga is party politically and religiously independent and
today their activities range from organising skateboard events, film
screenings and concerts, to camps.

These, the Swedish Travelling Exhibitions, Studieförbundet Vuxenskolan,
the National Federation of Rural Community Centres, Vi Unga and
Malmö University where we are based, are the collaborating partners that
we hereafter refer to when we write the collaborating partners, and with
which there was a signed contract to collaborate on Threads—a Mobile
Sewing Circle.

For Threads to become a kind of public engagement project lots of other
actors have participated in its making, such as the local hosts, participants,
software and hardware developer, just to mention a few. However, here
some of the collaborating partners’ employees should be mentioned by
name since they put big efforts into Threads:

**Swedish Travelling Exhibitions:**
Helene Broms, Lisa Lundström, Therese Jonasson, Lotti Carlgren, Oscar
Engberg, Per Björklund, Marie Grundström, Tomas Carlsson, Marie
Green, Thintin Strandman, Matilda Johansson.

**Studieförbundet Vuxenskolan:**
Eva Hennevelt, Britt-Marie Jobacker.

**Vi Unga:**
Katarina Gustafsson, Amanda Dahllöf, Johan Radix, Jonas Nilsson,
Rosa Jonsson.

**National Federation of Rural Community Centres:**
Stefan Löfgren, Carina Hellström, Lea Malmivirta.

**External collaborators:**
Magnus Torstensson and Erik Sandelin at Unsworn Industries:
web design.
Michaela Green: graphic design.
Nicklas Marelius: bespoke software for mobile phone connected to
embroidery machine.
3 PATCHWORKING

3.1 Introduction
During this thesis work, in both our artistic and academic practice, we use the figuration of patchworking, which suggests a specific kind of engagement with the world: to know the not-yet-existing through engaging with what is at hand. In other words, patchworking is highly entangled with multiple temporalities and materialities. For example, most of the things that are part of Threads, such as mobile phones, text messages, threads and needles, are also used in a variety of other contexts. In Threads they are put together in slightly new relations, like patches in a patchwork. The patchworking that goes on in Threads is, however, far from perfect. The pieces are imperfectly stitched together and are continuously reordered. Yet another aspect of the patchworking ways of knowing is that it is done collectively. To start with, the two of us have been pursuing this work together and we are the ones writing this thesis. However, there are also other actors, such as collaborators, participants, hosts and technologies, who in different capacities, at different times and in different spaces have participated in the ongoing patchworking. Patchworking is thus operating in sociomaterial entanglements, mess and complexity.

Patchworking is our response to the call for new ways of knowing that we articulate in the next section of this chapter. Furthermore, this chapter outlines how patchworking rests on relational ontology, which means that things are constituted through their relations. Based on this understanding of the world, we propose patchworking ways of knowing, which means to know through intervening collectively in ongoing processes which we call staying with, and how this relates to writing. This
chapter ends with an articulation of the narrative position of patchworking, and the consequences for the narration of Chapter Five, which is a patchwork.

3.2 Politics of method—a call for new ways of knowing in design-oriented research and social sciences

When the two of us worked together at the Interactive Institute we positioned our work as artistic research and realised that we were part of a growing interest in, engagement with and practising of new ways of knowing. For example, as part of the aforementioned project [ordlekar] (see Chapter One) we were featured in a yearly publication on artistic research by the Swedish Research Council (Bornholm 2007). In this publication many scholars have articulated the potential of artistic research as a method through which to know and its possible contribution to displacements of dominant ways of knowing (cf. Hughes et al 2011 for a broad discussion on artistic research as a way of knowing, Gislén 2011 on three specific artistic doctoral theses in Sweden and Brečević et al 2011 on one particular artistic research project where artists and a media and communication studies scholar worked together).

For various reasons there is a wider scholarly, proliferating, interest in and engagement with methods and a related focus on, as well as calls for, new ways of knowing across disciplines, which this section deals with. Some examples are Savage (2010; 2013) who, based on a historical sociology of post-war Britain, has come to an interest and engagement in debates on ways of knowing. We take one of his points to be that we can only know through methods, and that is why it is important that, if we are to know more than we can with the existing methods, we also need to engage with new methods, or, new ways of knowing. Another example is Büschcr et al (2011) who react to the poor readiness of existing methods in dealing with, in short, (im)mobilities, and have edited a book which suggests a number of ”mobile methods” in and around social sciences. This call for new ways of knowing is not only about the new, but can also be about revisiting ways of knowing from the past. For example, Light and Akama (2012) argue that methods within participatory design recently have been treated as discrete entities, separate from those who use them. This means that the focus is on what methods can do rather than how they are practised.
This, they argue, has not always been the case, which invites us to revisit earlier discussions on methods within participatory design.

In *Complexities* Law and Mol (2002) write that many methods within social science know through simplifications (see also Law and Urry 2004; Law 2004). However, they are themselves contributing to a recent focus on how to know complexities. In the book *After Method* Law argues that if we as researchers are to know realities that are messy and complex, we need to “... teach ourselves to think, to practice, to relate, and to know in new ways” (Law 2004, p.2). *Patchworking* is our suggestion, which should not be understood as a universal answer to how to understand or know mess and entanglements. On the contrary, we want to acknowledge that method is situated, and always in need of creative and sensitive adjustments and translations. This is also one of Law’s arguments.

The need to adjust methods to that which they aim to know, is further explored in *Inventive Methods* (Lury and Wakeford 2012). Through a series of examples of “inventive methods” Lury and Wakeford argue that “... it is not possible to apply a method as if it were indifferent or external to the problem it seeks to address, but that method must rather be made specific and relevant to the problem. In short, inventive methods are ways to introduce answerability into the problem” (ibid, pp.2-3). The inventiveness of a method more specifically lies in its capacity to change the problem that it aims to address. We cannot, however, judge whether or not a method is inventive or not in advance. A method’s inventiveness is always made collaboratively in use, situated somewhere and sometime (ibid, p.7). Such reasoning is in line with Law, who points out that methods are so much more than what is said in books and in lecture halls, and argues for what he calls “methodological assemblage”. In short this implies that a method is always part of an assemblage of tools, people, contexts and more, and participates in enacting realities. One such example, which Law and Urry (2004) and Ruppert et al (2013) refer to, is that public opinion polls not only produce knowledge on public opinion; the polls also participate in producing an opinionated public. Methods are thereby not only about epistemology but also ontology (Law and Urry 2004). Importantly, the cuts of what to include, exclude and make other have consequences for what is made absent and what is made present (Law 2004 p.144; Suchman 2007, p.283).
As we mentioned at the beginning of this section, patchworking is not only about understanding or knowing mess, but to intervene in order to know, speculate on and participate in the enactment of what is not quite yet existing. We thereby also turn to practice-based research. Doing practice-based research assumes that one way of knowing is through action, for example through experimenting or intervening in the world. Our practice-based research is an attempt at contributing to methodological assemblages in social sciences, design research, humanities and artistic research.

Learning or producing knowledge through doing and practice is, of course, nothing new. Following the tradition of Dewey (1916 [1944]) and American pragmatism, Schön (1987; 1983) has done extensive work which aims to articulate how knowledge is produced in professional practices such as design. One of his main arguments is that a technical rationality, which aims to produce universal truths, is only possible if you can isolate a problem. In the swamp of practitioners this is not possible because every situation is infinitely complex. To avoid drowning you need to constantly be on the move. From the perspective of technical rationality it looks like practitioners do not know what they are doing. To understand the rationality of practice you have to engage with it through reflection in and on action. This, then, is the reflective practitioner.

While Schön himself does not conduct practice-based research, his writing has been widely used by scholars who, through experiments and interventions, aim to develop knowledge on how to improve practices\(^\text{20}\). Partly drawing on the work done by Schön, Brandt et al (2011) propose ”design programs” as one way of getting beyond experimentations that are set up to validate or falsify a hypothesis. Instead, design experiments are conducted within a program in order to explore its potential. This experimentation is a dialectic practice, where experimentations and the frame of the program influence one another and might result in drifts of the program, i.e. that the program is reformulated. It is important that the framing of the program is open enough to allow for the unexpected, but still create a direction for the experiments. The aim of a program and its experiments

\(^{20}\) One such example can be found in Material Matters by Eriksen (2012), who brings Schön’s writings into a context of co-designing. Compared with Schön, she puts focus on design situations that are collective, and thereby broadens the scope of who is a designer and what a design situation or material can be.
is to establish a kind of “provisional knowledge regime” (Brandt et al 2011. See also Hallnäs and Redström 2006).

We find one similar important point between how Brandt et al (2011) conceptualise programs as a practice-based method in relation to how Lury and Wakeford (2012) conceptualise inventive methods as a social science method: they all stress the importance of the capacity to change the frame or problem, which is researched.

In his thesis, Andersen (2012) articulates what he calls “in(ter)ventive methods”, by combining methods from the social sciences, such as inventive methods (Lury and Wakeford 2012) and method assemblages (Law 2004), with designerly interventions and experimentation (cf. Danholt 2008; Halse 2008; Wilkie 2010). He thereby adds intervention to inventive methods, which suggests methods that are as much concerned with being answerable and accountable to the problem as suggesting a solution (Andersen 2012, pp.95-96). In his case this means that the use of a prototype becomes a mode of making accounts of the problem and at the same time attempting to solve it: “...a useful prototype can only be useful if it is used and making an account of what is the problem can only be made by intervention and attempts at solving it” (ibid, p.109, italic in original).

When creating a methodological assemblage for this thesis we have, in line with Andersen’s in(ter)ventive methods, been inspired by methods and approaches from both social science and design. When doing so we have used the figuration of *patchworking*, which proposes a specific way of knowing that which does not quite yet exist. As we have written previously in this chapter: to know the not yet existing through engaging with what is at hand. This also implies that we are participating in the enactment of what we are studying through interventions. To us, *patchworking* is thus not just an analytical tool, it is also a practice that makes realities. It is our attempt to deal with the mess—as Law calls it—and the swamp—as Schön calls it—while staying with some of its complexities.

The figuration of *patchworking* is highly influenced by the writings of scholars within the field of STS and feminist technoscience such as Haraway (cf. 1994; 2008), Latour (cf. 1999; 2005a; 2010; 2011), Barad (cf. 2003; 2007;
patchworking does not operate without references. To acknowledge these connections we will discuss some of the assumptions that patchworking draws upon, which we partially share with the scholars mentioned above. We are here referring to the ontological assumption that things are constituted through their relations and that agency is distributed between human and nonhuman actors.

First, a few words about figurations, and how they have been used by feminist scholars to trouble and displace certain cultural imaginaries and materialities.

3.2.1 Figurations
Figurations are performative images that can be inhabited. Verbal or visual, figurations are condensed maps of whole worlds. (Haraway 1997, p.179)

Figurations can be used to displace (cultural) imaginaries and materialities (cf. Kember 2003; 2011). Donna Haraway argues that: “Figures must involve at least some kind of displacement that can trouble identifications and certainties” (1997, p.11). A reason for using figurations is thereby that they are transformative. One of the most well known figurations is the cyborg, which Haraway (cf. 1991; 1997) has used to trouble the relationship between nature and culture as well as man and machine. Yet another figuration is the killjoy by Ahmed (2010a; 2010b), which troubles the notion that critique is destructive.

In order to be response-able to contextual changes in which the figurations are used, new figurations need to be articulated. What is becoming and what is strategically wise to leave behind from a certain position at a certain time will inevitably change and therefore the figurations need to change to stay relevant. Åsberg et al (2012, p.36) encourage us to imagine new figurations.

While the two examples of figurations that we described above, the cyborg and the killjoy, are characters, the figuration of patchworking is used as a figuration for how to produce knowledge collectively. It is a practice. Thereby patchworking is perhaps more similar to the figuration of
cat’s cradle that Haraway (1994) has used to trouble, for example, what she finds to be a militaristic approach to knowledge production (see also Haraway 2011). What the patchworking figuration troubles and displaces more specifically will be discussed throughout this chapter. But in short, patchworking intervenes in and troubles linear, singular storytelling and dualisms. It suggests narratives with several entry- and exit-points. Patchworking also intervenes in the notion that mature and robust knowledge is to be derived safely from established qualitative or quantitative methodologies. Instead it suggests highly localised/situated ways of knowing and forms of expressions of knowledge. Patchworking intervenes in designerly, artistic and academic practices that localise creativity and agency in one actor—the bounded actor that can be isolated. It troubles neo-liberal, capitalist ideas of individuality and discrete entities, as well as suggesting serious collaboration and relationality. Patchworking thereby directs attention towards entanglement of performativity and materiality. Finally patchworking troubles ways of knowing that are mainly about revealing structures and norms, and instead proposes a mode of producing knowledge through crafting.

3.3 Relations and mutual constitutions
In this section we aim to show some of patchworking’s genealogies. We will therefore introduce our main assumptions of how the world is constituted. In short, this ontology suggests that things are constituted through their relations to other things. In other words, a mobile phone cannot be understood in isolation, but through how it comes into being in a set of relations including, for example, someone making a phone call, assembly line workers, satellites and masts. As a consequence of understanding the world as becoming, depending on what relations are created, it is also important to note that agency is mutually constituted between humans and nonhumans.

Allison Hui (2011) has shown that what a patchwork looks like and the practice of how it is patched together is a result of availability or lack of certain technologies and materials, in combination with traditions and more. What is at hand or not is partly a result of development of technologies for transportation. In other words the becoming of a patchwork is best understood through complex and intertwined relations in which people, technologies, materials and knowledges come together.
To discuss this we will first turn to ANT, which is a set of tools and methods that understands: “... everything in the social and natural worlds as a continuously generated effect of the webs of relations within which they are related” (Law 2009, p.141). ANT is thereby a way of working, which is grounded in empirical cases and tells stories of how actors assemble, or not, in networks (cf. Law 2009; Latour 1999) and how facts and artefacts are constructed materially as well as socially. Within ANT, social studies methods such as ethnography and observations are often used to follow actors to map, for example, the construction of facts, artefacts and issues.

Early work in ANT (cf. Latour 1987; Callon 1986) was done to show how scientific facts are constructed and held together in networks. One important part of this practice, Latour argues, is black boxing, which “… refers to the way scientific and technical work is made invisible by its own success” (Latour 1999, p.304). Latour exemplifies with an overhead projector, which does not remind us of its existence and its various parts until it breaks down. As long as it works it is taken for granted and understood as a self-contained actor. That means that a black boxed network is understood to be a self-contained actor. When the network becomes destabilised, for example by one of its parts breaking, this is when the network can be unravelled, and the agency of its parts can more easily become knowable. As is apparent in the reasoning above, not only humans are considered to have agency within ANT, but also nonhumans. Scholars within ANT have argued for a symmetry of agency between humans and nonhumans.

This statement should not be understood as claiming that every actor is the same with the same capacity to act: “To be symmetric […] simply means not to impose a priori some spurious asymmetry among human intentional action and a material world of causal relations” (Latour 2005b, p.76). Symmetry of agency is thereby different from the anthropocentric focus that is and has been strong within the humanities and social sciences, which could be described as an asymmetry, where agency most of all is understood to be situated in human subjects. de Paoli and Storni (2011) suggest that this understanding of agency also implies that skill is constituted as an assemblage between humans and technologies. They describe how a material that is put into relation with another material changes the dynamics of skills between the user of the materials and the materials themselves:
The breadboard that can be mounted on top of the Arduino enacts a skill that was previously required on the side of users. However, using the breadboard minimizes the need for soldering tools and the relational skills that derive from associating with them. There is therefore a circulation of skills that is always a symmetrical trade-off between humans and nonhumans. (ibid, p.50)

ANT has done important work in reconsidering this favouring of human agency and autonomous humans. In a generative dialogue between ANT and feminist technoscience, Suchman reminds us that it is also important to see that there are differences; that not everything has the same capacity to act at any given time (Suchman 2007, p.261). In *Human-machine reconfigurations: plans and situated actions* (ibid) Suchman argues that understanding agency as mutually constituted shifts our focus from agency situated in discrete and stand alone entities to agency that comes out of specific configurations of human as well as nonhuman actors (ibid, p.261 and onwards). This is not to say that agency is simply distributed among several actors, human and nonhuman, but that agency is always a mutual constitution of a specific configuration of humans and nonhumans. It does not mean to ignore that, within these configurations, there are differences, asymmetries and power relations. Paying attention to these relations is of great importance since this is how we can be accountable for our relations with artifacts. The challenge, as she puts it:

> [...] involves developing a discourse that recognizes the deeply mutual constitution of humans and artifacts, and the enacted nature of the boundaries between them, without at the same time losing distinguishing particularities within specific assemblages. Recognizing the inter-relations of humans and machines, in other words, does not mean that there are no differences. The problem rather is how to understand the nature of differences differently. (ibid, p.260)

Understanding agency as a mutual constitution between humans and nonhumans should then be understood as an approach to design and media that is neither human-centred, nor technological determinism (cf. Kember and Zylinska, 2012, p.6; Björgvinsson 2007).
As a critique, and a continuation, of ANT, Law and Hassard (1999) have proposed what they call ANT and after (ANTa). In short this continuation implies an inclusion of the less stable and ambiguous. This should be understood as an alternative to ANT that, according to them, has too much focus on stability and drawing things together to one centre (see also Elovaara 2004 for an overview; Law and Mol 2001; Law 2002; Law and Singleton 2005).

One oft-cited ANTa-work is an article by de Laet and Mol (2000), in which they tell stories of a bush pump, which they describe as a fluid piece of technology. Their argument is that the bush pump can act because of its fluidity rather than because of its stability, in contrast to what so many other ANT stories have shown. In order for it to work, there is a need for lots of work to be put into it. In this case the work put into making it work is understood mostly as a good thing. It becomes a way of adjusting and caring.

ANT and its critics have done great work in helping us understand the messiness and complexity of these relations; the work that is done to hold things together or not. But, as Latour has also pointed out himself, there is something visually wrong with how networks are often represented. He exemplifies with the numerous presentations he has seen where networks are often drawn with straight lines and neat black dots. With reference to *Galaxies Forming along Filaments*, an art installation by Tomas Saraceno, Latour argues that the trick lies in “…changing the density of connections until a net ends up being undistinguishable from a cloth” (Latour 2011 p.801). As we understand his reasoning, a cloth would better represent the complexity and messiness of the swamp.

Already in 1994, before Latour suggested that networks are perhaps better represented as cloths, Donna Haraway wrote that she “…prefer(s) cat’s cradle as an actor-network theory” (1994, p.71), as another textile association. Her argument is that the worlds that are analysed within ANT, STS and technosciences are often warlike. The game of cat’s cradle is when you make patterns out of a string by knotting and configuring them with your hands. The game can also be played in collaboration with other hands and limbs. The challenge, as she puts it, is to not replicate the militarization of the world in academia by producing a war of words and things:
Must technoscience—with all its parts, actors and actants, human and not-be described relentlessly as an array of interlocking agonistic fields, where practice is modeled as military combat, sexual domination, security maintenance, and market strategy? (Haraway 1994, pp.60-61)

Her alternative, the game of cat’s cradle, is not about combat or about winning, but about creating interesting patterns. Through introducing cat’s cradle she brings the work of holding complexity alive close to the body. She also makes the ANT-point, that what counts as human and non-human entities is only defined by relations, and adds that those categories are done “... by engagement in situated, worldly encounters, where boundaries take shape and categories sediment” (1994, p.64). Here Haraway figures an ontology where entities are not given; their boundaries are only temporary boundaries, but they have material effects.

Also Karen Barad (2003; 2007; 2010) proposes, through her continuation of Niels Bohr’s studies of quantum physics, an ontology that resists pre-existing relata. Barad uses the expression of “intra-action” to depart from the implications of preexisting entities entailed in the expression ”interaction”. To Barad the smallest entity is ”phenomenon”. With reference to Bohr, she describes phenomenon as the inseparability between object and agencies of observation. In other words, she argues that we cannot separate the knower and that which is known, since they are co-constituted, become in intra-action and are already entangled. Nevertheless, there is ”agential separability” within a phenomenon (cf. Barad 2003; 2007; 2010). These are not constant, but a result of ongoing agential cuts enacted through intra-action, which suggests that there is always a possibility for change.

Importantly, that entities are constantly reconfigured does not imply an erasure of the past. Rather, Barad writes: “... the sedimenting material effects of these very reconfigurings [...] are written into the flesh of the world” (2010, p.266). Still, an ethics of entanglement, she argues, is to rework “...the material effect of the past and the future” (ibid). She uses agential separability within a phenomenon to simultaneously point out differentiation and entanglement. As we understand Barad, her point is that differentiations and cuts are not the same as a radical break, but also a joining, connection and commitment—a cutting together-apart with
those “...already dead and those not yet born” (ibid). The ethics of the cutting will be dealt with further in the coming section.

3.4 Patchworking ways of knowing
The patchworking ways of knowing is, in relation to ANT, not only about following the actors to map what relations they are in. Patchworking ways of knowing is also about putting what is at hand into new relations and thereby generating new configurations of agencies. Furthermore, based on the ontological assumptions described above, we, as researchers, are always part of what we are researching. We will here outline knowing through collective interventions and staying with those.

Within feminist philosophy of science, great efforts have been put into showing how the Western sciences have privileged certain knowledges as well as knowers throughout history. Haraway (1991) builds on, and departs from, the work of Harding (1986), to argue for what she calls situated knowledges.

The concept of situated knowledges was developed as a reaction towards relativism and totalisation which, according to Haraway, are both “... ‘god-tricks’ promising a vision from everywhere and nowhere equally and fully” (Haraway 1991, p.191) As an alternative to both of them she suggests situated knowledges, which in short can be described as knowledge that is locatable and which acknowledges its partiality. In other words, she argues that we need to acknowledge that we all have positions and bodies, not for its own sake, but in order to find “…the connections and unexpected openings situated knowledge make possible” (ibid, p.196).

The concept of situated knowledges is, among other things, an attempt to show how vision is always embodied, which includes not only the organic body, but also technologies of visions, such as microscopes, binoculars, scanners, glasses and more. There is no passive vision, even our own eyes “...are active perceptual systems, building in translations and specific ways of seeing” (ibid, p.190). Only when we acknowledge the partiality and situatedness of our knowledge, can we be held accountable and “...become answerable to what we learn how to see” (ibid). (For an overview of feminist philosophy of science and its relation to practice-based research cf. Gislén 2003; 2007a; 2007b).
*Patchworking* suggests that we as researchers are not only using technologies of vision, but also technologies for sewing, patching, cutting, making and crafting. Those technologies and practices are ways of knowing the mess, as Law called for (2004), that, in line with some of the more experimental and practice-based technologies and practices that we have provided, aim to know through making interventions from within mess. Through the *patchworking-figuration* focus should be kept on questions such as: what relations are created and which are not made possible through the reconfigurations that are made?

This position, that involves putting things together, is partly something that Latour deals with in the article "An Attempt at a 'Compositionist Manifesto'". Critique, Latour writes, “... ran out of steam” because it was predicated on the discovery of a true world of realities lying behind a veil of appearances” (Latour 2010, p.4). As a consequence, Latour argues, matters-of-fact and stable and predictable futures are rare, which leads him to propose compositionism. Composing could be seen as a practice of bringing things together, while still acknowledging their difference and that they might not fit perfectly together.

As we understand the practice or position of the compositionist it is an attempt to move away from critique to that of composing: “It is time to compose—in all the meanings of the word, including to compose with, that is to compromise, to care, to move slowly, with caution and precaution” (ibid, p.15). This move from critique to composition, he argues, also means that one can fail. It is not concerned with the “…difference between what is constructed and what is not constructed” (ibid, p.4), but the “…crucial difference between what is well or badly constructed, well or badly composed“ (ibid).

We previously pointed out that Haraway has a focus on vision and technologies for vision as important parts of how knowledge is made. Through her use of the figuration of cat’s cradle and "becoming with" (2007), Haraway suggests, and has moved towards more of, a composing position. In fact, Latour (2010) has called her book *When Species Meet* “a compositionist book if any” in a footnote.
The ethical project of reconsidering how we make connections and relations between concepts, words, things, and actors is something that Haraway continues in her book *When Species Meet* (2008). In the book she uses cat’s cradle to discuss becoming with as a process of becoming worldly. As we understand the emphasis on becoming *with* and becoming *worldly*, it means to respond to and take responsibility for how relations and encounters are made possible (cf. Haraway quoted by Gane 2006; Haraway 2008; Åsberg 2012, p.52). Kember writes that this reconnection between “... the observing subject with the observable world [...] is ethical as much as it is epistemological.” (Kember 2011a, p.187). Harway herself writes of situated becoming as ethical as much as political (Haraway quoted by Gane 2006, p.145).

That brings us back to the question of *well* or *badly* composed. As we understand Haraway, her answer would be compositions that “...leave the mark of care for those who come after” (2009, 25 minutes) through getting on living together. She prefers this to trying to solve troublesome pasts and dilemmas by rescuing whatever the worry is to a museum. When there is a trouble, Haraway suggests that it should be stayed with and grappled with.

Barad, whose writing has clearly developed with that of Haraway’s, also seeks to “creatively re-pattern the world” (Barad quoted by Juleskjaer and Schwennesen 2012, p.16). Barad agrees with Latour that critique has run out of steam, because “Critique makes people feel attacked. It doesn’t focus on living together, hopefully living well together and flourishing” (ibid). However, with the help of Puig de la Bellacasa (2011), she wants to add the engagement of matters-of-care to Latour’s matters-of-concern. To be concerned and to care is similar, but, according to Puig de la Bellacasa, care has a stronger ethical and affective connotation. Care can also be turned into a verb; to care, which “...strongly directs us to a notion of material doing” (ibid, p.90). Furthermore caring has the potential to gather since “...nothing holds together in a liveable way without caring relationships” (ibid, p.100). So what does it mean to create, have, make caring relationships?

Puig de la Bellacasa’s contribution to the complexities that we face in a technoscientific world, is that of a request for “... speculative commitment to contribute to liveable worlds” (ibid, p.100). This can be done through

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creating relations. What that would mean is something that needs to be
dealt with in each situation, and maintained in everyday life. Furthermore
Puig de la Bellacasa recognises that the same move could be a way of
caring in one place and killing elsewhere. For Puig de la Bellacasa caring
can also be cutting into things, and detaching some part of an assemblage
since doing so could be to make a relationship that re-attaches (ibid,
p.97). Puig de la Bellacasa also puts forward that those who show care
for something also engage others in what is to come, which we take as a
recognition of collectivity.

The interventions of patchworking involve care for the past as well
as the future, and a recognition that there are multiple presents. When
gathering fabrics to use in Threads we have spent a lot of time in second-
hand stores. We have come across fabrics that have been torn as well as
hardly used at all. We have found linen with carefully embroidered initials
to buy for almost no money at all. The patchworking interventions
through Threads is not to preserve these materials, as they once were,
even though it can be a painful practice to cut them apart. It is an engage-
ment that is similar to the way Barad speaks of creativity as a kind of dis/
continuous crafting:

But in any case, creativity is not about crafting the new through a radical
break with the past. It’s a matter of dis/continuity, neither continuous
nor discontinuous in the usual sense. It seems to me that it’s important
to have some kind of way of thinking about change that doesn’t presume
there’s either more of the same or a radical break. Dis/continuity is a
cutting together-apart (one move) that doesn’t deny creativity and inno-
vation but understands its indebtedness and entanglements to the past
and the future. (Barad quoted by Juleskjaer and Schwennesen 2012, p.16)

To craft things well, as patchworking reminds us, is not about the cult
of the new, but about continuous working with patches that are already
implicated, have a genealogy, and through the relational reordering slightly
reconfigure the world and relations in a responsible way. Interventions of
patchworking are to attend with care to histories, materials, and genea-
logies of the past, and bring those with us into future configurations.
Patchworking suggests an intervention that is about putting things in relations, in line with the compositionist proposal by Latour, but also cutting. Rather than considering these as two separate and opposite practices we would like to use the phrase by Barad: cutting together-apart. Patchworking is about taking what is at hand but also about challenging what is at hand through reconfiguring it.

In this section we have suggested that patchworking ways of knowing, through intervening, means to engage with what is at hand and to alter the relations. What is patched together are different temporalities as well as spatialities. Importantly, this is a collective practice, between both humans and nonhumans, which requires ongoing care. This means that the patchworking ways of knowing is done through collective interventions that we stay with.

We will now give accounts of how we have practised patchworking ways of knowing in our everyday work as PhD students. This is also an attempt at adding an exemplar to the repertoire of knowing mess and complexities through in(ter)ventive methods.

3.4.1 Intervening

As we have mentioned, patchworking is an attempt to know that which does not quite yet exist, through engaging with what is at hand. Such engagement should be understood as entangled in multiple materialities and temporalities. For example, Threads as a gathering is an attempt to explore new modes of meeting. And such exploration is done through engaging with and reordering already existing ways of gathering such as sewing circles, exhibitions, study circles and more. It is thereby a way of knowing the not-yet-existing through intervening in sociomaterial entanglements.

Such interventions are in several aspects similar to experiments and explorations, which are used in practice-based research (cf. Koskinen et al 2012; Brandt et al 2011). Redström (2007) writes that the aim of design experiments is to create concrete images of what is possible, rather than making abstract images of the actual. The aim is thereby not to produce claims of truth, but to make difference. By using the word intervention we want to emphasise that the patchworking ways of knowing is not about setting up an experiment from scratch in a restricted lab, but to engage
and intervene in materialities, temporalities, knowledges and more that already exist.\(^{21}\)

Thereby the *patchworking* interventions have commonalities with modes of experimentations that are done ‘in the wild’ (Callon and Rabeharisoa 2003). ‘In the wild’ describes research that is not only done by researchers in labs but also by lay people in their everyday lives.\(^{22}\) Callon and Rabeharisoa mean that this kind of research can, potentially, result in co-production of scientific knowledge, between researchers in laboratories and patients. The advantage is, for example, that the patients intervene in scientists’ problem formulation, since “…professional scientists do not on their own readily take into account demands and problems raised by orphan groups” (ibid, p.202). This thus means that research ‘in the wild’ has the potential to co-articulate relevant questions that the confines of a lab do not allow for (see Löwgren and Reimer 2013a, for a range of cases conceptualised as collaborative media production from our research environment that they call research ‘in the wild’).

However, others have continued to hold onto the concept of the lab, while at the same time calling for and practising knowledge producing interventions outside of labs. Living labs, for example, are interventions into everyday sociomaterial living where researchers aim to contribute to economic growth as well as new employment possibilities through making research projects specific to the contexts where they are engaged.\(^{23}\)

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21 Recently attention in media studies has been paid to interventions, through for example *Media interventions* (Howley 2013). Although the move they make in *Media Interventions* is in particular away from alternative media (cf. Lievrouw 2011), the *patchworking ways of knowing*, through intervening, can sympathise with the main argument that interventions should not be considered only in the case of activists’ resistance against hegemonies, but that interventions can also be made across the state, market and civil society actors. Distributed agency and power will appear many times in this thesis, but not necessarily in relation to concepts such as activism, the state or the market.

22 Another way of framing the break with what is sometimes called Mode I and sometimes research in the Ivory tower, is Mode II (Nowotny et al 2001. See also Johannisson et al 2008 on interactive knowledge production). Nowotny et al (2003) call for collaborative knowledge production, which aims to be socially robust through conducting it with sensitivity to the context. This means that it is developed and evaluated locally in collaboration between academic and other forms for knowledge (Winther Jorgensen 2008, p.349).

23 Living labs are often part of the European Union’s innovation politics. These interventions are sensitive to the local circumstances, hence, when Luleå University of Technology, in the very northern parts of Sweden, set up a living lab it was concerned with, for example, how to innovate with technologies and indigenous people who partly live nomadic lives, drawing on gender theory (cf. Lindberg and Udén 2008).
In Malmö, where we are based, our colleagues have developed their own take, which is a non-consensus seeking democratic stance on social innovation\textsuperscript{24}. They work with long term collaborations with marginalised social movements as well as with the municipality in creating an innovative milieu. The Malmö Living Labs have moved the concerns of design from \textit{what} to \textit{when} with the conceptualisation of the term infrastructuring, which should be understood in contrast to projects which follow sequential steps of clear beginning and end (cf. Björgvinsson et al 2012). Another take on living labs is expressed by Binder et al (2011a) through their formation of a co-design lab. Binder et al make a point out of having moved from design studios to programmatic knowledge production in a lab which overflows its boundaries into mundane living. The co-design lab, as they write, meets other ‘living labs’, such as community living and exercising in public spaces (ibid pp.8-9). Rather than conducting experiments, the design laboratory is here described as rehearsing futures or new relationships, for example between citizens and industry. The design lab is thereby practised as a stage where the new is prototyped through performances (ibid, p.7).

It is however not only practice-based or design-oriented research that has dealt with experiments that intervene in the everyday. There is also a history of social science experimentations, which is thus an explicitly performative research mode not only concerned with researching \textit{on} something. In the book \textit{Inventive Methods} Marres (2012a) describes experiments in the living as an inventive method. In her discussions she primarily compares two kinds of experiments. A historical one is the ethnomethodologist ”breaching experiments” (Garfinkel 2012 [1967]) which involved researchers disrupting their private relations. A more contemporary one is what Marres calls ”sustainable living experiments”, which deals with materialities and things such as smart meters in the homes, living without a car and not washing hair, in order to disrupt social life. Whereas sustainable living experiments are more focused on disrupting material habits, breaching experiments were more focused on disrupting social conventions (Marres 2012a, p.92).

In the case of \textit{living experiments} in social science, the important move was not to move from the lab into ‘the wild’, since the lab is first and

\textsuperscript{24} At the research centre Medea at Malmö University three such living labs have been articulated: Living lab Fabriken, Living Lab the Neighbourhood and Living lab the Stage (Medea n.d.).
foremost associated with the natural sciences. Instead the novelty lies in conducting experiments and interventions. The aim of these experiments is not necessarily to solve an issue, but to “... apply the social methods of the disruption of everyday routines in order to render visible the objects and settings of everyday life” (Marres 2012b, p.79). A slightly different approach is exemplified through the art project *Spiral Drawing Sunrise* (Marres 2012a; 2012b), where the aim is not so much about ”bringing routines to a halt”, but to highlight both temporal and spatial movements, by rendering distant things as movement in the here and now.

So far in this section we have mentioned research that explicitly uses experiments and interventions as a mode of knowing. As we have mentioned earlier, Law argues that all knowledge production enacts realities (cf. Law and Urry 2004; Law 2004; 2009; Suchman 2012). We regard this as an important move to make in methodological discussions in the social sciences and humanities.

One difference between practice-based and other research practices, as we understand it, is that you will most likely intervene in different contexts, depending on whether you use a text, a workshop, a design artefact or a performance to intervene. For example, when we host a sewing circle in a particular rural community centre, it can, for instance, become an intervention in how this centre is used as a meeting place. If we write a paper to present at a conference such as the *Participatory Design Conference* (n.d.), it can, for example, intervene in who is to be defined as a participant in a participatory design project. Yet another difference is that, as argued by Andersen (2012), designerly interventions are not only aimed at expanding or questioning what the problem is, or disrupting routines of everyday lives (Marres 2012a; 2012b). In(ter)ventive method also aims at providing some kind of solution.

In this section we have discussed several kinds of research interventions and experimentations, which have similarities but also differences. For example, in terms of where and what they intervene in and the temporality of such interventions. The social science experiments that Marres (2012a; 2012b) calls living experiments disrupt social conventions and material habits, to render them visible. This is thus an attempt at stopping time, and to create an intervention that makes the mundane stand out. In(ter)
ventive method (Andersen 2012) argues that prototypes are used both to probe the present and suggest the future (as a solution to a problem). But still, this solution seems to be about something that is to come. It is still a prototype of a solution. This strategy is thereby somewhat similar to the notion of rehearsing the future (Halse et al 2010; Binder et al 2011a) which suggests a performative approach, where multiple actors enact possible futures i.e. that which does not quite exist yet. Despite that all of these interventions are also done more or less ‘in the wild’, concepts such as the stage or lab suggest that prototypes, experiments or rehearsals are somehow separated from the everyday. Infrastructuring (Björgvinsson et al 2012), in contrast, puts focus on the ongoing practices of making connections and does not expect a final solution.

*Patchworking* interventions have similarities with all of these. However, *patchworking* is not so much about rehearsing for something else that will come in the future. *Patchworking* is to take what is at hand, and put that into new relations. This is done not to reach one solution but as an ongoing practice of intervening from within. Thereby *patchworking* is similar to infrastructuring.

Furthermore all of these strategies seem to involve different kinds of collectives. Co-design lab, for example, works with the premise that the world consists of multiple living labs that can work together. Andersen (2012) argues for prototyping the collective, which means that the collective is not there yet, but that which is being prototyped. In the next section we will focus more on the collective aspects of the *patchworking ways of knowing*.

### 3.4.2 Collectively

In the previous section we started off using the composition of *Threads* to argue that the *patchworking ways of knowing* involves intervening in the world. The same example could be used to suggest that such interventions are made collectively. *Threads*, as an intervention, is not simply done by the two of us, but also by other actors such as participants in *Threads*, the other collaborating partners and more. This does not mean that everybody intervenes in the same way or capacity, or that the collective is one or stable. Rather, we would say that there are several ‘we’ that participate in the *patchworking* interventions of different kinds. Thereby
the *patchworking ways of knowing* disrupts narratives of invention and knowledge production that locate agency in one sole actor.

As we mentioned in the previous section, various forms of research ’in the wild’ are often done in collaboration between multiple actors, and it is not simply researchers who participate in the production of knowledge. This does not, however, mean that everybody who participates in such experiments or interventions has the same agenda. For example, Marres (2012b) argues that sustainable living experiments need to be appreciated by their multiplicity of purposes. The same goes for the collective *patchworking* of *Threads*. All of the collaborating organisations and actors in *Threads* have partially overlapping agendas, but also more specific reasons for participating and contributing to the making of *Threads*. Most likely, all of the collaborating partners have produced knowledge that is relevant to their organisations. For example, the Swedish Travelling Exhibitions have sought to gain knowledge and experiences that can be useful in future designs of exhibitions. The rural community centres, as a national organisation and each specific community centre, sought to gain knowledge about how to reactivate rural community centres. If the intervention of *Threads* would not somehow have become relevant to them, *Threads* as a collective intervention would not have been possible. While we would not say that everybody collectively participated in exploring the two aims of this thesis, their engagements have influenced us and what we can say about *publics-in-the-making* as well as *patchworking*.

As we mentioned, there are several ‘we’ who participate in the *patchworking* intervention. One way of framing the relations between these collectives is that they invite as well as become invited. For example, for *Threads* to be able to invite, it also needs to be invited into, for instance, rural community centres and cultural institutions. Such reasoning is similar to what Binder et al (2011a) have framed as multiple living labs, existing in proximity, that at times recruit one another. Furthermore, we would like to emphasise that the collective(s) that participate in the *patchworking* intervention is emerging, rather than pre-given. This is in line with, for example, in(ter)ventive method (Andersen 2012) and infrastructuring (Björgvinsson et al 2012), which prototype collectives.
To end this section we would like to highlight three challenges of conducting such collective interventions.

To do research through collective interventions, for example, implies that we as researchers do not ourselves have control over all parameters in an experiment or intervention. We are not the only ones who participate in doing the interventions, and setting the directions for it. For instance, at one point in the project, the Swedish Travelling Exhibitions got a new directive from the state, which meant that they were no longer supposed to develop exhibitions but to focus on consulting others in such practices. This meant that their role in the project changed dramatically.

Furthermore, to do research through collective interventions implies that interventions take place also when we are not present. More concretely, many sewing circles have taken place while we were not there. One way of knowing these events is, for example, through interview, or through inviting participants to various kinds of documentation. And so we have. We have done interviews, where we both agreed on the questions, but one of us called a former host on the phone. After the interview the answers and new questions were shared between the two of us as a Google Doc. We have also invited participants to upload images to Threads’ webpage as part of the self-documenting participation in Threads.

However, rather than using interviews and other approaches to gain knowledge about what happens when we are not in the sewing circles, we have most of all used our position of being at a distance as a specific way of knowing a project that is distributed and mobile. This means that instead of trying to make collaborative fieldwork or have others do our fieldwork, as sometimes is the case with ethnography (cf. Ito et al 2010 on a collaborative, distributed and shared media ethnography, O’Dell and Willim 2011 on irregular ethnographies and Sundén and Svenningsen 2012 on “twin ethnography”), we have regarded the field as that which we can have access to as researching participants in Threads. In other words, activities of planning the tour, being present in some of the sewing circles, browsing through the images on the website from home or talking to a host on the phone to help him or her out with how to connect the phone to the embroidery machine, and more. In other words, our material is fragmented, and the study cannot be described as a traditional ethnographic study. In
relation to her studies of global connections Tsing (2005) points out that ethnography was originally meant for small communities. When doing studies of transient encounters and interactions, and of changing events, she suggests the patchwork as a way to study them.

Finally we would also like to mention that those who do research with organisations, collectives and other actors outside of academia, whether they are called, for example, living labs or research ’in the wild’, are often concerned with what is sometimes called a double responsibility accountability. This double responsibility is not exclusive to more practice-oriented research. For example, feminist researchers (cf. Arora-Jonsson 2008) often take on this double responsibility vis-à-vis women as a collective. The point we are trying to make here is that depending on your researcher role and researching activities, the interventions you make have different kind of materialities and involve different kind of collectives. In our case our interventions involve both different disciplinary collectives and other collectives outside academia, such as the collaborating organisations or a specific rural community centre. The latter opens up for interventions in public engagement, or what we described as ‘folkbildning’ in Chapter One.

3.4.3 Staying with
Lastly we want to put forward that the patchworking ways of knowing is guided by what Haraway would have phrased as staying with (2011; 2013). Again we would like to return to the composition of Threads. So far we have argued that the patchworking ways of knowing is done through intervening and that such interventions are done collectively. On the one hand, Threads could be described as quite a transient intervention, in the sense that some of the encounters in Threads are rather brief. We do not know, for example, where the participants came from, their means of transportation to Threads, their educational backgrounds, socioeconomic circumstances, age and more. However, the patchworking ways of knowing is also long-term. Threads is, as we see it, also a mode of staying with the trouble, in the sense that the aim is not to solve or resolve something, but to stay with something, to stay with complexities. Threads is not an experiment or intervention that is done during one day or even a couple of weeks. It is an intervention that we have stayed with since about 2006.
When we first started our PhD positions one colleague questioned why we would continue to work with this project as part of our research, since, to her, it seemed to be a finished project. In a way such a comment is reasonable. Most practice-based research is about ideation, prototyping or other aspects of a design phase that is done before use. To stay with a project or intervention for many years is thereby not only a way of knowing. Staying with a project for as long as we have, we argue, also has consequences for what we can do research on or through. By staying with a project beyond the ideation and prototyping phases, we have instead been able to produce knowledge on how a design or a project becomes over time, in use, rather than how it was ‘invented’. This could also be thought of as inventions made over time.

Not all researchers have the opportunity to stay with an intervention for as long as we have, should they want to. For example, many PhD programmes last for three years, whereas we have five years. We do not write this to state what kind of research is possible or not to do within three or five years, but we do claim that time, as well as other parameters, such as funding, collaborators and more, matters.

Stengers (2011) has reacted to what she understands as research that simply feeds the knowledge economy. She calls it fast science. One characteristic of fast science is that the questions and experiments it conducts are ridded of the complexities in the common world. Therefore the reliability of the answers is limited to the relatively well-controlled confines of the lab. Instead, she has made a plea for slow science, which she hopes will be “...a reembedding of science in a messy world” (ibid 2011 p.10). This means to acknowledge that the questions that are posed in a lab are not the only relevant questions. Outside the lab many other issues and concerns will arise. Stengers’ plea for a slow science is thereby similar to the call for new ways of knowing (see previous section 3.2).

25 For a discussion on what could be understood as several simultaneous temporalities of a project, see Kozel 2012. She writes of the art project AffeXity which she considers to be at a fairly early stage, although it has been received as existing, which had the consequence of “...almost provoking us to correct the misconception that it existed when in fact it did not yet, making us want to slow its public reception, to decelerate the project, until we could catch up with it” (ibid p.2). The writing is thus used to “...catch up with it” (ibid p.3).
To connect back to discussions above: to some extent living labs, and other research done ‘in the wild’, could be understood as an attempt to overcome the limited possibilities of articulating problems in the confines of labs. Living labs are trying to answer to, and work with, issues and concerns that emerge over time. Simultaneously, living labs’ proximity to knowledge economy and fast science cannot be ignored. For example, through values of progress and the privileging of solving problems with new technologies. Furthermore, one outset for living labs, at least those funded by the European Union, is to generate economic growth and new job opportunities.

Exactly what slow science is, is not defined. Stengers considers slow science to be part of a movement, similar to that of slow food, but in science:

> Slow science is not a ready made answer, it is not a pill. It is the name for a movement that may gather many paths of recovery. What of slow meetings, that is meetings that are organized in such a way that participation is not formal only? (ibid, p.12)

To stay with the collective intervention of *patchworking* is our way of practising a slow research. *Threads* as a way of meeting, and as a way of practising *patchworking ways of knowing*, also invites for slowness and open-endedness. For example, usually we spend about six hours together, embroidering both by hand and with a machine without aiming to solve a set problem.

In this section we have argued for staying with and practising slow research. Does that mean that we are never done? Many who are involved in research projects that have gotten something started speak of exit-strategies. Of how to, for example, stop being the one who coordinates an urban service of food distribution (cf. Selloni 2013). Instead of thinking of how to leave and hand over responsibilities without further contact, we find it more generative to be concerned about how to stay connected, and at the same time allow for roles, responsibilities and commitments to change (cf. Latour 1996 on the project *Aramis*). *Patchworking ways of knowing* is thereby through caring for, over time and space.
A related question is: how do we know when we are finished exploring the research aims? In programmatic design research, the program is exhausted when experiments no longer give new insights, or when new programs start to emerge from the experimentations (Redström 2007). Similarly, we would argue that we are finished with exploring our research aims when we are no longer surprised or when there is no more inventiveness. However, caring for research aims and caring for an intervention that enacts socialites do not necessarily have the same temporality.

3.4.4 Writing together across disciplines

So, if *patchworking ways of knowing* is, collectively, intervening and staying with, we will end this section by discussing how that influences our writing, which is a writing together across disciplines. When we write *writing*, we refer to a range of writing practices such as taking notes, sharing notes, writing paper-drafts, re-writing after peer-reviews, writing on white boards and writing this thesis. When doing so we have also practised, and thereby enacted, different kinds of writing subjects. For example, when taking notes we do so individually whereas this thesis is most of all written from the position of a ‘we’. Taken together, this collective mode of writing is to be understood as a questioning of the single knower (which does not mean that an I or a me is a single knower). To give account of collective *patchworking ways of knowing* through writing, we will now discuss some of our writing practices in more detail.

Most of the materials that have been used to write this thesis have emerged in *Threads* as we have hosted educational sewing circles for new hosts. During such events we have had multiple roles, such as being hosts, which includes greeting everybody, telling anecdotes from previous sewing circles as a way of continuously inviting, making sure that everybody gets to try out the embroidery machines, engaging in conversations and posing questions at the same time as we are taking notes. The two of us thus have a particular practice that makes an important mark in *Threads*, since it is part of our doctoral work. We have always been open with our role as researchers and introduced ourselves as such in the sewing circles. As part of that introduction we have also explained that we will take notes during the day, and that those who do not want to be part of our notes, or any images, can tell us so. Sometimes this has raised questions. One person has said no to being mentioned by name and figuring in images. Some have glanced at the papers
where we have scribbled down conversations and the course of events. One had read one of the papers that is linked from Threads’ website (Trådar n.d.b) which generated a discussion on one of the concepts we used in the paper.

In line with some action research and participatory action research practices, we could have shared our notes, written them together or circulated papers before publishing them (cf. Lather and Smithies 1997; Arora-Jonsson 2008). However, the writing has been more of a practice that we have shared between the two of us. Rather than writing together with the collaborating partners we have tried to make time to share experiences between the collaborating partners who have participated in the educational sewing circles.

For example, to host an educational sewing circle is hard work and it has often been distributed between the two of us and Lisa Lundström, who was then working at Swedish Travelling Exhibitions. That made it possible for us to not be completely caught up with showing how the embroidery machine or the mobile phones work. On a couple of occasions Lisa Lundström could not join us, but instead Amanda Dahllöf and Viktoria Günes did so. After each sewing circle we have tried to make sure that we did not have to rush away to a train or a flight, but to allow time for a debriefing. The third host, Lundström, Dahllöf or Günes, has then, together with the two of us, talked through the educational sewing circle. This is one of the instances when we zoom in on what has happened and choose what to retell the next time, as well as sorting what to use in the academic writing.

The two of us have preferred travelling by train because it has offered us some hours to tidy up the notes and to share them between the two of us, while still being close to the educational sewing circle. Sometimes we have shared them through publishing them on our respective, closed blogs. Sometimes we have shared them on paper. Often it has been a double process of tidying up the notes, meanwhile orally sharing the separate experiences of the past sewing circle.
Since we are at least two people who write this thesis, it has also become necessary for us to develop some techniques or approaches for how to actually write texts, to be published as paper or in this thesis, together. When we started our PhD positions in 2008 we did most of our writing using Word documents. This meant that we had to send the text between the two of us, allowing only one of us to have access to the document at a time. Or, we would sit together in front of one computer, talking a lot, and taking turns at typing. The writing technologies we practised at that time were most definitely not made for collective writing. Since then we have started to use Google Docs, which allows us to sit at our own computers and write in the same document at once. This has surely influenced how we can write text together. To write a text together is, however, not only a matter of having access to the same document at the same time. Writing papers, as well as this thesis, has also involved a lot of talking, writing on whiteboards, printing out texts, cutting them apart, rearranging them on the floor, and so on. In other words, writing is a highly material practice to us. And, since we are writing together we cannot simply have internal negotiations. Each thought needs to be articulated and materialised in one way or another. Through such processes we have also come to realise that different kinds of materialisations or articulations weigh heavier than others. For example, text written on the computer becomes more sensitive to change than a text written on the whiteboard. Therefore we have tried to avoid rushing to writing in the shared digital document when our thoughts are still on a discussion level.

When making the ‘we’ that has written this thesis we have considered several modes of writing collaboratively. For example, we have experimented with recording a topical discussion, transcribing the discussion and then circulating the text in order to insert references, clean-up unfinished sentences and make it legible as a text rather than an oral discussion.

Another collective mode of knowing through writing is ”story-quilting” which Bränström Öhman and Livholts (2007a; 2007b) propose in their book on gender and academic writing. Through story-quilting they draw on a collective female crafting tradition of quilting in which the making and negotiations of patterns potentially also enables exchange of knowledge and lived experiences. In their version of story-quilting, Bränström Öhman and Livholts started off to write fragments of texts, that were put together later
on, but cutting out some parts and adding others. This meant that the writing process became a context for dialogues and negotiations where new thoughts and perspectives could arise. In our *patchworking* mode of writing we have been highly inspired by this proposal by Bränström Öhman and Livholts26.

When Sundén writes of the hypertext *Patchwork Girl* by Shelley Jackson, one could conclude that the writer, the reader, the technology and materialities form a temporary collective. This has been another route into our *patchworking ways of knowing* through collaborative writing. Sundén emphasises that the patches that the reader actively has to put together in order to have something to read could always have been sewn or stitched together in other relations, which is shown by the scars. The scars and seams are thus “…simultaneously marking a cut and showing a joining” (Sundén 2008, p.152). As a consequence, this kind of writing will not make up a seamless whole, but recognises the heterogenous history of the parts while at the same time sewing them into new relations which materialises a kind of pattern.

As we have signalled in this section and in the previous chapter on invitations, we have used anecdotes from earlier sewing circles as a way of stitching together one sewing circle with another. They have also proven to be useful in many different contexts, such as inviting to *Threads*, sharing dilemmas with future hosts, as well as making an argument in an article. We use anecdotes because of their capability to communicate the uniqueness of an instance, and at the same time also have relevance for other instances.

Schön’s (cf. 1983) writing is known for using anecdotes, and also for not making it transparent whether he has actually met the people that he writes of or not (on the fabrication of data to protect privacy and anonymity, cf. Markham 2012). Recently there has also been a scholarly interest in anec-

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26 There are also other important references for collaborative writing. For example, some have compared our collective writing with the publications by J.K. Gibson-Graham, which is a joint pen name for the two geographers Julie Graham and Katherine Gibson (cf. Gibson-Graham 2006). We regard their collaborative writing as partly, similarly to our, questioning the single knower. What differs, though, is that we do not write under a pen name. Also, we are writing a PhD thesis together, which has, to our knowledge, so far been exempt of collaborative cross-disciplinary writing.
dotes, which we draw upon. For example, Cubitt (2013) calls for the use of anecdotes as an unruly but valuable way of knowing, due to its high resolution, that does not fit into neat categories: “Without being able to annihilate the systemic foundations of knowledge and the protocols for gaining it the anecdotal method makes it as difficult as possible to enter an event into the database” (ibid, para 26, non-pag.). Rather, Cubitt writes:

It forces us to confront the materiality of people, things, and events, and therefore makes us understand that in any event the human cannot be separated from the technical, physical, or organic environments. In this regard anecdotalism is an ecological approach and in that sense is anti-humanist. At the same time, whenever the anecdote is recounted by a human the humanity of that individual comes under the microscope, in all its diffuse porousness. (ibid, para 28, non-pag.)

Michael (2012a), another one who has turned to anecdotes, regards them as an inventive method because they “...unlike typical forms of autoethnography, can serve as a means for tracing the co-emergence of research, researcher and researched” (ibid, pp.26-27). The performativity that lies in the co-emergence means that the anecdote is not only about something. Rather, we take Michael to argue that anecdotalization is performing knowledge so that it unsettles research processes, the self, categories and what is researched. He concludes:

[...] anecdotalization entails a semiotic and material dialogue between past and present through, and with, bodies, memories, stories, objects and texts. If this conversation is any good, uninvited topics, unexpected insights and untoward issues should emerge, and in emerging should go on to feed the very process of anecdotalization. (ibid, p.34)

The focus of anecdotes and anecdotalization is thereby on the work anecdotes do in the context where they are told and how they are made relevant, rather than how well they represent what they are telling about. What we mean by this is that when we, for example, use an anecdote when we are hosting a sewing circle it might be used to communicate a dilemma that we have experienced, and that others might encounter in the future. The important thing here is not to tell the story exactly how it happened, as if that was possible, but to use anecdotes as part of sharing and producing
knowledge in one move. The anecdotes that we use in the papers, are often those anecdotes that have lived with us for some time: that we have shared between the two of us, in sewing circles, in debriefings after sewing circles, with colleagues or in different kinds of presentations of Threads. We believe that they have stayed with us because they have helped us understand and share difficulties and insights as well as articulate and communicate arguments—in short, they have helped us in the writing of our patchworking ways of knowing.

This thesis is in part a collection of papers that have been written along the way. In the next section we will discuss patchworking narrative, which consist of patches, seams and re-patternings in more detail.

3.5 Patchworking narrative—patches, seams and re-patternings

This is to go neither for overall links, nor to move to closed off, isolated and fragmented worlds. Instead, it is to ask about the possibility that there are partial connections. Partial and varied connections between sites, situations, and stories. This, then, is the patchwork option. It’s to imagine that materials and social—and stories too—are like bits of cloth that have been sewn together. It’s to imagine that there are many ways of sewing. It’s to imagine that there are many kinds of thread. It’s to attend to the specifics of the sewing and the thread. It’s to attend to the local links. And it’s to remember that a heap of pieces of cloth can be turned into a whole variety of patchworks. By dint of local sewing. It’s just a matter of making them. (Law and Mol 1995)

In the beginning of this chapter we argued that our and others’ engagement with Threads is much like patchworking—an ongoing process of putting things in relation, reordering and cutting. In patchworking there is not necessarily a beginning or an end. There is not a linear story in Threads, where a late arriver will have missed the beginning. It is made so that it should be possible to be a lurker, to be part of discussions and to engage in making. The figuration of patchworking does, in line with ANT, put focus on the work that it takes to hold things together. Most likely, the patches will never fit perfectly, but the aim is still to hold them together. The questions are: what kinds of relations are made, and how? While the relations in a network are made up of more or less straight lines, the
seams that hold together a patchwork can be of varied kind. They can, for example, be cross-stitched. The patches can also overlap and create a stitched together relation, or just hang together by the seam, none of which is necessarily good or bad. Overlaps can be closings and loose ends are also openings. By using the verb *patchworking* rather than patchwork, we suggest that the work is continuous and complex.

The use of *patchworking* as a narrative position in this thesis is an attempt to allow the text to do what it is about (Bonnevier 2007) – to find, make and trace connections without creating a seamless whole. And, as Law and Mol (see quote above) remind us above, a patchwork could always have been sewn together differently. We have sewn our patches together under the heading *publics-in-the-making*. This topic was not set when we started out making this patchwork, but has gradually emerged out of the *patchworking ways of knowing*.

In line with Haraway, we think that it matters how we tell academic stories, we believe that it is important which figurations we use. While almost everything can be understood or described as a network, or assemblage, there are differences between them. We prefer *patchworking* as an actor network theory. The narrative position of *patchworking*, used to write this thesis, is an attempt to allow for multiplicity. Much like the game of cat’s cradle, it is not about winning but suggests a mode of knowledge production and dissemination that transgresses dualities and strong counter narratives. We argue that one of the strengths of *patchworking* is that it opens up to work with both parts, relations between them and a whole at the same time. *Patchworking* can take the shape of an entity while at the same time recognising that it consists of parts—the seams are both separations and alignments. It shows, through various kinds of stitches and cuts, that relations can be very different, and yet of importance. *Patchworking* relations can be cross-stitched, overlappings or loosely connected. To some extent the thesis is a kind of patchwork. It is however primarily in Chapter Five we use the *patchworking* narrative, with *patches*, which can be understood as parts, *seams*, which are the relations between them that we want to emphasise, and *re-patternings*, which suggests what work this patchwork does.
The patches of this patchwork are texts that have been published elsewhere before. In other words: papers, chapters and articles. When reading the patches you will notice that we use slightly different terms to describe *Threads*. There will be slippages. We will speak of *Threads* as a network, an assembly, as well as *patchworking*. This is neither due to sloppiness, nor is it a consequence of a well thought through strategy to create incoherence, which to some extent is part of *patchworking*. It is a result of using already-used-materials – that were once part of another configuration. These materials have been produced over time, and to address a variety of concerns and framings that have been put forward by conferences and journals, and that we have responded to. In this thesis the patches are more or less chronologically placed. To avoid a linear reading that treats each paper simply as accumulation of histories that mark static moments in the development of *Threads*, we hope to put them to work. In other words, we reactivate them through cutting them together apart. This means to not primarily read the articles and papers in the context that they were once written, but rather to focus on the work that they can do in relation to one another, in this thesis. This work will most of all be done in the seams and in the re-patternings.

Through our use of seams we hope to allow for readings that show partial connections, alliances and separations between the patches. The seams do thereby have a double function, in that they both separate and hold the patches together. When the papers overlap the seams can become firmer, since they have more material to hold onto. At other times it is just the seam that stitches together the patches.

The re-patternings are both emerging and suggestive. This means that they draw on what has emerged along the way, and are suggestive in the sense that they could be handed over to and be useful for someone else. The two re-patternings articulate how public engagement in interaction design and media and communication studies can be moved by our *patchworking publics-in-the-making*. Again we would like to return to cat’s cradle, where Haraway articulates this collaborative effort of situated knowledges, practices and becoming with:
Cat’s cradle is a game of relaying patterns, of one hand, or a pair of hands, holding still to receive something from another, and then relaying by adding something new, by proposing another knot, another web. Or better, it is not the hands that give and receive exactly, but the patterns, the patterning. Cat’s cradle can be played by many, on all sorts of limbs, as long as the rhythm of accepting and giving is sustained. Scholarship is like that too; it is passing on in twists and skeins that require passion and action, holding still and moving, anchoring and launching. (Haraway 2011, p.ix)

That knowledge is always made collectively means that you can never be fully responsible for the pattern that is in your hands (Haraway 2012). But when you have a pattern in your hands, you have the responsibility to act from that position.
4 PUBLIC ENGAGEMENT IN ISSUES OF LIVING WITH TECHNOLOGIES

4.1 Introduction
– You aren’t making anything, a man said about Threads—a Mobile Sewing Circle. Although a woman had wanted Threads to come to the rural community centre where they were both active, he had had the capacity to reject Threads. To him, Threads did not make sense since, as he expressed it: you are not building a house, not even a bird’s nest.

Threads is kin with many other kind of gatherings, such as exhibitions, workshops, sewing circles, publics, and, as we will show in this chapter, public engagement projects, but does not fit neatly into either of them. But surely there are some potentialities in Threads, since the same invitation, to embroider text messages either by hand or with an embroidery machine connected to a mobile phone with bespoke software, has managed to gather humans and nonhumans since 2006, and generated curiosity, reflection, hesitation, negotiation and much more.

When we first articulated this invitation we did not have a problem, as such, to solve. We did not have a controversy or a big issue that we were inviting people to tackle. However, we did have what we have come to call an area of curiosity: ways of living with technologies. The technologies that were brought to the table in Threads were mobile telephony, which can be understood as a relatively new technology and a form for computation, and textile practices of, for example, embroidering, which can be understood as an older technology.

Living with should here be understood as an emphasis on mutual becoming, as outlined through feminist technoscience and STS in the
previous chapter (cf. Haraway 2008, Kember and Zylinska 2012; Braun and Whatmore 2010, pp.xvi-xx). It is thus one way of understanding that technologies, as in “...ways of doing things, and the aid to do the doing: tools, appliances, machines” (Cockburn and Ormrod 1993, p.154), are always in the making. In line with the patchworking figuration, we argue that such continuous becoming never starts from scratch since there are always sedimentations of previous makings. By this we mean that there are no discrete entities, but that every entity is contingent, temporary and made in relation.

In Threads we are not building a house, not even a bird’s nest. And yet it has, in many instances, been made relevant and, as we argue in this thesis, contributed to the emergence of publics-in-the-making. In short this implies publics that come out of making things together, and in which issues, relations, actors and procedures are not preset, but continually in the making. Potentialities of publics-in-the-making are first and foremost explored through our engagement with Threads. This will be discussed in the next chapter. In this chapter we will provide a theoretical framework and examples that will allow us to discuss potentialities of Threads, or more broadly publics-in-the-making, beyond the rather instrumental version of making and what it should result in, enacted through the comment made by the man cited above. To do so, we will align and separate Threads with other kinds of publics and public engagement projects that in different ways deal with issues of living with technologies. In other words, the making in Threads might have more to do with living with, as in living in a house or using a mobile phone, than making a new object or artefact.

To expand on the area of curiosity that we articulate through our invitation in Threads we will, in the next section, stay with ways of living with technologies.

4.2 Living with technologies—an area of curiosity

Through the invitation to embroider SMS, we articulate an area of curiosity: ways of living with technologies. Important to note here is that, as we see it, we did not start to live with technologies when, let us say the trains, the telephones, the radio, television or computers were introduced. Rather, this thesis is based on the assumption of originary technicity (for longer discussions, cf. Kember and Zylinska 2012, p.14 and pp.193-194 and Braun

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and Whatmore 2010, pp.xvi-xx), which means that, even though living with technologies differs over time, humans and technologies have always been mutually constituted. We have already dealt with this a few times, but it might need some concretizations.

Before *Threads* was initiated we hosted a similar sewing circle under the name *stitching together*. In 2007 it was exhibited in Turku, Finland, at the exhibition *Digitally Yours*. In order to put focus on how digital technologies in different ways have influenced how we live together, the exhibition was named *Digitally Yours*. Other artworks that were exhibited dealt with technologies such as robots, computer games, surveillance cameras and more. Our room was set like someone’s living room. In one part of the room, there was a table and chairs. In the other part there was a couch and the embroidery machine, computer, cable and mobile phone.

One day a man entered the room. He looked around to see people who had gathered around the table to embroider by hand, while the machine was embroidering messages that some other people had forwarded a while ago. We approached him, to invite him to join us, just like we did with most others. He then asked why we did not just hire some Chinese people instead of this kind of embroidering. That would be more efficient, he suggested. The question surely provoked us, we were taken aback, and we replied that the aim of *stitching together* was not to make things more efficient, but to allow things to take time. At the time, we did not have the socio-material understanding of living with technologies as we do now. We did not see that our living with, for example, mobile phones and an embroidery machine, make us entangled in making done elsewhere, if not by Chinese workers, then by other precarious workers.

Another reaction towards the invitation to embroider SMS by hand and by the machine, was by a man who asked whether we considered ourselves as Luddites. By invoking Luddites he suggested that we were sceptics and did not embrace technological development in the same way as other artworks in the exhibition did.

In the manuals that accompany the assembly of the embroidery machine, cable and mobile phone that we use in *Threads*, we briefly write about the Luddites, who rebelled against some technological developments
during what we now often call the industrial revolution. They were living in the UK with technologies and machines through which, not always comfortable or easy, living emerged. For example, when new machines were put to work at the beginning of the industrial revolution, these not only made the production of goods more efficient, but they also became part of the de-skilling of workers (Fox, 2004). The presence and use of certain machines interrupted the collective way of life and previous self-control over the worker’s time. It did so through centralising work organised around the machines that could run without rest, but only when there was a constant power supply which was confined to certain areas\textsuperscript{27}. Factories thus introduced shift work, which made workers much more dependent on clock time. Family life was also threatened in other respects since, for example, the machines could be run by children, who were paid less than a skilled worker.

In England, a group of skilled working men, who went under the name Luddites, rebelled against this development through sabotaging certain machines. The focus was on the machines that produced goods with poor quality and which threatened established ways of life. Destroying machines was their way of engaging with the introduction of new machines, most likely because no other ways were available. At first the organising was public, but when being affiliated with the Luddites could lead to capital punishment, the ones who continued gathering went underground. Luddites are thereby not synonymous with general scepticism.

To avoid a polarisation, of treating technologies as either a good or a bad thing, we have written manuals for \textit{Threads} where we suggest a thoughtful but curious approach to living with technologies. This implies a curiosity towards how to handle new as well as old technologies, how such technologies participate in the enactment of new modes of living together, and how living with them makes us implicated in a range of issues. Thereby this curiosity should not be without hesitation and thoughtfulness.

\textsuperscript{27} This is a narrative that was reiterated when the cloud computing company Facebook decided to put their first non-US-based server park in Luleå, northern Sweden, partly based on the presumed constant “green” power supply from the rivers.
A thoughtful curiosity for ways of living with technologies, and possible issues it makes us implicated in, can also be extended beyond our own immediate presence. Through the use of, for example, mobile phones and embroidery machines, our living with technologies makes us closely entangled with and implicated in the lives of assembly line workers, for example in China, who, much like the Luddites did, work under harsh conditions. In other words, living with technologies makes humans and nonhumans implicated in a range of issues that are extended over time and space.

To discuss these entanglements further, we will now turn to a technology that has been crucial when writing this thesis, and which is far more ubiquitous and distributed than the machines that the Luddites rebelled against: cloud computing. Often when cloud computing is discussed it is done from the perspective of how it enables new forms of sharing and accessing information and how it engenders new forms of collaborative work. For example, this thesis is mostly written using Google Docs, which stores the documents on remote servers and thereby allows us to write in the same document at the same time as long as we are online. This arrangement has greatly influenced our practice of joint writing, as we describe in Chapter Three. Using cloud computing in a research context is, however, not only a matter of how it engenders new modes of collaborative writing. It also raises questions of access, security and which jurisdiction they fall under, since the servers are placed in server farms on both sides of the Atlantic.

Another issue related to cloud computing is its environmental impact. Sean Cubitt et al (2011) who have done research on energy use by server parks, where information is stored remotely at the service of cloud computing users, argue that such storage often amounts to more energy consumption than local storage:

28 This definition can be found on Wikipedia: “Cloud computing, or the cloud, is a colloquial expression used to describe a variety of different types of computing concepts that involve a large number of computers connected through a real-time communication network such as the Internet. [...] The popularity of the term can be attributed to its use in marketing to sell hosted services in the sense of application service provisioning that run client server software on a remote location” (Cloud computing n.d.) It can thus be described briefly as using custom-made software to remotely store and access data files via the internet.
Much use of the cloud is for backup of locally produced and maintained files, implying an increase, not a decrease in the quantity of storage and therefore the amounts of energy required both to store and transport files. (ibid, p.153)

Cubitt et al state that whereas the public is concerned with issues of privacy and surveillance “...the issue of the part played by ICTs carbon emission is only now beginning to be discussed in the industry, and to a lesser extent in the public sector” (ibid, p.151). According to the authors the materialities of the internet are not yet of public concern. To achieve sustainability would require that a larger population recognises these materialities in relation to their own and other’s making, they state (ibid, p.155).

Such a materialist understanding of digital technologies and how to live with technologies leads to a sense of unavoidable dependency on decisions made elsewhere. The authors point to a connection between the daily use of cloud computing, for example the making of media files, and shared resources. For example, the widespread making of data-information, such as moving images, take up a lot of storage space. In relation to that, the authors are imagining that there might be an articulated end to how much storage space each user could take up. One consequence could then be rationing. This would imply sharing the storage space, thus a sort of collectivity, rather than centring usage on individuals (ibid). At the same time as the shared and scarce resources show dependency, a lot of responsibility is pushed out to the contingent actors in terms of choices of what to store and in what (compressed) format. Cloud computing infrastructures and usage can thus help us understand the tensions between collective and individual agencies and responsibilities enacted through living with technologies.

So far we have most of all considered living with technologies from the perspective of use, such as storing files, collective writing and using machines to produce new goods. However, with concepts such as “zombie media” proposed by Hertz and Parikka (2012), we are also invited to work with ideas of how media devices’ lives are not confined to use-time. Zombie media can, in short, be described as a way of getting into dialogue with concepts such as dead media and obsolescence, partly through emphasising that media devices go through many stages of decay and when they are not in
use anymore they might start leaking chemicals in the hands of somebody excavating a recycle bin or a landfill. Hertz and Parikka suggest working with media devices as never dying through revitalizing obsolete, archived ones; bringing them back to use or reworking them.

Obsolescence is also of relevance when it comes to cloud computing, since most media devices that can be used to connect to ‘the cloud’ have a short lifespan, due to more or less planned obsolescence. For instance, it is not uncommon that media devices are put together with glue instead of screws, which make these devices hard to repair. Designers, developers and standardisations are thus involved in planning for how long media technologies can be of use.

Zombie media moves beyond human-centred use-time since it helps unpack the taken-for-grantedness of time as linear; as if time and media technologies had a clear beginning and a clear end. The continuous entanglement of media and nature as well as nature and culture, starts already before there is a media device\textsuperscript{29}, or before use-time. The materials need to be extracted and mined somewhere. Once there is a digital media device it also needs to be powered by electricity produced somewhere. Being the person who lives next to and off the river that gets dried out because it is used for hydropower, or standing at the assembly line to put together toxic parts of a mobile phone, shows how somebody else’s use makes you engaged, although you might not yourself be using the devices. The same goes for what we could call after use-time, or at least after intended use-time. When phones are no longer used they become electronic waste that circulates around the globe to be, for example, repaired, reused, picked apart or put into landfills with serious health hazards as one consequence. In other words, much living with technologies is not use (cf. Gabrys 2011; Houston forthcoming).

Through the example of cloud computing we have shown that those who are entangled through living with technologies are distributed in time and space but are still closely dependent on each other. The entanglements

\textsuperscript{29} See Parikka (2011a; 2011b) on medianatures, which builds on Haraway’s concept of natureculture (cf. Haraway 2003). This is another way of expressing that nature and culture as well as media and nature are not separable: they always become together and have always done so.
come about simply through living with technologies, for example through mining, designing, productions, use, recycling, powering and much more. Furthermore we have shown that effects of such entanglements are extended in time and space, and are hard to anticipate or fully control. It is also not a given how and by what means those who are affected, humans and nonhumans, can have influence, or not, on the matter.

This continuous becoming implies that how to live with technologies is not an issue that is decided in one location, by one actor, at one moment, once and for all. On the contrary, it is a matter that generates issues which are negotiated, explored, invented, and rejected in a variety of contexts such as parliaments, mass and social media, design studios, laboratories and in everyday use in, for example, domestic settings, workplaces, schools and libraries. Consequences of landfills with electronic waste (e-waste) that starts to leak, living close to mobile phone masts, and being connected to social media around the clock, will never be fully tested, anticipated or regulated in a laboratory. Instead these are issues that are part of what Latour (2003) has conceptualised as the “collective experiment”.

For Latour (ibid), the collective experiment is premised upon an overspill from laboratories that can never be well-confined. Latour suggests that we have gone from a science age, guided by the modernist dream of full control, to an experimental age, in which uncertainties are inevitable. This movement also implies a shift from scientists presenting lab-results, to a public who could learn, or remain indifferent, but not question, dispute or make contributions to their findings. Today, experiments and experimenting come in various guises also outside of labs and have consequences for people, technology devices, plants, animals, bacteria and more. Expressed in more general terms, Latour sees as a consequence of the all-encompassing experimentation, that it is no longer generative to talk of or work with science and politics as two separate cultures:

The sharp distinction between, on the one hand, scientific laboratories experimenting on theories and phenomena inside their walls, and, on the other, a political outside where non-experts get by with human values, opinions and passions, is simply evaporating before our eyes. These experiments made on us, by us and for us have no protocol. (ibid, p.4)
By stating that these experiments have no protocol, Latour implies a widespread unpreparedness for the entanglement of the scientific and the political. Gabrys and Yusoff make use of Latour’s concept of the collective experiment. They do so in relation to climate change, which is one recurring issue that comes up in relation to experiments spilling out over laboratory confines. They stress uncertainty as a major drive for constant renegotiations and engagements:

The collectives it affects and gives rise to are multiple and unevenly situated. We cannot fully ascertain who runs these experiments, who participates, who monitors, or who intervenes if the experiment goes awry. These are experiments that are neither defined nor controlled, but rather contingent. Climate change has not only exceeded the laboratory or the field to encompass the planet, it presents multiple instances of radical uncertainty, to the extent that notions of what constitutes an experiment, publics or politics, continually shifts. (Gabrys and Yusoff 2012, p.12)

We take their statement to mean that the uncertainties that are under negotiation in the collective experiment stir up taken-for-grantedness about living and becoming together – what is in common, who and what do we live with, who and what do we become with, what is an experiment and what is a public? These questions can hardly have a simple answer, since the collective experiment includes the whole world, is done on a scale of one to one, and in real time (Latour 2003).

These multiple uncertainties strike us as paradoxical since they, in the same move, call for engaged publics and public engagement projects, with the aim of democratising science and technologies, but, simultaneously, engaged publics and public engagement projects seem insufficient. This paradox will be further explored in the next section where we discuss different notions of publics, based on certain cultural and political theory scholars who work with materiality and collectivity, notably in relation to American pragmatism, STS and feminist technoscience.
4.3 Towards publics-in-the-making

In the previous section we outlined how entanglements come about through living with technologies. However, these entanglements do not necessarily entail the capacity to act and it is not a given how those affected can know or influence the matter.

In social science and design there are traditions of conducting public engagement projects as means to democratize science and technologies\(^{30}\). How it makes sense to do public engagement projects depends on how we conceptualise and want to enact the relationships between, on the one hand, experts and researchers and, on the other hand, lay people and the public.

For example, in science there is a history of specifically inviting participants to form a public in order to verify, for example, the accuracy of new technologies. One early and often cited example of a public experiment is when Robert Boyle’s air pump was shown (cf. Shapin and Schaffer 2011 [1985]) to a public that consisted of men from the Royal Society of London for Improving Natural Knowledge. Men, with honour at stake, were called in to act as witnesses to technological innovation. The public thus consisted of men who were supposedly independent. Following Haraway (1997), we take Boyle’s experiment to have contributed to an implementation of discreteness, as if it was possible to appear as an autonomous entity that is not situated anywhere: a separation between the political and science and technology.

As shown in the last section, knowledge and technologies are not simply made in laboratories and cannot be separated from the political. The trickle-down-model is no longer viable, if it ever was, although Boyle’s model is still a proliferating enactment of the relationship between experts and lay people, as both Bogner (2012) and Mohr (2011) show in recent studies.

In this section we will draw on and divert from various ideals, ideas and models of public engagement and publics to suggest a direction towards

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\(^{30}\) We regard public engagement as sometimes overlapping with the notion of Mode II (cf. Nowotny et al 2003). From slightly different positions and with different references, both are concerned with the relation between research and other parts of society.
Publics-in-the-making. The concept and practice of *publics-in-the-making* is meant to provide an approach or means to handle the paradox of public engagement outlined above. What characterises this proposal or direction is that it invites direct engagement with everyday entanglements of living with technologies.

To discuss the inevitable material entanglements through living with technologies and (im)possibilities to act, we will turn to American pragmatism, which has discussed problems of being materially implicated in issues while not having a direct stake in the matter. This is what Dewey (1927 [1991]) talked about as the problem of the public. In our discussion we will also turn to STS and feminist technoscience which, as we have already shown, treat technologies, science and the political as closely entangled. Latour (cf. 2004; 2005a; 2007) and Stengers (cf. 2005), for example, both assume that there is no given collective, but rather that a common world needs to be composed. Latour suggests *Things*, building on the Nordic forms for gatherings which are co-constituted with their issue, whereas, Stengers, in the process of composing a ‘we’, emphasises emergence rather than emergency.

4.3.1 Emerging publics

Based on the writings of Dewey and Lippmann, Marres (2012b) describes publics as “…actors who are intimately affected by an issue, but who are not part of a community that might address them” (ibid, p.49). This means that publics are specified “…neither in terms of procedure nor of substance” (ibid, p.43), but of material entanglements.

A debate between Dewey and Lippmann took place in the 1920s, a time when public affairs had become increasingly complex due to new technologies of manufacturing, transport and communication. In his books *The Phantom Public* (1925) and *Public Opinion* (1921), Lippmann expressed a disbelief in democratic ideals in the rise of the technological society. This, he argued, was due to the increasing complexities that were left to the public to deal with. Dewey (1927 [1991]), on the other hand, argued against the claims that the public cannot handle these complexities, and instead suggested that strange, unfamiliar and entangled objects play a key role in getting people involved in politics.
What brings a public together, or what unites them, is thereby not already established social relations, as would usually be the case in a sewing circle, but their entanglements in issues. Such entanglements are likely to transgress already established communities. This position of being both entangled in an issue, and at the same time not having the means, such as a vocabulary, connections or skills, to address the issue, is what has been called the problem of the public. This is not an epistemic problem but, as Marres puts it, an ”ontological trouble”.

In the pragmatists’ account, then, ‘the public’ refers to a particular kind of complication that plays itself out ontologically, one that is marked by a particular combination of external and internal relations to the issues at hand: the public’s problem is that social actors are too involved in an issue to qualify as mere outsiders, who could leave the care for issues to other professionals. But at the same time they are too much of a stranger to the public affair in question to have access to the resources required to deal with them. (Marres 2012b, pp.49-50)

Marres argues that, within contemporary liberal theory, this problem of being both inside and outside, has been approached as a problem of representation. This implies that those who are affected by an issue should have the right to participate in the process of making decisions on the issue, or to be accurately represented. For Marres this approach is problematic since it assumes that the issue, those who are affected as well as the means, procedures or forums for addressing the issue, are objectively given. If we instead take the problem of the public as an ontological problem, the problem of the public becomes a ”problem of relevance”. In short this means that the problem of the public becomes not so much a problem of correspondence and representation as a problem of articulations. In contrast to a problem of representation, Marres argues that a problem of relevance suggests:

[...] a dynamic political ontology in which the process of the specification of issues and the organization of actors into issue assemblages go hand in hand. Here, the composition of the public—which entities and relations it is made up of—must be understood as partly the outcome of, and as something that is at stake in, the process of issue articulation. (ibid, p.53)
While publics are brought together due to being entangled in the same issue rather than being friends, Marres’ reading of the Dewey Lippmann debate implies that such issues, whom they might concern, and by what means they should be addressed, are not given but are in the making. Furthermore she argues that because of the ontological trouble that characterises a public, the lack of access to established procedures for addressing the issue also implies that we cannot expect a public to provide an adequate solution to its problem. More reasonable is to consider its potentialities of articulations and of establishing relations of relevance between issues and actors. Marres argues that we should attend to the capabilities of devices to enable such processes.

Her argument is that material participation, such as turning down the heat to save energy, is a specific mode of political participation. Here “… sociomaterial entanglements in issues and enactments of participation in those issues overlap, this is what the concept of the material participation highlights. The question is how to enable and elaborate participation under those conditions” (Marres 2013, private e-mail conversation). In other words, not everything we do is material participation. Only sometimes, relations of relevance are established. This is partly because devices such as energy meters are normatively ambiguous, which means that they do not enact an inherent norm. And, the normative capacities of such devices are not fully determined by the devices in themselves, but are consequences of how they are (re)assembled in each specific context, which make up the environment for participation.

Also Latour and Stengers have attended to the role of objects in democracy. Through the cosmopolitical project (Latour 2004; Stengers 2005), both argue that we need to include both humans and nonhumans in politics. Both have explored how issues can gather people, not because they agree, but because of differences, and because of disagreements on issues that

31 Stengers’ cosmopolitics differs from other conceptualisations. Stengers distance herself from for example Kant. There are also many other contemporaneous versions of cosmopolitics, such as that of Beck (2006), which McRobbie (2006) compares with Butler. Mouffe, for example, criticises cosmopolitanism, as in neo-liberal versions of democracy that is spread through Western human rights from above (Mouffe 2005, p.125 and 129). However, those should not be confused with Stengers’ cosmopolitan proposal, which has been influencing, for example, Latour (2004; 2005a) and Haraway (2008).
need to be negotiated. As we described in the previous chapter on patchworking and through the collective experiment, the common world is not already here, it is not out there to be reported on. Instead, Latour and Stengers mean that it needs to be composed, not as a unified one where consensus reigns, but as one which allows for disagreements about what is common and what is good. They do not restrict their politics to humans in nation states, rather they include also nonhumans, which can be understood as, for example, technologies, animals, bacteria, soil and Gods, in politics of the cosmos.

In *Making Things Public* (Latour and Weibel 2005), Latour argues for the inseparability of issue and assembly, and urges that: “An object-oriented democracy should be concerned as much by the procedure to detect the relevant parties as to the methods to bring into the center of the debate the proof of what it is to be debated” (Latour 2005a, p.18). In contemporary society, however, there is a lack of undisputable facts to make use of in politics, or what he calls, matters-of-fact. To be able to provide the public or the whole world with proof of the existence of a specific phenomenon or danger, seems almost impossible. Thereby, Latour argues, we need to try something else; matters-of-concern. The shift from matters-of-fact to matters-of-concern can also be described as a move from objects to things (cf. Latour 1999; 2004; 2005a; 2005b).

With reference to Heidegger, Latour uses the word Thing in its double meaning; a meeting and matter. Thing or Ding is an archaic assembly where people would gather around diverse matters-of-concern to “... come to some sort of provisional makeshift (dis)agreement” (Latour 2005a, p.23).

The Thing designates not only those who assemble because they are concerned, but also the causes of their concerns. The word Thing does in that sense embody the inseparability of the issue and the assembly. As a consequence, Things should be understood as an alternative to, for example, parliaments as assemblies where the same procedure is used for every issue.

While Latour argues for making things public, or making things disputable, the cosmopolitical proposal by Stengers is a call for attention to what is emerging rather than what is in emergency. Through avoiding simplifi-
cations or shortcuts, she wants to slow down processes of decision-making. Therefore she suggests that we should design the staging of issues so that “...collective thinking has to proceed “in the presence of” those who would otherwise be likely to be disqualified as having idiotically nothing to propose, hindering the emergent “common account”” (Stengers 2005, p.1002). To question what constitutes a good common world, she borrows the character of the idiot from Deleuze. The idiot does not offer solutions that everybody can finally agree upon, but slows things down and suggests that there is perhaps something more important, without knowing what that might be. In accordance with Latour, Stengers does not only regard humans as having the capacity to act, therefore we should also consider nonhumans to be part of an assembly that acts as an idiot.

The challenge first of all, Stengers argues, is to design the political scene so that decisions are not made in the name of the general interest, by individuals and collectives in good will. Secondly, the challenge is to design so that thinking collectively is done together with those who most likely would be dismissed as idiots with nothing to offer.

Equality does not mean that they have the same say in the matter but that they all have to be present in the mode that makes the decision as difficult as possible, that precludes any shortcuts or simplification, any differentiation a priori between that which counts and that which does not. (ibid, p.1003)

The idiot does not listen to arguments of urgency, not to deny the existence of urgency, but to suspend the rushing on to decisions in the name of general interest; a common account. The idiot disrupts, and forces us to ask: what are we busy doing? The idiot reminds us that perhaps there is something more important going on, without explaining what. The cosmopolitical proposal, where the idiot plays a major role, thereby questions what the problem might be and how to address it.

In the living with technologies, there is no solution as to how to cohabit, therefore cosmopolitical questions are unavoidable, Haraway writes:

I think cosmopolitical questions arise when people respond to seriously different, felt and known, finite truths and must cohabit well without
If one knows hunting is theologically right or wrong, or that animals rights positions are dogmatically correct or incorrect, then there is no cosmopolitical engagement. (Haraway 2008, p.299)

What we find in this quote from Haraway is that the binary ‘living right or wrong’ is different from ‘cohabit well’, in that the former is moralistic. The latter allows for what Haraway has lately called ”staying with the trouble” (2011, p.xii). In other words, to stay with disagreements and uncertainties is the very breeding-ground for collective and extended engagement across humans and nonhumans living in the interconnected here and there.

In this section we have suggested that issues and assemblies are co-emerging rather than pre-given. This makes for ontological uncertainties of what is at stake, who is affected, concerned or implicated and how to engage, assemble and gather. Marres (2012b), and her version of American pragmatism, has provided grounds to elaborate on how sociomaterial entanglements in technological societies provide simultaneous inside and outside positions. Through Latour, Stengers and Haraway we also suggest that the common has to be composed, since there is no given collective. Doing so does not mean resolving issues once and for all, but is a call for what Haraway terms ”staying with the trouble”. Such a call seems to be in line with the area of curiosity of Threads: ways of living with technologies. As we have outlined, issues of living with technologies are continuously in the making between a range of actors across time and space. They are never fully resolved, but are in need of constant care. In the following section we will discuss other examples of what we, sometimes diverging from the authors’ own positionings, frame as designerly public engagement projects that in different ways deal with issues of living with technologies.

4.3.2 Designerly public engagement

This section takes Michael’s (2012b) two ideal types of public engagement as a point of departure. The social scientific and designerly ones that he has outlined are to be taken as discussion points and not as matters-of-fact.

Michael (ibid) writes that social science public engagement with science has often tried to remedy a democratic deficit through giving voice to the public in relation to policy making. However, criticism has been put
forward as to what kind of citizen, society and science it is that those engagement projects, such as citizen panels and focus groups, enact. Based on Michael, we take this to be a process which is goal oriented and steered by clarifications, separations and disambiguation, for example through identification of which new science and technology the public is in need of reacting towards. The social scientists create a forum and invite experts where the public can engage with issues of the latest emergencies concerning science and technology. Arguments are sharpened and pushed into institutional decision-making procedures in order to reach a solution. Rather than enacting public engagement as an entanglement of the scientific and the political, the social science one is an enactment of society and science as separate, with the social scientist offering a helping hand to bridge the two.

This ideal type of public engagement is similar to what we in the previous section discussed as a liberal understanding of publics. In contrast, Michael suggests a more designerly approach through speculative design. In this section we will also add other examples of what could be framed as designerly public engagement projects. In our discussions we will focus on the use of objects and making in the process of public engagement and how the relation between publics and experts are enacted. In contrast to a liberal understanding of publics, these approaches aim to participate in the making of issues of living with technologies as possible publics. All of them are also in dialogue with the scholars that we worked with in the last section.

Speculative design has been developed, first and foremost, at the Interaction Research Studio at Goldsmiths, London, where designers, media scholars and social scientists collaborate (cf. Beaver et al 2009 on the project Material Beliefs). As a kind of public engagement project, the aim of speculative design is not simply to inform the public about new scientific matters-of-facts, but to engage the public in debates on outcomes and implications of science. Although they stress the importance of events, such as visits to labs or exhibitions, they also focus on speculative objects, since these are considered to be important actors in these engagements. Compared with work in, for example, social science, Michael (2012b) describes these kinds of public engagement projects as idiotic engagements. The idiot is borrowed from Stengers (2005), which we also outlined in the previous section. The main argument by Michael is that in order to understand
speculative design, we need to rethink the notion of the public(s). In Material Beliefs there is no urgent controversy, but a design that embodies complexity. There is no system for gathering and recording the views of the public. No great efforts are made to craft representations for the views of the public to be used by stakeholders such as policy makers and so on. However, Michael argues that speculative design operates with another notion of the public. In that sense speculative design does not follow the rational way of deliberation and generalisation through representation. The role of its members or constituency “... is not to be “citizenly” (whatever form that might take) within a context of policy making, but thoughtful within a context of complexity” (Michael 2012b, p.541). In other words, the main concern in this context is not to solve problems and make decisions and engender the public’s voices to be heard and travel upstream, but to enable and evoke “... a desire for, and exploration of, complexity” (ibid, p.542). The audience is challenged to engage not only in problem finding, but also “inventive problem making” (Fraser 2010), which means that the parameters for an issue or concern shift.

To Michael’s (2012b) single example of designerly public engagement with science, we want to add other examples to stretch out the width, depth and temporality of public engagement. This work also implies to widen the scope from public engagement in science to public engagement in science and technologies.

The first example that we want to add is participatory design, which was partly initiated to democratise design. In some of the early projects workers were engaged in the process of developing new technologies for the workplace. Some of the main concerns that were addressed through participatory design projects such as UTOPIA (Bødker et al. 1987, Ehn 1988), DEMOS (Ehn and Sandberg 1979), and Florence (Bjerknes and Bratteteig 1987) were the automatisation of tasks, de-skilling of workers and the workers’ lack of influence over these technological developments. The ambition of these projects was that those who would be affected by a new design or technology should also have the right to participate in the development of it. Furthermore these projects rested on an idea of mutual learning between researching designers and practitioners. To some extent these arguments are not too different from liberal arguments: that all who are affected should have a right to participate in the decision-making
process, as if these actors and procedures are objectively given. However, we could also think of how participatory design can participate in the co-emergence of issues and establishing relations of relevance between actors, institutions and more. Such reasoning can, for example, be found in the book *Design Things* by Binder et al (2011b). With reference to the book and exhibition called *Making Things Public* (Latour and Weibel 2005), Binder et al. (2011b) propose that we consider what is usually referred to as the design project as the "design Thing", which is constituted by alignments of objects, designers, users, artefacts and more. The design Thing is at least twofold. It consists of negotiations and decisions regarding how design is made. This takes place during project-time through participatory design or design-in-project. The design Thing also has another temporality, which takes place during use-time, through design-in-use or design-after-design. This approach can also be called meta-design (Fischer 2010; Fischer and Scharff 2000). Through their use of the Thing, which refers both to the matter and gathering, Binder et al (2011b) argue that issues, actors involved, and procedures to address them are co-constituted. Thereby these are not objectively given, but in the making, during design-time and during use-time.

In participatory design, or project-time, boundary objects (Star 2010) such as prototypes, mockups, models and sketches are used in order to assemble those who have stakes in the design. Binder et al (2011b) argue that these objects are not only representations or descriptions of future design to be, but can also work as disputable things supporting communication between the stakeholders. In design-after-design, however, infrastructuring is used to bridge project-time and use-time. Through the design strategy, to design for design-after-design, Binder et al acknowledge the fact that it is not always possible to gather those concerned, or those who might be affected by a new technology or design. Design-after-design is thereby a way of acknowledging that how a design will come to matter can never be fully determined or anticipated during project-time in a lab or studio, as we described in the section on living with technologies. This is something that continues through use. In the end of the book *Design Things* Binder

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et al suggest that design practitioners should try to get outside of the communities of practice that participatory design has mostly focused on. This also means to go outside of the box, atelier, design studio in order to, again with reference to Latour and Weibel (2005), make things public.

Within media and design research there are a few scholars who are more explicitly starting to explore making and crafting as a critical and political mode of engagement (cf. Rosner and Ryokai 2009; Seravalli 2012), however with slightly different agendas and visions. Such growing interest can also be seen in magazines such as *Make* magazine (n.d.) and *Craft* magazine (n.d.)33.

In parallel to and partly diverting from such movements, Matt Ratto has created temporary critical making labs in academic contexts in Europe (Ratto 2011a; 2011b), and a more steady one in his home department in Canada. Ratto’s critical making labs explore making as a critical engagement with issues related to technologies. His work partly stems from the assumption that there is a “…disconnect between conceptual understandings of technological objects and our material experiences with them” (Ratto 2011a, p.253). In other words, Ratto suggests that people’s lived experiences with technologies often do not quite match descriptions of technological effects, which tend to be either overly optimistic or pessimistic. The goal of critical making is thereby: “…to use material forms of engagement with technologies to supplement and extend critical reflection and, in doing so, to reconnect our lived experiences with technologies to social and conceptual critique” (ibid).

In a conversation between Matt Ratto and Garnet Hertz, they distinguish critical making from the making that comes across as depoliticized, and mention specifically *Make* magazine. Rather, they want to stress that critical making has the potential to avoid a reiteration of the world as it is now: “Cleansing making of its politics takes away this amazing opportunity to better understand and exist in the world. It turns the making movement into just another way to create an industrial workforce” (Ratto in conversation with Hertz 2012, p.12).

33 Both *Make* magazine and *Craft* magazine are published by O’Reilly, who also publish what they call technology books and what could be called pedagogical books on programming.
In Ratto’s case, critical making is the site for analysis and the prototypes are treated as a means to an end, as they engender shared construction, joint reflection and conversation. The aim of critical making is partly to turn the relationship to technologies from matters-of-fact to matters-of-concern, which according to Ratto (2011a) requires personal investment. This shift, Ratto argues, could also be understood as a shift from caring about an issue, as in caring about the effects of something but not feeling responsibility, to caring for a critical matter. As we outlined in Chapter Three, caring for also implies a more ongoing engagement, an engagement that does not end after a workshop or gathering. Ratto (2010) does not frame critical making as public engagement, but describes it as a means to gain socio-technical literacy.

The last designerly example of public engagement with science and technology we will provide is also a mixed disciplinary one: media archaeology. In a media archaeology context there is also a drive towards direct engagements with technologies in order to gain knowledge and insights. Rather than going back in time, or conducting hermeneutic analysis of documents, media archaeology suggests that we go into media devices, through practices of circuit bending and hacking. Such practices, it is argued, are a mode of engaging with sociotechnical issues such as "...planned obsolescence, the blackboxing of technology and the interior inaccessibility of everyday consumer products" (Hertz and Parikka 2012, p.426). Compared with much public engagement in science and technology work, the focus here is not on new and slightly unfamiliar technologies such as robotics, biotechnology or genetically modified food and how these could be of relevance to the participants, but on technologies, media devices and applications that have become obsolete and how they can be brought back to life and repurposed through re-making. Media archaeology has a strong non-linear, temporal focus in that there is an understanding that not only do old technologies influence new technologies, but also that new technologies influence old (cf. Gansing 2013).

While most work done under the umbrella of media archaeology does not stress direct engagement with publics, there are examples of scholars and artists who host workshops, for example in museums or as part of education, where the participants are invited to think through the process of bending, building, making and tinkering. Hertz has arranged circuit
bending workshops with the aim of both exploring the “... possibilities of reuse of disregarded technologies” (Parikka 2012, p.157) and “... acting as an easy crash course in electronics and circuits” (ibid) which is framed as “... the fundamental features for media literacy in the age of technological communication” (ibid). Parikka ends his book What is Media Archaeology by suggesting that media archaeology art methods are further developed in order to engage with wider publics.

All of these designerly examples provide different approaches to how objects can be used in the making of publics, or public engagement. One way of understanding these different approaches is that they enact different versions of democracy or that they enact different relationships between experts and publics. It could even be argued that these strategies are contradictory. Another way to understand these strategies for public engagement is that they, in line with Latour and Marres, acknowledge that issues and their assemblies can never be separated. Each issue needs its own set of procedures. In other words, these are not necessarily to be thought of as contradictory, but part of the assembly of assemblies that Latour (2005a) called for in the exhibition and publication Making things public, which he did with Weibel (Latour and Weibel 2005).

To address issues of living with technologies we might need participatory design using prototypes as boundary objects, design-after-design that defers some design decisions to use-time, speculative design that engenders inventive problem making, critical making that makes objects in order to learn about sociotechnical assemblages, rather than exhibiting them afterwards, and media archaeology to remind us about not only focusing on new technologies but also on obsolete devices.

All of these versions enact different ways of dealing with issues. In line with the arguments by Marres, they seem to rest on the assumption that what the issue is, whom it might concern, and how to address it, are not given, but in the making. All of these strategies try to move beyond the notion of being able to provide a solution to a problem that can be resolved once and for all. But they are not simply about problem finding, as if problems or issues are already there. Instead they provide different approaches to how to enable processes of articulating issues, making things disputable.
in projects and in use, slowing down, open up complexity, engendering inventive problem making, or sparking new relations into being.

4.3.3 Publics-in-the-making
This chapter has outlined how sociality, materials, science, technologies, the political, humans and nonhumans are entangled. In these entanglements the area of curiosity, expressed through the invitation to *Threads*, is ways of living with technologies.

Uncertainty is key for living with technologies. For example, it is increasingly difficult to figure out who has a stake in living with technologies as well as where, when and who is involved in decision-making processes of living with technologies. In this distributed, yet highly intra-dependent situation, one could argue for the need for more public engagement, but it could also be argued that living with technologies is so complex, with major responsibilities pushed out to contingent actors, that there is no point in engaged publics or public engagement.

Through *publics-in-the-making* we want to explore the potentialities of making things together, as a mode of addressing, articulating, composing and forgetting issues in which we are materially entangled, through everyday living with technologies. Importantly, these issues are not pre-given, but emerge in the making.

In such explorations we have been inspired by sewing circles, which gather to make things without a preset agenda, but which have often functioned as fora to share everyday concerns. Louise Waldén (2002) argues that a gathering such as a sewing circle, ‘syjunta’ in Swedish, could be thought of as a kind of public. More specifically she describes sewing circles as hidden female publics. In contemporary Swedish the word ’junta’ is only used for ‘military junta’ and ‘sewing junta’. The word junta signals a closed group where mutual trust is very important. Waldén describes how women would meet in sewing circles, with handicraft as their alibi, to discuss issues that they themselves found interesting and important. It often took place in homes. Those who are part of the group know each other, or get to know each other, as they consecutively invite and are guests in each others’ homes, and form a closed group that rests on trust.
In smaller towns sewing circles could also act as shadow governments since the women who did not have any formal power could unite in an issue and then influence their husbands, who did have power. Furthermore, Waldén argues for the sewing association, ‘syförening’ in Swedish, as another example of a hidden female public, a public that is slightly more open than the sewing circle. A sewing association is usually associated with an organisation such as sports organisations, the church or political parties. In these sewing associations, women would transform their unpaid work into money that was used by the organisations or for public welfare. This could, for example, be to build new roads, lampposts or collective laundry rooms.

Waldén’s account of sewing circles has been very important for our understanding of collectives that come together to make things, as a kind of public. Our main interest is, however, not in craft or making as an alibi for gathering, an alibi that allows the participants to do something else of more importance. Rather, our interest lies in exploring the potentialities of publics that come out of assembling to make things together. Put in a slightly different way, through the concept of publics-in-the-making, we explore how making things together enables a specific kind of engagement with issues of living with technologies: both in terms of its potential to gather, and in terms of how making suggests a specific way of engaging with issues of living with technologies.

To discuss these matters further we will partly turn to Gauntlett (2011) and Sennett (2008), who both argue for potentialities of making and crafting. While we would not consider their research to be public engagement, due to their mode of inquiry, we find some of their reasoning to be of value to our conceptualisation of publics-in-the-making. Both of them look at contemporary practices of making and crafting, as well as the lack thereof, in relation to the writings of Ruskin and Morris, who were the founders of the Arts and Crafts movement in the mid 19th century in the UK. This was in a later phase of the industrialisation movement than the time of the Luddites. Both Ruskin and Morris emphasise the need to treat making and thinking as inseparable, but for slightly different reasons.

Gauntlett (2011) argues that making is a way of connecting and creating a sense of belonging. He conceptualises his argument as “Making is
Connecting”, which is also the title of a book where he discusses both on- and offline connectedness through processes of making. When using the word ‘making’ he refers to practices such as crafting, guerilla gardening and producing movie clips with cloud computing services such as YouTube. Through combining these contemporary practices with arguments by Ruskin and Morris, Gauntlett argues for a shift from a “sit back and be told” culture to a “making and doing” culture, which enables people to connect. According to Gauntlett, making is a way of connecting materials and ideas, a mode of socializing and connecting to other people as well as connecting to our social and physical environments. In other words, Gauntlett argues that making will lead to a sense of involvement in society and consequently to a feeling of belonging in the world.

The reason for Gauntlett’s revisiting of Ruskin and Morris is partly that they argue for the importance of everyday creativity. Gauntlett thereby emphasises self-expression rather than perfect craft. Furthermore both Ruskin and Morris argue against treating making and thinking as two separate domains. Ruskin was highly critical of the industrial revolution because of how the division of labour into discrete tasks robbed the workers of the opportunity of creating whole objects. As a consequence of such divisions, thought and making, intellectual and physical work, were separated. According to Gauntlett, the everyday making of today has the potential of reclaiming the everyday creativity that Ruskin and Morris argued for, since it can engender “...pleasures and understandings, gained within the process of making itself, which otherwise would not be achieved” (ibid, p.218). While Gauntlett’s main argument seems to be that a shift from “sit back and be told” culture, to a “making and doing” culture would make people happier, create well being and a sense of belonging, he also argues that participation in society through creative making and sharing making can act as an alternative to the neoliberal vision of society, consumerism and education34. Rather than arguing for all kinds of making to be a good thing, or in opposition to consumerism and neoliberalism, we do, in line with Hertz and Ratto (Hertz 2012), emphasise that we need to differentiate between different kinds of making and the work they do.

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34 Gauntlett is not primarily looking at what we usually consider to be political contexts, but argues that making and sharing in itself is a political act.
Similar reasoning is made by Carpenter (2010) in an article where she expresses her frustration with knitted cakes and how such kind of craft obscures the political potentials of craftivism and DIY (do it yourself).

Sennett, who has written the book *The Craftsman* (2008), also refers to Ruskin and Morris, but puts less focus on happiness, and explicitly states that he wants to avoid using the word creativity. Instead, Sennett describes craftsmanship as a kind of citizenship which is characterised by “...the desire to do a job well for its own sake” (ibid, p.9). To become a skilled craftsman takes time and practice and is not always a pleasant and joyful process. In a transcribed conversation with Gauntlett, Sennett argues that craftwork also can be frustrating and that we learn persistence through craftwork:

> And one of the main things that we need to learn in developing any skill is how to keep going even though we’re not getting pleasure at the moment from what we’re doing, how to commit I would say to something that often is, is very arduous. (Sennett 2011, non-pag.)

To have the skills of the craftsman, Sennett argues, is of great importance, since craftsmanship is a way of knowing the material conditions of the world, a knowing that also makes it possible to engage with it and transform it. The skills of a craftsman are, however, not innocent, which brings us to the ethical aspects of craftsmanship; of making things.

To discuss ethical aspects of craftsmanship, Sennett turns to the Greek myth of Pandora. In short, the myth tell us about Pandora, who opened a box given to her by the Gods, and thereby released all the evils of humanity, leaving only hope inside the box. Pandora did not open the box with any bad intentions, but because of her curiosity. While this myth has been interpreted in many different ways, Sennett uses it to discuss the dangers of interventions made out of curiosity and suggests that “...culture founded on man-made things risks continual self-harm” (Sennett 2008, p.2). To discuss how to handle risks related to man-made things and unintended consequences of curiosity, Sennett enters into dialogue with one of his own teachers, Hannah Arendt.
According to Sennett (ibid), Arendt (1958 [1998]) argued that politics stands above physical labour, partly since no maker of material things is in control of or even has the capacity or interest of understanding the consequences of his or her invention. To Arendt, it is through debate, in the public realm, that people can decide which technologies that are desired or not, rather than simply through making steered by a curiosity and based on the questions starting with how. This kind of making, where the maker is absorbed by the task at hand and shuts out the world around him or her, Arendt characterises as "Animal laborians". The main examples are the development of the nuclear bomb, by Oppenheimer, and the making of gas chambers by Eichmann. A contrasting figure to Animal laborians is Homo faber, who “...is the judge of material labour and practice” (Sennett 2008, p.6) and more concerned with the question why. To Sennett this separation between making, on the one hand, and thinking, debating and judging on the other, also implies that the public is only engaged after-the-fact, when things are out there, often with irreversible consequences.

To avoid this separation between making and thinking and judging, Sennett argues for a kind of craftsmanship that is an engagement that starts much earlier, and that always involves both problem solving and problem finding. It is a curiosity directed to the questions how and why.

Although Sennett’s version of making and crafting seems to be focused on the individual maker, and treats skills as something that is most of all situated in a human (as different from co-constituted between technologies and humans), we find parts of his work useful as it suggests a temporal shift—from an after-the-fact ethics to a more ongoing engagement.

As we showed in the previous section on designerly public engagement, there are several attempts to engage publics in science and technologies through various kinds of makings.

Publics-in-the-making has much in common with other designerly public engagement projects. But there are also significant differences. For example, publics-in-the-making shares the democratic ambition of participatory design, but puts emphasis on the challenges that such approaches are faced with, when living with technologies is not simply done in a well defined community of practice, such as a workplace. Instead, publics-in-the-
*making* could be thought of as mode of design-after-design that intervenes in and engages with already existing designs and technologies, and at the same time invites others to continue such engagement. This could be thought of as a blurring of the boundaries between project- and use-time. Or a recognition that there are multiple and overlapping projects.

Through its engagement with everyday technologies that are already part of most participants’ everyday entanglements, *publics-in-the-making* differs from approaches such as speculative design, that often aim to introduce technologies that the publics are expected to have few relations with, experiences or knowledge of. *Publics-in-the-making* is however kin with speculative design in the sense that it seeks to participate in articulation of issues, or, as Michael has put it: to engender inventive problem making.

In line with critical making, *publics-in-the-making* aims to explore potentials of making, rather than evocative objects. From critical making we also draw on Ratto’s focus on care in relation to sociotechnical assemblages. However, whereas Ratto situates himself in a lab, we are more kin with practices of experiments that leak out of labs into contingent publics. In contrast to Ratto’s focus on discrete events, we are interested in the making of *Threads* over time. For example, we hand over the role of being hosts, and *Threads* does not require previous skills or specific knowledges, but becomes with the involvement of participants. This also implies that ongoing care is required.

Media archaeology practitioners and scholars are concerned with old media devices and temporality. This means that, through forensics of obsolete media and an engagement with history through materials and practices, they queer a predominant thinking of progressive technological development. Instead of linearity they aim to show and work not only with how old media makes new media, but also how new media makes old media. *Publics-in-the-making* also deals with technologies’ and practices’ relational reorderings, such as embroidery, mobile telephony and sewing circles, so that temporalities and materialities are queered.

To end this chapter we would like to revisit the quote from its’ beginning. A man stated that we are not building a house in *Threads*. He is right. But instead of judging *Threads* in relation to this quote, which implies a
judgement a posteriori, in the following chapter we will discuss *Threads* in terms of its potentialities as designerly public engagement in issues of living with technologies. We will do so by re-activating patches, which are papers, articles and a book chapter on *Threads* written for specific circumstances and calls. In the re-activation the patches are patchworked through three seams. The patchwork ends with two individually written texts in which we outline how our work with *patchworking publics-in-the-making* possibly re-patterns designerly public engagement in media and communication studies and interaction design.
5 PUBLICS-IN-THE-MAKING – A PATCHWORK

5.1 Introduction
This patchwork is an attempt to explore the potentialities of publics-in-the-making as well as giving an account of the making of the concept as such. The patchwork consists of patches, seams and two re-patternings.

The patches of this patchwork consist of peer-reviewed papers, articles and one book chapter. All have been written to different contexts and thereby address different audiences. In this chapter of the thesis these patches are sewn together to say something more than the singular entities can on the specific topic of publics-in-the-making – publics that come out of making things and that are ongoing and continuously reconfigured through their human and nonhuman participants.

The seaming is a way of re-activating the patches that are more or less placed in chronological order. Reading the patches one by one allows the reader to follow at least part of the different phases that Threads has gone through, and the issues that have arisen along the way. The seams will be used rather differently. Since all the seams know all the patches we can move in space and time across the patches. In the seams we will point to relations and separations, draw together and cut things together-apart. Examples from the patches re-appear from one seam to another, but do slightly different work depending on what they are in relation to, just as one colour can appear in many threads. We will also bring in some valuable scraps. Thereby some material will be made present in the seams which cannot be found in the patches. More specifically this reactivation of the patches aims to explore potentialities of publics-in-the-making, through the seams which are called: becoming to matter, co-articulating.
issues and *practising caring curiosity*. This is not exclusively affirmative, but also allows for highlighting shortcomings, deficits and lacks.

Following the seams there are two texts that discuss how this patchwork is re-patterning *designerly public engagement* in the respective disciplines that this thesis addresses: media and communication studies and interaction design. We use the word re-patterning to emphasize that we are not generating patterns out of nowhere, but align with as well as displace patterns of various kinds that were already there, that had been sedimented through time and space. Thereby they are not simply a result of our interventions but also others’, human and nonhuman, with whom we share long temporal and spatial cohabiting—practitioners, participants, texts, researchers, conferences.

The patterns are not prescriptive, but suggest directions that have to be adjusted to the local circumstances. Agency should thus not be regarded as simply located in neither the patterns nor in the humans who make use of it, but rather in the assemblage of humans and nonhumans that are in relation through specific sociomaterial configurations.

### 5.2 Patches

The patches of this patchwork are five texts that have previously been published elsewhere. Some of them have even been published twice in slightly different versions. Below we briefly describe the contexts in which these articles, papers and book chapters have been written and published.

Since these texts were not written to follow after one another in this thesis, but to address specific calls and to be published as part of other relations, there are parts of the patches that are repetitive or of little relevance to our discussions of *publics-in-the-making*.

Minor alterations have been made to the texts, such as spelling. To quote those texts we kindly advice you to use the references as stated on page 371.

**Patch 1: Making Private Matters Public in Temporary Assemblies, CoDesign (journal), 2012**

The paper was first written as a full paper which went through blind peer-reviews for the *Participatory design conference* held in Sydney 2010,
which had Participation: the Challenge as a title. The paper was therefore first published in the ACM proceedings for the Participatory design conference. It was then selected to be part of a special issue in the journal CoDesign in 2012. Copyright Taylor & Francis: www.tandfonline.com

Patch 2: Threads without Ends – a Mobile Sewing Circle, Nordes (conference proceedings), 2011
The call for the Nordes conference in Helsinki in 2011 was: Making design matter! This paper was written as a full paper which went through double blind peer-reviews. The article was published online.

The article was first written for the conference Ambience held in Borås in 2011. The conference focuses on the intersections and interfaces between technology, art and design and the paper was directed to the track on new media art and interaction design. The article was published both in proceedings and online. It was then selected to be published in a special issue in the journal Studies in Material Thinking.

This is a book chapter which will be under the theme emerging publics. Prequels to this paper have been presented at the conference Transforming Audiences in London 2010, Lancaster Sociology Summer Conference 2012 and HumLabX in Umeå 2013. It has gone through several peer-reviews amongst the other contributors to the book as well as in a network on innovation across Copenhagen and Lancaster, apart from the editorial teams’ reviewing. Copyright MIT Press.

Patch 5: Threads Becoming to Matter through Collective Making, Crafting the Future (conference proceedings), 2013
This article was written as a full paper for the track MAKING TOGETHER – Open, Connected, Collaborative to the conference in Gothenburg. The paper was peer-reviewed and published online.
PATCH 1
Making Private Matters Public in Temporary Assemblies
CoDesign (journal) 2012

Abstract
In this paper we propose temporary assemblies where the sharing of stories and concerns are facilitated. Possible challenges and characteristics of such temporary assemblies will be discussed through the project Threads—a Mobile Sewing Circle, which is designed in order to support conversations in relation to everyday use of information and communication technology as well as to other means of communication. The participants do not necessarily belong to an already existing community and do not need to reach a consensus. The discussion in this paper will focus on how the design of Threads allows and encourages the participants to bring past lived experiences to the table, as well as how the act of participating in the sewing circle brings out new concerns. Despite the transient character of this assembly we will also look at how the things produced in the sewing circle might support longer lasting, future conversations.

Keywords: participation; temporary assemblies; thing; sewing circle; design experiment
Introduction
In this paper we seek to explore and develop knowledge on how to design and facilitate temporary assemblies. We argue that this is of relevance in a participatory design (PD) context since the predominantly long-term perspective is in need of a complementary approach. Our suggestion is based on the collaborative project Trådar – en mobil syjunta (translated to Threads – a Mobile Sewing Circle and shortened to Threads).

We call Threads a temporary assembly since the aim is to gather people belonging to various communities, groups and networks and to facilitate sharing of everyday concerns. We divert from the PD ideals of establishing lasting and robust relationships between the participating actors and of attaining shared goals and consensus. More specifically, Threads is designed to facilitate the sharing of stories, experiences and concerns in relation to the everyday use of information and communication technology (ICT), as well as to other means of communication. This is first and foremost done through the invitation to embroider an SMS (text message), which can be done either by hand or with an embroidery machine connected to a mobile phone with custom software (Figure 1). Threads is set in a Swedish context, but the ramifications should be applicable elsewhere as well.

In our discussions we will focus on how the design of Threads allows and encourages the participants to bring past experiences to the table, as well as how the experience of participating brings out new concerns. We will also consider how the material objects, or things, produced in Threads might become actors in future conversations beyond the temporary assembly.

To discuss possible characteristics and dilemmas of temporary assemblies, we will also look at two other kinds of assemblies: the Thing (Latour 2005) and sewing circles (Waldén 2002) that in different ways gather those concerned, as well as that which causes the concern (Latour 2005).

In the discussion, we will focus not only on the role of the participating human actors of this assembly, but also on the nonhuman actors (Latour 2005), such as mobile phones, Threads, needles and embroidery machines.
Figure 1: Embroidery machine connected to a mobile phone.

Figure 2: The table set in Tyresö.
Challenges within Participatory Design
Within PD, long-term engagement with users and other stakeholders is often advocated. These relationships are usually built in order to be able to initiate and promote changes based on objectives or concerns, which are well grounded in the intended context of use. In general terms, one could say that PD rests on democratic values and that future users are invited into the design process to have an influence on the design and, consequently, the changes that it might bring about.

Typically, methods such as design games (Brandt 2006) or future workshops (Junk and Mullert 1981) have been used in work contexts or within organisations in which the future users are already part of a community, or at least share a context of use. However, today it is not uncommon that design has implications for others than the intended user group and that it reaches beyond the intended context of use.

A common example is SMS, which was originally designed for business people but is now widely used among youth. Today, we can see various services and genres based on or related to text messages, such as SMS Novels and Twitter, which few could have imagined when text messaging was introduced.

To some extent, design has always had implications for others than the intended user. However, as ICT is currently designed for and used in a variety of everyday contexts, which overlap and intermingle, we argue that it becomes more difficult to know to whom and how these technologies and artefacts will become a concern. Today, we do not use these technologies and systems only as part of our work or any other distinguishable context. Rather, we have expanded their use into other arenas; for example, we use ICT to vote, to make our yearly tax declaration, to engage in public debate, to tell our friends and family that we are 15 minutes late or have given birth to a child, or to share pictures from our vacation. This lack of a well-defined context of use could be seen as a challenge to the democratic ambitions of PD.

In an article on the debate between Walter Lippmann and John Dewey, Noortje Marres (2005) points out that back in the 1920s these two authors argued that new technology for communication, as well as transport and
manufacturing, made public affairs more complex. It was then, and still is, often assumed that complexities are a threat to the democratic society, and that the remedy to this concern lies in simplifying matters. Dewey and Lippmann argued the opposite (Marres 2005).

Strange, unfamiliar and entangled objects are the conditions for public engagement and for public affairs to arise, rather than a threat. A concern or an issue that can be resolved by experts, institutions or a social community does not become a public affair. In other words, issues that are too complex for a community to resolve bring a public into being.

While this debate took place almost a century ago, it still seems to be of relevance. If we consider this line of thought in relation to PD, we could suggest that issues that cannot be resolved within design projects or by a well-defined community of users do not necessarily become a threat to the democratic ambitions of PD. It does, however, challenge how we think of the design process.

For example, when the user is unknown and cannot be involved in the design process, Pelle Ehn argues that designers should design for design-after-design, which implies a shift from design-in-project to design-in-use (2008). In other words, when designers and users are not able to work together on projects, the designer should create space for design in the actual use situation (Ehn 2008). In a similar manner, Cristiano Storni (2008) argues for an increasingly delegated user. He refers to technologies and infrastructures open to being transformed by the users, which in turn enable and are enabled by design practices such as crowd sourcing, open sourcing and technological bricolage. Storni argues that we, as designers, need to make more profound delegations to the user if we are to take the shift towards a more proactive user seriously. This would mean that designers should delegate design choices and design actions, instead of designing artefacts for use.

Both Ehn’s and Storni’s proposals could be seen as attempts to maintain the democratic values upon which participatory-oriented design is based. Despite the fact that designers and users are not always able to work together on projects, these strategies aim to create a space for users to have an influence on the design and the changes these designs might
bring about. One consequence of this shift towards design-in-use and an increasingly delegated user is that designers and users become separated in time and space, which implies that it becomes more difficult to design for stable long-term changes based on jointly expressed objectives. What we see is an ongoing conversation or dialogue in which a variety of actors take part in negotiating possible action spaces, both through design and through proactive use. One such example is the syntax of Twitter, with the use of hashtags and retweets, which emerged through use and was later adopted by other social media platforms.

In a landscape where design takes place not only in projects but also in use, responsibility is further distributed between various actors, human and nonhuman. As a consequence, it seems to be harder to find one master narrative that distinguishes right from wrong and truth from falsehood. For example, during the closing down of airports when the ash cloud from the Icelandic volcano hit northern Europe in 2010, competing stories and interests, such as security and economy, were expressed in the news, in parliaments and on blogs. It was disputed whether the airports should be kept closed or reopened. Various narratives that compete, complement or contradict each other are also told through design and in use, in which the intended or preferred use is redefined.

Important questions in this context would then be how we, as designers, could engage in these conversations and dialogues. How can we assemble? Who else should be involved and how? Bruno Latour argues that we need to recognise that there are several forms of assemblies, not only parliaments, in which we “... speak, vote, decide, are decided upon, prove, or are convinced. Each has its own architecture, its own technology of speech, its complex set of procedures, its definition of freedom and domination” (2005, p.21). Rather than proposing one kind of public or assembly, Latour is suggesting an assembly of assemblies, that in various ways manages to gather those concerned, and perhaps those who are not, as well as that which has caused the concerns.

As an important part of this assembly of assemblies we suggest temporary assemblies. These assemblies would not gather with an ambition to reach consensus or express one preferred meaning or action space. The concern in these assemblies would rather be to gather people belonging to
various communities, networks and groups, and to facilitate the ongoing conversations that everyday life involves: to engage in the sometimes conflicting, contradictory, complementary and competing narratives told through design and use.

To explore one such temporary assembly we will now turn to **Threads**.

**Threads – a Mobile Sewing Circle**

Many of us have text messages on our mobile phones that remind us of people, relationships and situations that we like or love – or even hate. In **Threads**, we invite people to embroider an SMS by hand or with an embroidery machine connected to a mobile phone and thereby share these fragments of everyday conversations with others.

**Threads** was initiated under the name *stitching together* and has been arranged at galleries, museums and festivals, and in academic contexts. In this paper, we focus on **Threads**, which was developed in collaboration with the four following partners: Malmö University, Swedish Travelling Exhibitions, Vi Unga (a youth-led organisation for leadership, democracy and entrepreneurship), the National Federation of Rural Community Centres, and Studieförbundet Vuxenskolan (a national organisation arranging study circles).

During the spring of 2009, we conducted a pilot tour of the project **Threads** to three rural community centres in Sweden: Vemhån, Tyresö and Lane-Ryr. Based on the results of the pilot tour, an extended tour was prepared for 2010, 2011 and throughout 2012.

**Making Propositions through Design Experiments**

To explore possible characteristics and dilemmas in relation to temporary assemblies, we have chosen to conduct design experiments, in which we invite others to participate and engage in conversations with other actors. In an iterative process, the design of **Threads** has been further developed based on the participants’ engagements during the pilot tour, which we describe in this paper.
Koskinen et al. (2008) describe three contexts for design experiments: the lab, related to the natural sciences; the field, related to social sciences; and the gallery. The gallery is described as a context that is intended for communicating knowledge, which means that other actors, such as future users, are not invited into the process of knowledge production. To exhibit design in galleries can still be an interesting strategy as it allows us to propose possible futures that lie beyond the directly applicable. In other words, the gallery as a context creates space for us to imagine new futures that are not necessarily desired or feasible given today’s conditions, yet it helps us to imagine how things could be different, for better or worse. However, this strategy might lose one of the strengths of design: to be used and thereby to become an actor in people’s everyday life.

We have previously staged Threads in various contexts, ranging from galleries, museums, festivals and town squares to academic contexts. On several occasions, we have been invited to exhibit a patchwork made out of embroidered text messages that usually travels with Threads. When the patchwork is exhibited, it becomes a representation of a process and appears fixed and finished, thus losing the qualities that Threads possesses. Here, we are referring to the opportunity to engage in dialogue and to negotiate jointly around meaning and possible action spaces, which is one of the main objectives of Threads.

Our ambition is to make Threads part of a lived experience, rather than a distant reflection. We hope to achieve this by facilitating a proposal for a temporary assembly. Instead of exhibiting Threads as a finished proposal in a gallery, we have chosen to stage this experiment in the context of rural community centres, which are, to some extent, already part of some of the participants’ everyday lives.

The ambition to include various actors in the process also relates to one of the collaborating partner’s main interests in this project: to design exhibitions that reach beyond the big cultural institutions and that allow participation and co-creation. This means that the Swedish Travelling Exhibitions strive for a shift from the exhibition as a one-way communication of prepackaged experiences, information and knowledge to a more dialogical, empowering and, perhaps, democratic approach. Threads is a
step away from Koskinen and co-workers’ description of a gallery and a search for a platform that enables a more dialogical approach to knowledge.

A Day at the Rural Community Centres
During the pilot tour in 2009, Threads took place between 10:00 am and 4:00 pm, on either a Saturday or a Sunday, and consisted of 10–20 participants of varying ages.

All participants had received an invitation via email or via the telephone, asking them to bring their mobile phones and their own textiles, such as towels, pillowcases, T-shirts or other fabrics that they would like to embroider on. The invitation also encouraged them to bring hangings with proverbs, as people from previous sewing circles had pointed out resemblances with the embroidered text messages.

Each day began with an introduction to the project, given by us and by Lisa Lundström, from the Swedish Travelling Exhibitions. Material from previous circles acted as support for the introduction; that is, we could provide concrete examples of embroidered text messages and simultaneously talk about the ideas behind the project.

In the centre of the room, we placed a large table, on which we laid a tablecloth intended to do embroidery on. Fabrics, needles and embroidery threads in different colours were also placed on the table for everyone to gather around (Figure 2). Materials from previous gatherings were hung on clotheslines in the room for show. In some cases, verandas were used. On a separate table, we placed an embroidery machine which was connected to a mobile phone, thus allowing participants to forward one of their messages to the machine and have it embroidered on fabric. During the day, we had coffee, cake and lunch together.

At the end of the day, the participants were left with the decision either to take the things produced during the day home with them or to leave the things in the sewing circle so that they could travel to the next destination. Other things left in the sewing circle were pictures in a photo album with images from the day, and pieces of embroidery on the tablecloth.
Each sewing circle ended with a joint discussion in relation to our experiences of the day. The concluding discussion took its starting point in what the participants had embroidered. In this way we reconnected to the materialised conversations.

**A Temporary Assembly with a Past and Possible Futures**

Even though *Threads* is a temporary gathering, i.e. the participants do not necessarily share a past or a future, neither the assembly nor the participating actors—humans and nonhumans—are without a past or a future. Therefore, the organising framework in this section is three-fold, with a focus on the past, the present and the future: how the participants’ past experiences are brought into the conversations; how the act of participating in the sewing circle brings out new concerns; and how conversations might continue beyond the temporary assembly *Threads*.

The discussions that follow are based on the embroidered materials produced by the participants as well as on field notes, which we took, as we also participated in the sewing circles. The notes were partly taken during the sewing circles and partly created from recollection later the same day. As two of us took notes, we had partial perspectives from the outset: we listened in on, engaged in and observed different aspects of the sewing circles. We hope that our combined notes form a thicker narrative.

**Bringing past experiences to the table**

*Threads* is designed to encourage the participants to bring their previous life experiences to the table, through the sharing of text messages and through fabrics that carry stories and memories.

A woman at the community centre in Lane-Ryr decides to embroider a text message that says: ‘Good luck today. Hugs, Vicky’ [our translation from Swedish]. One of the other participants helps her to forward the message to the embroidery machine. She says that the message means a lot to her as it is a text message that she got from a friend when she was on her way to take a computer course as part of her work. The course had been cancelled several times, which made her nervous.

Further, she explains that she had difficulties keeping up with the fast pace; however, now there was a new student in the class who already
knew how to work with computers. The new student and the teacher immediately made friends. As the new student and the teacher chatted, the other students had more time for themselves and to help each other, which resulted in their being less anxious. When she went home, she felt that she had overcome a threshold: now she could learn more by herself. She states that she will frame the embroidered text message and put it up in her office.

Now I can also tell my boss that I embroidered an SMS. Maybe I will lie a bit and say that I was able to forward the message myself to the machine. This summer, I will buy a new mobile phone and learn how it works. I need to be able to use text messaging as part of my work. Currently, I don’t bother as it takes too much time, and it’s so awkward.

Later, she adds:

I think the embroidery will create more discussion and conversation than a traditional hanging, partly because I will talk about my experience with the embroidery as a starting point. It also refers to something that many at work have experienced.

On several occasions, the participants brought their own textiles to embroider on, and some had hangings embroidered with proverbs to show the other participants.

Similar to the digital text messages that people have on mobile phones, the textiles and embroideries are connected to memories and stories, which are often taken up during the conversations.

In Vemhån, several of the participants brought hangings with proverbs on them to show and share with the others (Figure 3). As we look at some of their embroideries, one of the women recalls a saying that she did not bring but finds representative of the values that were present when she was growing up in a village: ‘Den fåfängt går, han lärer mycket ont’. The saying, which is in Swedish, suggests that if you are idle and do not do useful things, you will learn to be mischievous.
When she was growing up in the region, she always used to have a handicraft in her hand. She would not even leave her handicraft behind when she went to visit the neighbouring farm. When she learned how to read, she did so with her hands occupied with handicrafts, such as knitting or other crafts that would allow her to keep her eyes on the text simultaneously. Later, another woman in her fifties mentions that she does handicraft not while reading, but while watching television with her husband. She explains that it relaxes her as she sometimes feels like she is wasting her time if she is only watching television. One of the teenage girls supports this idea: ‘It’s fun to do embroidery. One doesn’t just watch TV, but does something simultaneously’.

This example shows how one proverb provoked several of the participants to share their own previous experiences, which in different ways relate to the values embedded in the saying.

It is, however, not only the things which the participants bring that support bringing lived experiences into the conversations, but also sewing circles themselves.

One woman in Tyresö recalls that she used to be part of a sewing circle, where the participants gradually tried to make better food and serve nicer wines. It became more of a competition than an opportunity for exchange in which one would feel comfortable asking for help.

A young girl relates that she likes to sit at home on Friday evenings to do handicraft. As she does not like to be by herself, she invites friends to come along. In the beginning, it was only girls, but now there are some guys as well.

**Participating in Threads Brings out New Concerns**

As mentioned above, the stories and concerns shared in *Threads* are related not only to previous experiences, but also to the act of participating in *Threads*. During the day, different situations and experiences of participating in the sewing circle bring out new concerns.

The soundtrack of the day in Lane-Ryr is made up of ‘click, click’ from cameras. Some photographs are immediately printed and put in the photo album, which travels with *Threads*. Two women stand close to Åsa and
Figure 3: Hangings in Vemhån.

Figure 4: Embroidering SMS on the porch in Tyresö.
say ‘When you take, we take’. All three are taking pictures, and a concern about who gets to represent the day is touched upon, but not further developed at that moment. During the day the question of representation also comes up when a woman says that she does not want to be in any pictures.

The sun is shining in Tyresö, so we decide to sit outside on the porch to do embroidery (Figure 4). One girl has a headphone in one ear and follows the conversation with the other. For long periods, we are silent but still gathered as a group and all doing our own embroideries. We start to talk about being quiet and how we are usually afraid of being quiet, especially within a group of people who we do not know very well. After a while, Åsa says, ‘If I’m alone somewhere, perhaps waiting for someone, I usually take out my mobile phone just to look busy’.

Over the day, the aspect of time is a recurring theme in the discussion. At the end of the day, one girl conveys that the long conversations were the aspect of the day that she appreciated most: ‘It was nice to just listen and to be quiet. You don’t have to say everything in five minutes’. ‘I never thought of text messages as short stories before’, a boy adds. ‘As we were gathered for a whole day, there was time to get to know a bit more about other people’s lives. If it would have been a shorter period, I would most likely just have talked to my friends’, another girl remarks. Through this last remark, the girl acknowledges that we had become a group, if only a temporary one, which extended previous relations.

While the aspect of time is the focus in Tyresö, the embroidery machine in relation to the hand becomes a recurring topic in Lane-Ryr. Several of the participants had prepared themselves by gathering proverbs and sayings from friends and from the Internet. Over the day, these are shared among the participants and embroidered, both by hand and with the embroidery machine. At the end of the day, a woman announces: ‘Today, we have supported the telephone operator’. Her comment shows how the concept of forwarding an SMS from the phone to the embroidery machine was more of an obstacle if you wanted to embroider something other than an SMS. Since the majority chose to embroider proverbs instead of a personal message that was already on the mobile phone, the interface did not make sense and was first and foremost costly.
The same day, a woman uses a technique called Japanese embroidery, which is usually used for making motifs to be framed and hung on walls, to embroider on the white tablecloth. Another woman comments: ‘It will not hold if you wash it’. ‘I guess I will have to do it all over after every wash’, was the reply. ‘It will be wasted women power’, says another, who then laughs. Later the same day, a vivid discussion takes place on the low pricing of handicrafts sold in stores close by. The participants talk about all the energy and skills that are invested in making a traditional dress. One woman questions whether these dresses have to be made entirely by hand: ‘If they had machines back then, they would have used them, so why make it by hand now when we have the machines?’

Kristina suggests that we consider text messaging as handicraft or at least as some kind of dexterity. Åsa proposes that the skill lies in the ability to express oneself within the limit of 160 characters.

At lunch, the embroidery machine starts to sound strange, so we turn it off. The fabric has jumped out of the frame. As we turn it back on, we realise that one letter is missing and the rest of the text has become a bit crooked. We offer to reverse the machine and correct the error, but the woman who sent the message blurs the boundaries between human and technological error by saying, ‘It doesn’t matter. I will tell the person who sent it that he has misspelled. That usually happens when you write text messages anyway’.

At the concluding discussion that day, we return to this tension between hand and machine, but in a slightly different way. This time it is related to who had gathered in Threads. A man expresses that he had expected to talk more about how text messaging has influenced language. A woman replies that maybe we would have if there had been more young participants. One of the youngest participants replies that she can think of several friends that she could have invited, but then says that most of them are so busy. A woman suggests that the embroidery machine could be used to attract young people, and then hopefully they would become interested in handicraft. The idea was that the machine would be attractive, and would function as a bridge to other materials and technologies. The young girl replies that she enjoys handicraft. She explains that she learned from her grandmother, not from her parents who, much like the rest of their
generation, do not have the skills. One reason for this may be that when the housewives started to work in factories, machines began to do the work previously done by these women. An older woman suggests that feminism is to blame.

Possible Future Conversations
By the end of the day, the participants can choose whether they want to bring their message home or leave it in Threads. On several occasions, participants embroider on items such as towels, pillowcases, T-shirts and even shoes, which could be used in the future and, thereby, become part of new conversations and relations (Figure 5).

A woman in Lane-Ryr explains that she will turn her embroidery into a gift for her son and his newborn child. She embroiders a text message that she received from the hospital when the child was born, onto a pillow that has been in the family for generations and has already been embroidered several times. ‘I will redo it so that the size will fit a baby. I think my son will like the embroidered text messages since he works with computers’, she adds.

Others turn their embroidered text messages into hangings to be displayed and put up on walls. As mentioned, one woman said that she would put her embroidery in her office space and hoped that it would trigger conversations in relation to computer courses that they are expected to take at work. Also, the pictures that are taken both by us and the other participants circulate.

Because of the temporary characteristic of the assembly, we know little about the lives of these embroideries and the possible conversations and relations they become part of outside Threads. As there are few possibilities within the framework of the project for reciprocation, these are stories and conversations left to our imagination.

In other cases, the participants choose to leave their messages behind to include them as possible actors in future sewing circles. When the messages are left in Threads, they do, to some extent, become out of context since the person who made the embroidery and knows why it was embroidered
“My pink pillow with my son’s text messages from the maternity ward was made into a pillow with an image of my grandchild on it. I have printed the images myself and ironed them onto the fabric. Now the pillow is used during nursing.” (Translated excerpt from an email sent to us by a woman who does not want her name to be disclosed.)

Despite having never met, participants in Threads had a conversation and negotiation enabled by one of the non-human actors: the tablecloth.
is no longer there. It is then up to the readers to make sense of or interpret the message, based on their own experiences.

In Vemhån, we noticed that a conversation had developed in the tablecloth. Somebody had embroidered, in quite an inexperienced hand, ‘hel vet’, which translates as ‘hell’. A couple of elderly ladies in Vemhån thought it inappropriate to have a swearword written so publicly. They added letters with their skilled hands and turned the word into ‘hel vetelångd’, which translates as ‘whole pastry’ (Figure 6). Hence, it became a conversation in the material, and the tablecloth became a nonhuman actor where a negotiation of what is acceptable to show publicly took place.

Assembling in Things and Sewing Circles
To further discuss Threads as a temporary assembly, we will present two points of reference: the Thing and sewing circles. We bring these two assemblies into the discussion since we argue that they, in line with Threads, are assemblies where important matters can be discussed. The Thing and sewing circles are also chosen since they differ when it comes to their relationship to the public and ways of gathering.

The etymological meaning of the word Thing in German is, according to Martin Heidegger: ”. . . a gathering, and specifically a gathering to deliberate on a matter under discussion, a contested matter” (Heidegger 2005 [1975/1951]). Heidegger further points out that the word thing refers to an ‘affair and matter of pertinence’.

Latour has also shown an interest in T/things. He argues that objects have been treated as indisputable matters-of-fact for far too long. If we instead attend to their complicated entanglements they become disputable matters-of-concern. Or, put in a slightly different way: objects become disputable things.

To discuss this proposed shift, or how to handle the disputable, Latour turns to the archaic assembly of the Thing. The reason for doing so is that it is a gathering of human and nonhuman actors in which we ‘. . . don’t come together because we agree, look alike, feel good, are socially compatible, or wish to fuse together but because we are brought together by diverse matters-of-concern into some neutral, isolated place in order to come to
some provisional makeshift (dis)agreement’ (Latour 2005, p.23). In other words, the Thing gathers because of one or several issues that divide its components. Further, the Thing refers both to those who have assembled and to the causes that made them assemble: things gathered in a Thing.

The collective called A.Telier has brought the idea of the Thing into a design context (Binder et al. 2011b). They define the design Thing as the assembly in which design decisions are negotiated and made. They suggest two strategies for engaging in this design Thing: PD and meta design, that we previously have referred to as design-in-project and design-after-design.

Threads does not, like the Thing described by Latour, gather because of preset matters-of-concern, in a somewhat neutral place. Rather, the concerns in Threads, as seen in the examples above, are closely connected to everyday experiences, and some of them arise in the gathering, while embroidering text messages. Threads does in that sense have several similarities with sewing circles, which historically have been and still are closely entangled with both private and public conversations.

Louise Waldén (2002) describes sewing circles not only as a forum in which pleasure is combined with usefulness, but also as a forum in which women have been able to set the agenda and, therefore, discuss issues that they consider important. The sewing circle has, thereby, been a way to gather under the cloak of textiles. Waldén argues that the sewing circle is an example of what she would call a hidden female public or a shadow parliament. To understand the characteristics of this hidden female public, it may help to look at the Swedish word for sewing circle: syjunta. Junta comes from the Latin junctus, which means joined. Waldén points out that there are two established words in the contemporary Swedish language that use junta: militärjunta (the military junta) and syjunta, both of which are groups based on the principle of the closed group as a condition of absolute openness. The junta rests on confidence that must not be broken, and is built up over time, although used for different purposes.

Today, we are seeing new forms of communities based on handicraft, which are moving out of the domestic setting and into café’s, bars and squares. As these communities move into and act in public places in a
rather explicit manner, they are no longer the kind of hidden public that Waldén is talking about.

Stella Minahan and Julie Wolfram Cox (2007) characterise the global movement frequently called *Stitch ’n Bitch* as groups that often operate in both physical and digital public spheres:

> We propose that *Stitch’n Bitch* may be an example of a new way of connecting that is based on material production using traditional craft skills and yarns as well as the optical fibre and twisted pair cable used for telecommunications. (Minahan and Wolfram Cox 2007, p.6)

We should, however, not interpret this movement as being based on one unanimous agenda. Instead, Minahan and Wolfram Cox point out a number of themes – remedial, progressive, resistance, nostalgia and irony – which highlight various aspects and approaches that can be discerned in the *Stitch ’n Bitch* movement. What the various actors in the movement have in common is that they all share an interest in handicraft and act in both digital and physical publics.

Minahan and Wolfram Cox also identify that not everybody is able to or has an interest in participating in the *Stitch ’n Bitch* movement:

> It appears that while crafts such as stitching and embroidery may be a positive and social occupation for many, there are still far too many women around the world who are required to work at these tasks for poor pay rates and in difficult conditions. (Minahan and Wolfram Cox 2007, p.15)

These women are not included in the *Stitch ‘n Bitch* movement, partly owing to the digital divide and partly because craft in this context is not related to nostalgia or activism but rather practised as a necessity that brings income to the household or reduces costs.

The history of sewing circles and the *Stitch ‘n Bitch* movement show that handicraft and ICT are assigned different values and meanings in different contexts. It is also clear that different forms of communities based on handicraft and social media include and exclude various actors and use more or less explicit strategies to engage in public conversations.
Threads has several similarities with the kind of sewing circles that Waldén discusses. Perhaps the most significant similarity is the recognition of personal life experiences as important and the sharing of them. Another important characteristic of sewing circles and Threads is slowness, which is closely connected to the practices of handicraft.

As we have chosen to stage Threads in semi-public contexts, we are to some extent closely linked to the Stitch ‘n Bitch movement, which acts and engages in both physical and digital publics. This shift in how the sewing circle is practised could be described as a blurring of the boundaries when it comes to time, place and its participants. As a consequence, Threads is not, like the sewing circles described by Waldén, based on a closed group, and the participants do not necessarily share a common history or future.

Concluding Discussion
In this paper, we have suggested a landscape in which designing takes place not only within design projects, as traditionally has been the case in PD, but also in use (Ehn 2008, Storni 2008). Since designers are not always able to work together with users on projects, the responsibility is distributed between various actors. This, in turn, means that it becomes more difficult to hold on to certain ideals in PD, such as sustaining long-term relationships, designing based on commonly articulated objectives and making design decisions that are well grounded in the use context.

As an important part of this landscape in which complementary, competing, conflicting and contradictory narratives are told through design as well as proactive use, we are suggesting temporary assemblies. They should be seen as part of an assembly of assemblies in which each, as argued by Latour, will have its own architecture, technology of speech, and ways to gather those concerned as well as that which has caused the concerns.

We are not proposing that temporary assemblies should replace other kinds of assemblies that are based on long-term engagement and commonly defined objectives. For example, as mentioned, Threads is a collaboration in which three of the five partners have a local affiliation. Consequently, the project has the potential to become part of the local infrastructures of these organisations, which could support more lasting relationships than Threads in itself can. This is, however, not the main focus of this paper.
To develop knowledge on how to facilitate temporary assemblies, we have chosen to conduct design experiments in which we invite others to participate. The aim has not been to make a general definition but rather to explore and discuss possible characteristics and dilemmas through the collaborative project *Threads*.

What characterises *Threads* is that it aims to assemble people who do not necessarily belong to an already existing community or network and that the matters-of-concern are not set in advance. In other words, *Threads* is not based on a closed group in which trust is built up over time and in which the members share a common history, as are the sewing circles described by Waldén. Furthermore, it is not an assembly, as with the Thing proposed by Latour, in which we gather because of an urgent public affair that cannot be solved by experts, institutions, elected representatives or social communities. What we are proposing is assemblies that manage to facilitate conversations in relation to everyday concerns, although the participants do not necessarily share a common history, as often is the case in sewing circles, nor do they gather because of an urgent and common matter of concern as in the Thing.

Some of the participants in *Threads* are likely to know each other from before and belong to the same groups, communities and networks. Some will probably also share the same concerns. Still, the challenge in this context, and other temporary assemblies, becomes a question of how to encourage the participants to bring their own previous experiences and possible concerns to the table, to see how they relate to what the other participants bring and have to say about it, as well as creating space for possible shared experiences and concerns.

In *Threads*, previous experiences and concerns are first and foremost brought into the conversations through engaging with the artefacts and things, such as text messages and hangings, brought by the participants. Even though we do not come to final decisions as a group, as in the Thing, many decisions are made by the participants in *Threads*. Through the act of choosing which text message to embroider and which fabric to use, stories connected and related to these things are brought up. In Lane-Ryr, one short message encouraged a woman to share the experience of taking a mandatory computer course as part of her work. In Vemhån some old
sayings made the participants share values and sentiments concerning what is reasonable to occupy oneself with: handicraft, reading, watching the television. In some cases, the setting of the sewing circle also supports or provokes the participants to share previous experiences with the others.

In addition, the act of sharing these personal experiences, and the way in which it is done, triggers reflection and conversations. In Tyresö the silence and long conversations that the sewing circle enabled were put in relation to the short text messages. Moreover, in Lane-Ryr the authenticity of handicraft was compared with the embroidery machine. In contrast to the memories and previous experiences that are brought into the conversations, these are jointly experienced concerns, partly allowing the participants to create a temporary but shared history.

Within the framework of Threads, there are no demands for long-term engagement. This does not, however, mean that the assembly has no future. As the things produced in the sewing circle travel with the participants, they may become part of new conversations and relations.

As most things produced are everyday objects, such as towels, pillow-cases and T-shirts, they are likely to stay within what we might consider the everyday situation. As shown in the examples, one woman made her embroidered message into a gift for her newborn grandchild, and another woman made hers into a hanging to be placed in her office.

In these examples, the messages are returned to the contexts and relations that they were originally part of. So far, these have been everyday situations, which are more or less private, or at least do not involve a greater public. These are, perhaps, also the contexts in which they are of greatest relevance. At least, compared to the embroidered messages left in the sewing circle, the messages that return to the contexts and relations of which they were once part are of relevance as they relate to a shared experience, as pointed out by a woman in Lane-Ryr.

As there are few possibilities within the framework of the project to reconnect, we know little about what happens with the items produced when they leave the sewing circle. Possible new conversations and relations
that these handicrafts might become part of become stories left to our imagination. This is, to some extent, unavoidable as the focus of the temporary assembly is not to facilitate long-term relations or change. The inability to grasp the whole story is a dilemma that Threads shares with other temporary assemblies.

We suggest that the lack of full overview could also be seen as an opportunity since the complicated and entangled can become a reason for engaging and negotiating. While Threads might not perfectly fit the definition of a public, in the way suggested by Dewey and Lippmann suggested, we do see potential in the fact that both Threads and the concerns raised by the participants are not fully knowable. For example, our notes are different depending on where we were situated in Threads, and the participants touched upon the topic of how we understand Threads depending on who takes pictures, from what perspective. In Threads it is not possible to play what Donna Haraway would call the god-trick, ‘... seeing everything from nowhere’ (1991, p.189). Instead, the focus lies on the partial perspectives and the possible new insight or openings that might come out of allowing these partial perspectives to assemble.

One of the challenges, when assembling Threads, is to not overlook the tiny fragments of concerns from everyday life. Based on our experiences with Threads we argue that spending time on, and embroidering, something as mundane as a text message is one way of doing so. Waldén invites us to see how craft historically has provided an alibi for gathering in the sewing circle and discussing important matters. Our focus is not on craft and sewing circles as a cover story, but rather on how our invitation to embroider an SMS becomes a condition for certain concerns to be brought up. As we have seen in our examples, these are rarely the issues that would spark grand publics to come into being; however, it depends on which text message the participants choose to bring forward. Had somebody, for example, embroidered a text message about being stuck in the USA on the way back to Scandinavia during the ash cloud in 2010, Threads would have become one of the publics where the concern over whether or not to keep airports closed took place. After all, according to Marres (2005), Dewey pointed out that the kinds of matters that publics deal with are not radically different from the mundane issues that people deal with in their everyday lives.
Finally, it should be mentioned that Threads is an exploratory project. The aim is not to argue that hosting sewing circles, in which we embroider SMS, could be a remedy for everything, or that we should replace the parliament with Things, sewing circles or Threads. However, we would argue that a project such as Threads can highlight certain dilemmas and possible characteristics that can be taken further into other situations and contexts. This could be done by researchers, artists or designers, by collaborating organisations as well as by participants in temporary assemblies.

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References


PATCH 2
Threads without Ends – a Mobile Sewing Circle
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Abstract
In this paper the exhibition Threads – a Mobile Sewing Circle is used as an example of a design that travels. To tell the story of how Threads travels we use the concepts of immutable mobile (Latour 1990) and fluidity (de Laet and Mol 2000) – concepts that invite us to think of standardisation and stability on one hand and changes and adaptability on the other. Since Threads is continuously assembled, disassembled and reassembled in different contexts and by different actors, we argue that Threads needs to be able to deal with changes and local conditions and cannot strive for stability in the sense of ‘no change’. On the contrary, Threads is dependent on local actors’ engagement, which partly is done through adding, replacing and altering parts and practices of Threads which also redraws its boundaries. We further argue that it is through what has been called design-after-design (Ehn 2008) that Threads can become entangled in the local setting and thereby matter. Through examples from Threads it is also shown that, what we call, a fluid designer role is helpful when making fluid designs travel.
Introduction

Threads – a Mobile Sewing Circle is a travelling exhibition and workshop where participants are invited to gather for a day and to, among other things, embroider SMS, by hand and with an embroidery machine connected to a mobile phone. In this paper we will tell stories of Threads and how it travels. At each stop of this journey an assemblage of things, travelling in two boxes, offers the opportunity to become assembled into this temporary assembly (Lindström and Ståhl 2010) that we call Threads. In other words, this is a journey that includes not one piece of technology but various materials and technologies, as well as humans who engage in the process of assembling and thereby become part of the assembly.

The stories are situated within Science and Technology Studies (STS), which in various ways have dealt with the difficulties of moving or transferring technologies, as well as knowledge, from one site to another (cf. Law and Mol 2001). More specifically we will use the concept of fluidity proposed by de Lact and Mol (2000) in their article about the Zimbabwe Bush Pump. The Zimbabwe Bush Pump is a hand water pump, and might at first glance have little to do with Threads. We will however use the concept of fluidity since it offers a version of actorship, which allows us to move beyond a simple yes or no answer in relation to whether or not Threads succeeds or not on its journey. Compared with the immutable mobile (1990) proposed by Latour as a strong and stable configuration that is able to travel and at the same time keep its shape as a network (Law 2002), a fluid object or piece of technology is able to spread because of its adaptability – its ability to change and be adjusted to local circumstances. In other words, a fluid object is mobile and mutable.

Fluidity will here be seen in relation to the concept of design-after-design (Ehn 2008), which puts focus on the reconfiguration and reordering of things that goes on beyond and after design-in-project – when a design travels. This approach would then mean creating a “... larger space of possibilities for acts of defining use through use” (Redström 2008, p.421) and thereby blurring the division between designers and users.

Like any travelling technology, Threads faces several challenges on its journey. One is to make local actors engaged and caring in relation to Threads and to take part in the process of assembling. Compared with
the Bush Pump that, among many other things, provides healthy water, *Threads* might not matter when it comes to survival. In this paper we will explore other ways of mattering.

*Threads* is a collaboration between Swedish Travelling Exhibitions, Malmö university, Vi Unga (a youth-led organization for leadership, democracy and entrepreneurship), the National Federation of Rural Community Centres, Studieförbundet Vuxenskolan (a national organisation arranging study circles).

**Threads – a Mobile Sewing Circle**

Information and Communication Technologies (ICT) is becoming increasingly integrated and entangled in everyday communications, which implies that these technologies also matters to and concern more and more people. In parallel with this development we can see a new interest in traditional handicrafts that are being appropriated and brought into new contexts (Minahan and Wolfram Cox 2007).

![Figure 1: Threads in Järnboås, 2010.](image)
Threads—a Mobile Sewing Circle is an exhibition, a workshop or more specifically a sewing circle in which participants are invited to gather for a day and to embroider SMS, by hand and with an embroidery machine connected to a mobile phone. This invitation, to engage with various materials, technologies, stories and practices, can also be seen as an invitation to share concerns, desires, and memories in relation to old and new as well as physical and digital means of communication. Put in a slightly different way, Threads is not designed to communicate a pre-set package of information in relation to everyday communication, but to engage the participants in its becoming. Usually the sewing circles are hosted by local actors in rural community centres or other semi-public spaces, and last between 10 am and 4 pm.

In 2009 we, and the collaborating partners, conducted a pilot tour with Threads that visited three rural community centres in Sweden. Based on those experiences we have further developed Threads. Partly to make it more mobile—meaning being able to travel.

**Becoming Threads**

The process of further developing Threads has been one of negotiations and conversations on e-mails, meetings, workshops, phone calls, sketching, writing concept papers and contracts. Throughout this process various narratives of what Threads could or should be have been told and performed. Some of the main objectives have been to create a meeting place between and over generations. To inspire the participants’ own creativity and to try new and old technologies as well as craft. To create space for reflection on five themes in relation to communication: ephemeral/long lasting, quick/slow, public/private, digital/physical and hand/machine.

As we are several collaborating partners there have also been more specific goals for each organisation such as recruiting new members as well as developing knowledge on how to design exhibitions that are based on participation and reaches beyond the big institutions.

All of the collaborating partners signed a contract stating that we will not arrange parallel exhibitions or events under the name Threads. All of us are however allowed to host gatherings in which we embroider SMS.
These conversations and negotiations can be described as a process of trying to find one storyline and thereby making the project more robust and stable as it sets out on its journey. Throughout the process of designing as well as travelling with Threads there has been an expressed desire from several of the collaborating partners to agree on one story – what Threads is. It is however still hard to find one master narrative, one main objective and one main outcome.

When it comes to making Threads travel we would however like to mention three additions or new part of Threads.

First of all we have designed two blue boxes, containing all the materials and technologies that are part of Threads. The boxes fit into a car and can thereby more easily be transported between the rural community centres.

Secondly, we have developed an educational sewing circle in which we hand over the role of being hosts to local actors. On the pilot tour we, and a representative from Swedish Travelling Exhibitions were the hosts. During the workshop the future hosts learn by doing and are given a manual, or what we call pattern, suggesting how to introduce Threads, how to handle time during the day as well a suggesting topics for conversations. After the educational sewing circle the two blue boxes are sent between community centres as well as other semi-public spaces in the region allowing the hosts to set up Threads in their local environment.

Thirdly, a website has been designed, partly to invite the participants to make self-documentation by uploading pictures of their embroidered SMS. The website is also a site for announcing when and where Threads will be assembled. One page of the site has a pattern for how to do it yourself aimed for those who cannot attend one of the official sewing circles hosted as part of Threads.

Before we move on to the issue of travelling technologies we will take a closer look at the technologies and materials that are travelling with Threads – the things that are fitted into the two blue boxes.
Two Blue Boxes
The boxes contain Threads and needles for hand embroidery. A mobile phone that can be connected to an embroidery machine, allowing the participants to forward a message to the phone and to have it embroidered by the machine. There are also five thematic file folders with textile pages to embroider traces of topical conversations on. Each file folder has a title with a pair of oppositions: ephemeral/long-lasting, quick/slow, public/private, digital/physical and hand/machine.

To set the room there are several tablecloths to embroider on. Clotheslines are used to hang the embroidered messages on as well as other accompanying artworks chosen because of their relation to the theme of text and textile and clashes between old and new technologies and practices. There are also books and articles on the same themes.

During the day a smart phone can be used by the participants to upload images of their SMS-embroideries to the project website. The website can be accessed through a computer with wireless connection.

Separately most of these things are nothing out of the ordinary, they are off the shelves items and recognisable. It is the arrangement, combination and assembling of them that make it possible to focus on, contrast and align things that we are surrounded with in our everyday lives in novel ways.

Travelling Technologies
In this section we will look at two ways of understanding travelling technologies; the immutable mobile and fluidity.

The metaphor of the immutable mobile (Latour, 1990) describes networks that are able to travel and move without loosing its shape. Immutable mobile is in that sense a metaphor that invites us to think about long distance control, which is possible as long as codes, information, soldiers, bankers, ships, scientific instruments, newspapers and money are able to keep their shape as stable network configurations as they travel around the world (Law and Singleton 2005). One example is how the new vessels and the new navigational technology developed in the 1400’s were vital in for example how the Portuguese built up its colonial empire. Movement in this case is possible as long as the vessel keeps its shape as a network—as long
Figure 2: The two blue boxes.

Figure 3: Table set in Åsgarn.
as “the relations between it and its neighbouring entities” (Law 2002 p.4) such as “Arab competitors, winds and currents, crew, stores, guns” (ibid) are kept in shape. In other words an immutable mobile refers to two different kinds of spatialities – network space and threedimensional space – and it is the immutability in network space that makes movement in threedimensional space possible (Law and Mol, 2001, p.4).

In an attempt to update the traditional notion of the actor in a network as well-bounded and with a stable identity, like in the case of the immutable mobile, de Laet and Mol tell a story of the Zimbabwe Bush Pump that has a “striking adaptability” (de Laet and Mol 2000, p.226). The authors describe the Bush Pump as a hand water pump designed in Zimbabwe for villagers to maintain themselves. The reason for their attraction to the pump lays in its quality described as its fluidity.

At each village, in which the pump is assembled, it looks and works a little bit different from the next as some of its parts have been changed or altered and since the local conditions are different. “Good technologies, or so we submit after our encounter with the BushPump, may well be those which incorporate the possibility of their own break-down, which have the flexibility to deploy alternative components, and which continue to work to some extent even if some bolt falls out or the user community changes” (2000, p.251). In comparison with the immutable mobile a fluid object like the Bush Pump is not able to spread and travel because it keeps its shape but because of its flexibility – its ability to change its shape and still work.

This does not mean that the Bush Pump is without boundaries or that it can be anything. As de Laet and Mol point out: it is not a bucket pump (p.237). What characterises “the mechanics of this fluid technology” is that its boundaries are vague and moving, rather than solid and sharp (de Laet and Mol 2000).

Throughout the text they show that the pump has several identities – a mechanical object, a hydraulic system, a device installed by the community, a health promoter and a nation-building apparatus – which all come with its own different boundaries. Whether or not the Bush Pump succeeds in its activities is not a binary matter since it is different for each of these identities. The Bush Pump “does all sorts of things”; it acts, despite the
fact that it does not have clear-cut boundaries or a stable identity. In other words the Bush Pump, like other fluid entities, can be “fluid without loosing their agency” (2000, p.227).

As mentioned previously the immutable mobile is stable through keeping its shape and relations, which means that it cannot cope with missing parts or new actors to be included in the network. This idea of stability can however not handle or explain changes of the network, whereas the metaphor of fluidity, invites us to think of objects, technologies and perhaps also thoughts and knowledge that is able to move because of its ability to change.

We will now continue this exploration of fluidity and shift focus from designs into designers, from objects to subjects.

... and their (non)Inventors
Like the Bush Pump in itself Morgan, who is the actor behind the pump, is also described by de Laet and Mol as fluid, as he refuses the position of the control-driven modern subject. He does not claim authorship and do not patent it, as he considers the Bush Pump to be a result of not one author or creator but “... a perfected version of a long-established and locally-developed technology that has always been part of, and belongs in, the public domain” (2000, p.248). de Laet and Mol further suggest that perhaps it is precisely this kind of fluid non-modern subject that is needed to shape, reshape and implement a fluid object or piece of technology: “... non-modern subjects, willing to serve and observe, able to listen, not seeking control, but rather daring to give themselves over to circumstances” (2000, p.253).

Law compares the modest role taken by Morgan with the position of Louis Pasteur and his laboratory. In late 19th Century France, products and procedures for saving cows from anthrax were accumulated in the laboratory of Louis Pasteur. “As a result the laboratory accumulated resources which further strengthened its pre-eminence” (Law 2002, p.100). Since its relations with other locations were fixed the institute became a ‘centre for accumulation’ (ibid). Morgan on the other hand is not seeking this control and there is no clear centre for accumulation. Law further argues that this does not mean that the Bush Pump is not a success. “But it is not
a success that brings special rewards to one particular location. There is no strategic location where there is accumulation: there is no centre or periphery” (Law 2002, p.101). de Laet and Mol describe Morgan as a fluid subject. A shift towards a more fluid designer role, although not expressed with these particular words, has been argued for and practiced by several designers and researchers. Within the tradition of participatory design there is a long history of engaging users in the design process and consequently the changes that the design might bring. These projects have usually been set in contexts such as work places (Ehn 1988) and organisations, in which the users and contexts of use have been more or less known. In other words, in contexts in which technologies or designs are not intended to travel far. It is however not uncommon that design has implications for others than the intended users and reaches beyond the intended design contexts (Ehn 2008).

When the user is not known and cannot be included in the design process Ehn argues for design-after-design which implies a shift from design-in-project to design-in-use (2008). In a similar manner Storni (2008) argues for an increasingly delegated user. He refers to design practices, such as crowd sourcing, open sourcing and technological bricolage in which the division between the designer and user to some extent are becoming obsolete. In a search for a new designer role that is adjusted to this new landscape he is arguing that designers need to make more profound delegations to the user. This would mean that designers should delegate design choices and design actions, instead of designing artefacts for use.

We argue that a shift towards design-after-design and an increasingly delegated user implies that there is no clear centre or periphery in the sense that there is no particular position from which all decisions can be made and there is not one particular actor that is in absolute control. This does not mean that there are no power relations or hierarchies. There will be centres, but they are most likely fluid in the sense that they are vague, moving, temporal and more than one.

Assembling Threads
When the things that are travelling with Threads are packed up in the two blue boxes they do little work. To paraphrase de Laet and Mol (2000): “If
it is to work, it has to be assembled.” So, what does it mean to assemble *Threads*? What is required for *Threads* to work?

Before *Threads* travels to a region, the collaborating partners have meetings with the local community to introduce the project. This is one way of creating an emergent network of possible caretakers; fluid, unstable and yet vital in assuring that somebody has the competence to receive and be part of assembling *Threads*.

In addition to the things that are travelling in the two boxes the actors involved in assembling *Threads* are asked to contribute with several things. Prior to picking up the boxes, representatives from the rural community centres have received a document stating that they need to provide a place to host *Threads* in, tables, chairs, mobile phone reception and food for the participants. In the invitation, that can be found in the project website and on flyers, the participants of *Threads* are asked to bring fabrics as well as their mobile phone.

In this section we will give examples of how the local actors take part in assembling *Threads*. The examples are selected in order to show situations in which *Threads* could be said to stop working, or more specifically when some of the things that are part of *Threads* are missing or failing, as well as when new parts, partners and practices, beyond the invitation, are brought in and made part of *Threads*.

Our material is based on notes taken during participatory observations at sewing circles, the actions on the project’s website, phone interviews as well as email conversations with participants and negotiations with the collaborating partners.

**Missing Parts, Partners, and Practices**

One of the things that the participants in *Threads* are asked to contribute with is to share and embroider an SMS. It is however not unusual that the participants do not have any text messages or even a mobile phone. In Järnboås Birgitta told us that she hardly had sent nor received SMS prior to hearing about *Threads*. To prepare, she sent a message to her son, daughter and husband saying: “Jag vill ha ett SMS före lördag” (I want an SMS before Saturday).
Her husband, who happened to be in the same room as her, was confused and asked her to explain her intentions. And so she did. He sent a message that said that she was the one, the best woman. She chose to embroider a shorter version. She suggested, that by only choosing a few of his words the message became stronger. She also stitched a heart and said that she would give it to him on their anniversary. This line of thought was also related to previous conversations where handwritten letters were compared to email and SMS. Handwritten letters and embroidery were suggested to share the slowness of production and distinct visibility of a hand as in style of handwriting.

The daughter’s reply said: “Här kommer SMS:et före lördag” (Here’s the SMS before Saturday). But while we were gathered in Threads the daughter sent yet another SMS saying: “SMS tycker jag är så opersonliga. Kan vi inte ringa istället.” (SMS are so impersonal. Can’t we call each other and talk instead). Birgitta embroidered the second message with the machine. Later during the day the message was compared with another woman’s message saying: “Vi kan ju börja med sms istället tycker jag.” (I think we should start using SMS instead).

The messages that Birgitta embroidered were not selected out a long list of messages in her inbox, but sent to her because of the modest intervention done to prepare for participating in Threads. The messages became part of conversations in the sewing circle as well as between Birgitta and her family members.

In addition to the things that the participants bring and those that we have fitted into the blue boxes, Threads is dependent on local infrastructures such as access to electricity and mobile phone reception. During one sewing circle in Väskinde there was a power cut that altered Threads in the sense that there was no light, the embroidery machine no longer worked and stopped in the middle of the word kärlek (love). By using the mobile phones as a source of light the participants still managed to continue the sewing circle as they were able to embroider by hand. As a result of the power failure there were also a discussion on how dependent we are on electricity. A few days later several images, lit up by mobile phones, were posted on one of the websites connected to Threads.
Figure 4: A power-failure in Väskinde 2010. Picture by Görel Robsarve from www.facebook.com/mobiltsyjunta.

Figure 5: Collector’s cards added by the host Susanne.
In another region, there were difficulties finding places that were willing to host _Threads_. To not have a fully booked schedule, missing places to host _Threads_ in, surprised us as a positive aspect as we, by listening in on the opportunities at hand, found new avenues for _Threads_. A participating teacher of textiles, Maria, was talking about how there had been a debate in her school on whether mobile phones should be allowed or not. Together with a teacher in mathematics she had been talking about how they could make use of the mobile phones: regard it as an aid rather than a disturbing element. Since there was a gap in the tour schedule she could bring the two boxes with her and incorporate it in her teaching for two weeks. At the end of the day, when we were lifting up the heavy blue boxes into the trunk of her car she said: I could never have dreamt that this would happen when I woke up this morning.

All of these examples show situations in which parts, partners and practices of _Threads_ are missing. In the case of Birgitta she did not have any text messages in her inbox to share and embroider, which encouraged her to start sending messages to her close ones. When _Threads_ did not have any locations for assembling, Maria made place for _Threads_ at her work. In the case of the power failure some parts of _Threads_ stopped working. Without electric power the machine simply does not work, and one could thereby argue that the machine in itself is not particularly fluid. On the other hand _Threads_ did not completely stop working. With some help from the light in the mobile phones and hand embroidery _Threads_ could continue.

**Added Parts, Partners and Practices**

As we have mentioned the hosts and participants of _Threads_ are asked to contribute with things such as fabrics, SMS, tables and food each time _Threads_ is assembled. In this section we will give examples of when parts, partners and practices beyond the invitation are added.

One such example is a woman in Väskinde who did not embroider SMS, but greetings to her friends and family on previously unused terry towels, and thereby created a queue to the embroidery machine. She was not actively taking part in discussions with the other participants but rather focused on the embroidery machine as if it was a production unit. At one point the host decided to let some of the newly arrived participants jump...
the queue. The woman with the terry towels did however have all of her greetings embroidered by the end of the day.

At Väskinde rural community centre Susanne were the host for the one week that Threads visited. As part of assembling she brought new non-human actors such as textile collector’s cards and embroidered everyday use objects that she hung on the clotheslines. In the beginning of the day she introduced Threads through the thing that she had brought herself. She was still addressing the themes that we had been stressing during the educational sewing circle and which could be found in the patterns. One such overt theme was communication. Susanne also picked up on a more implicit theme that is that in Threads nothing can be bought, just like the trading cards that she brought can never be bought, only exchanged.

In the same community centre one of the collaborating partners brought roll-ups, flyers for their organisation and a machine to make pins. All of these things were placed at one side of the room clearly separated from Threads, as a one-off thing. Compared to the things that Susanne brought these were not related to the themes of Threads. On a later occasion the messages on the flyers and roll-ups, aiming to recruit new members, were embroidered on clothes and were put onto the clotheslines physically in the space and digitally on the website. Later they were placed in one of the travelling boxes.

The two blue boxes are fitted very well to the amount and shape of material that Threads consisted of at the time of starting its travel. They are, however, not dimensioned to contain large chunks of added material. Therefore one host, for example, found a couple of plastic bags, standing next to the two blue boxes when she came to pick up Threads. She decided to treat the content of the plastic bags as less prioritised when assembling Threads in the community centre.

Some of the added parts stay only for a short while, whereas some stay to travel to the next place. There are embroideries on the tablecloth and in the file folders with textile pages that can be described as some kind of accumulation of stories. In addition to the accumulation of stories that travels with the boxes, there is also accumulation on the website where the participants upload images of their embroideries.
Kajsa, another participant in Järnboås, waved goodbye at the end of the day and said that she appreciated being part of something bigger. Her participation was enhanced by knowing that Threads already had been somewhere, and will continue touring. The connection was made by the traces left by other participants and the notion of knowing that what you yourself leave will meet others.

Of the added parts, partners and practices some have been done with an effort to adjust themselves to what they understood as Threads, whereas others such as the roll-up, the terry towels and the embroidered member-recruitment have challenged Threads and its boundaries.

**Discussions: Threads without Ends?**

In this paper we have shown how the collaborating partners were striving for stability through finding one strong narrative, which resembles the concept of immutable mobiles, although not expressed in those words. However, in writing what you have just read and in living with Threads on tour, we suggest that Threads is better understood through multiple stories – as a fluid assembly with vague and moving boundaries.

Most of the things that are part of Threads are nothing out of the ordinary. They are off the shelf items and are also used by several of the participants outside of their engagement in Threads. One way of framing the many parts of Threads is that they are designs, materials and technologies that have travelled far from their intended context of use to become assembled into Threads.

The design of Threads can in that sense be described as a design-after-design – a reordering of things beyond and after design-in-project. This process of reordering, or so we argue, continues as Threads embarks on its journey and becomes assembled in different context and by different actors.

This continuous relational reordering of things is partly designed into Threads since the actors involved in its becoming are asked to add parts and practices – to contribute with a space to host Threads in, tables to gather around and text messages to share and embroider. This reordering of things is also done through adding, replacing and altering parts and
practices beyond the invitation of *Threads* and thereby challenging the boundaries of *Threads*.

The challenge for the designer in the context of making a fluid design travel, allowing for *design-after-design*, is how to perform a more fluid designer role and not seek absolute control. In *Threads* this means to create an emerging network, which has the readiness to take on, assemble and perhaps also adjust *Threads* to local circumstances and desires. For us and the other collaborating partners this means to listen and to be attentive. It also means to tell and allow for multiple stories of what *Threads* can be and mean. Some of these stories are told by representatives from the collaborating partners prior to assembling, by us during the educational sewing circle, through the things that we have put into the boxes and by other participants for example on the project website.

The fluid process can at times be frustrating and stressful since it involves uncertainty. *Threads* is dependent on various parts and practices to be added by the participants, and it is not uncommon that parts are missing, such as a place to host *Threads* in, mobile phone reception as well as text messages to embroider.

As the designers of *Threads* we still argue that the fluid character is most of all a good thing, in our case. We argue that *Threads* is able to travel not despite of its vague and moving boundaries but because of its ability to be assembled in different ways and thereby become entangled and part of the local context. This is also how *Threads* becomes to matter in the everyday life of the local actors. To elaborate on this argument we would like to pose the questions: Where does *Threads* end? And, where can the boundaries of *Threads* be drawn?

There are many possible ways to answer these questions. One way to do so would be to refer to the schedule posted on the project website which says that *Threads* begins at 10 am and finishes by 4 pm on specific dates, which means that *Threads* only exists when there is an announced gathering and only for that limited time. Another way of answering would be to suggest that it has to do with the physical space that we are in: the room in which *Threads* is assembled. Yet another possible answer would be to argue that *Threads* is made up of the things that are fitted into
the two blue boxes and the participants who have signed the attendance list. If we, for example, turn to the contract with the Swedish Travelling Exhibitions which all the collaborating partners signed, the answer from a legal perspective might be that is has to do with the name: *Threads – a Mobile Sewing Circle*.

But if we take a look at the stories of how *Threads* travel, how it is assembled and disassembled, we can tell a richer story than the just proposed boundaries.

When Birgitta received the invitation she did not have any text messages in her phone. To prepare herself she decided to send text messages to her family asking for a message before Saturday. This modest intervention did in turn generate not only new messages to embroider during the sewing circle but also conversations in relation to everyday communication with her family members, who did not take part in *Threads* when it was assembled in the local rural community centre between 10 am and 4 pm. Time, space of *Threads* is more fluid than the formalities of schedule tells us. And the human actors of *Threads* are more fluid then the attendance list says.

In other cases new things, that are not travelling in the two boxes, are brought in and made part of *Threads*. One such example is the textile collector’s cards brought by Susanne that she used in her introduction. Yet another is the roll-ups and flyers brought by one of the collaborating partners as well as the plastic bags next to the blue boxes that one of the new hosts had to deal with. In other words, *Threads* does not end with the things in the blue boxes, even though some of these added parts are only temporary and will not travel with *Threads* to the next place.

de Laet and Mol quotes Morgan who notes; “the designer knows when he has reached perfection, not when there is no longer anything to add, but when there is no longer anything to take away” (2000, p.236). In contrast, we would not claim that *Threads* would ever reach perfection or that there are no more things to be added or to be taken away. *Threads* consist of many parts. As seen in the above-mentioned examples new parts are added by the participants. In other cases some are missing. In Väskinde *Threads* was missing electricity and the embroidery machine stopped working. Such a break down does not necessarily mean that *Threads* stops
working or ends. The participants were still embroidering text messages. In other cases the missing parts are replaced or altered by the participants. When *Threads* did not have a place to be assembled in, Maria brought the two blue boxes to her school – adding the part that was missing.

It is hard to say if there are one or several parts that are more important than others. If there is such a thing as one essential part of *Threads* that cannot be missing, changed or altered. That is however not the point of this paper.

What we suggest is that through the process of adding, altering and changing parts and practices *Threads* become more closely entangled in the participants’ everyday lives. The boundaries of *Threads* that could be described in terms of time, place, the content of the blue boxes, and the participants who have signed the attendance list seems to be more vague and moving than that. We argue that it is precisely through the entanglement in the local setting *Threads* becomes mattering. Sometimes this mattering is in line with the articulated goals of the collaborating partner and at other times it is not. But since there is no self-evident centre, no full control, neither a position in which all decisions can be made it becomes difficult for any storyline to completely overwrite the other storylines.

The concept of fluidity does not in particular help us talk about or deal with the contradictory storylines of *Threads*. It allows us to tell multiple storylines but not stories of tensions and contradictions. In the future we will consider other metaphors or ways of telling stories that might be better suited for that, such as flickering fire.

In the end of 2010 we received an email from the person in charge of textile courses at a branch of study circles, saying that they will offer a course on SMS-embroidery as a study circle during the spring semester. She had among other things read the Do-it-yourself-invitation on the project website on how to host your own sewing circle. She was asking us if they could use a picture from the website to promote their course *SMS-embroidery*. She was not asking for the things in the blue boxes. As pointed out earlier, most of the things that we have fitted into the boxes, are nothing out of the ordinary and most of them can be bought or even found in your home. One could thereby argue that *Threads* is able to spread and travel,
not only in the two blue boxes that we have designed, but also through stories told of *Threads*. Most likely there are few people who will develop an embroidery machine that you can connect to a mobile phone or design a website the way we have done. But what the example with the SMS-embroidery study-circle shows is that at least parts of *Threads* can travel and spread beyond the two blue boxes and under alternative names.

*Threads* is without ends, it seems.

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www.facebook.com/mobilsyjunta
www.mobilsyjunta.se
Abstract
This paper addresses accountability in academic and artistic writing. We use the narrative position of the patchwork to tell stories of the travelling exhibition *Threads—a Mobile Sewing Circle*. This particular narrative position is chosen as it can handle fragments, as well as multiple voices and perspectives, while still being held together. In addition, we argue that *Threads* is similar to the practice and object of patchwork. It comes into existence through processes of exclusion and inclusion of connections, alliances, and separations—through putting things in relation to one another.

*Keywords:* Patchwork, accountability, sewing circle, academic writing
Introduction
Through offering alternative modes of writing, scholars from various disciplines have addressed the issue of how, when and why we tell academic stories (Bonnevier, 2007; Bränström Öhman & Livholts, 2007; Gislén 2010; de Laet & Mol, 2000; Lather & Smithies, 1997; Law, 2004; Mol, 2002).

This paper is an exploration of academic and artistic storytelling. It is also about storytelling as an academic and an artistic practice. More specifically, this paper is situated in Trådar—en mobil syjunta (Threads—a Mobile Sewing Circle, hereafter shortened to Threads), which is a travelling exhibition and workshop that invites participants to embroider SMSes by hand and by machine. The storytelling in Threads is fragmented when it comes to time, place, people, materials, and so forth. Consequently, there is not one strong narrative, not one narrator, and not one vantage point from which one can get a complete overview.

The patchwork is chosen as a narrative position in this paper because it can handle fragments of stories, as well as multiple voices, while still being held together. Our story-quilting looks for partial connections, alliances and separations and does not aim for a seamless whole. It is open for entrances and exits in more than one direction.

In particular, this paper is concerned with accountability, both in terms of the design of Threads and the practice of telling academic stories of travelling technologies. While some of the accounts brought into this text stem from others, we, the initiators of this project and authors of this paper, are the ones who have selected which accounts to include and how to stitch them together.

Patchwork and Clotheslines
The sewing circle stitching together was conceptualised by us for the 2007 exhibition Digitally Yours in Turku, Finland. It derived from an interest and desire to explore our relationships and interactions with others in physical, digital and in-between worlds. Over a six-week period, visitors to the exhibition could join the sewing circle and embroider an SMS by hand or by machine. Most of the messages were hung on a wall to be later stitched together into a patchwork by us. As we continued to host stitching together, messages from other places were added to the patchwork.
Figure 1: Aligning patches of embroidered SMS and stitching them together into a patchwork.

Figure 2: Educational sewing circle in Östersund, 2011.
Since then, we have developed the SMS embroidery sewing circle into a joint PhD project, under the name *Threads*. It is a collaboration with Malmö University, where we are based; Swedish Travelling Exhibitions; Vi Unga, a youth-led organisation for leadership, democracy and entrepreneurship; the National Federation of Rural Community Centres; and Studieförbundet Vuxenskolan, a national organisation that arranges study circles. *Threads* toured Sweden during 2010–2011 and will continue to tour during 2012. When on tour, *Threads* travels mostly to rural community centres.

As an important part of making *Threads* travel we hand over the role of being host to local actors. To facilitate this process we host educational sewing circles where we suggest patterns of how to assemble, manage and disassemble the sewing circle, so the future hosts can learn from practice.

The participants in *Threads* are invited to share stories in a variety of ways. Primarily, they are invited to select and embroider an SMS. Some bring their own textiles—such as towels, t-shirts, or aprons—while others use the materials we have provided. While embroidering, the participants usually expand parts of the story that the text message does not reveal and bring out concerns that may be connected to sending text messages, as well as memories, hopes and dreams in relation to everyday communication. Parts of these conversations can be embroidered on textile pages and categorised in five file folders with the following thematic oppositions: private and public; digital and physical; quick and slow; long lasting and ephemeral; and hand and machine. The purpose of this is to add nuances to the dichotomies. Additionally, there are tablecloths on which one can embroider almost anything.

From the messages that are embroidered, some are left in the sewing circle to be shared with future participants. These messages are hung on clotheslines stretched along the walls and across rooms as well as outdoors to advertise *Threads*’ presence. Participants can upload their own documentation of their embroideries to a website: www.mobilsjunta.se. Instead of working with a patchwork, as we did in *stitching together, Threads* utilises clotheslines as a means of aligning and separating the embroidered text messages.
Figure 3: A mobile phone with bespoke software for translating SMS to a specific file format and transferring it to the embroidery machine. Assembled in Gafsele, 2011.

Figure 4: Embroideries hung on clotheslines when Threads visited Järnboås, 2010.
However, in this paper we want to return to the patchwork as an object and a practice, and stitch together accounts of *Threads* into a patchwork of texts and images.

**Patchwork**

The patches, in this paper, are based on various records made by the participants of *Threads* as well as by us. A patch can be one of the images that the participants have uploaded on the website, embroidery on the tablecloth, a tune somebody sang in the sewing circle or a fragment of our field notes. Each patch has been named and becomes part of our meaning-making.

To stitch these patches together, we have written seams between them. If the patches are fragments, the seams are what we relate them to—it is our attempt to make them work together. Yet another difference is that all the patches have different origins, whereas all the seams are written by us only. Each seam is told from our own perspective, sometimes using our individual voices and sometimes a joint voice. The seams are our attempt to give accounts of how we make sense of the fragmented records with multiple origins. The seaming is a distributed activity. It took place when we first encountered what would become a patch, for example, situated

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*Figure 5: Images from *Threads* displayed on digital clotheslines at www.mobilsyjunta.se.*
in the sewing circle or at home with access to the website. The seaming also takes place now when physically stitching them together into a patchwork of texts. In both cases we make sense by putting them in relation to other things, be it experiences from the sewing circle or textual references.

The seams are reminders of how patches of knowledge are simultaneously aligned and separated. Seaming them together requires a lot of work. We refer to Sundén when she examines Shelley Jackson’s hypertext *Patchwork Girl* from 1995. Sundén points out how the reading of the *Patchwork Girl*:

... becomes an art of sewing and stitching, which reproduces the story as well as the body of the she-monster. Pieces of text as well as pieces of bodies are sewn together, and the heterogeneous origins of these pieces are always visible through the scars and stitches. Scars, in their capacity of simultaneously marking a cut and showing a joining, become the quintessence of the monsters’ fractured subjectivity. (Sundén, 2008)

This is said to emphasise how the reading of this patchwork is a way of working with the patches. The distributed seaming also takes place in the reading.

In *Patchwork Girl* the patches came from buried corpses. The materials in this patchwork have also had a previous life, which is characteristic for a patchwork. We have not used scraps in the sense that our material would have become obsolete and thrown away had we not taken care of it. For example, the first patch is based on the introduction to a manual, which is still in use.

**Patch: Thoughtful Curiosity**

*In the 19th century, during the industrial revolution, textile workers rebelled against new technology since they feared that they would lose their jobs. These rebels were known as Luddites, which today is a term widely used for a sceptical attitude towards technology.*

The sewing machine began to be mass-produced and became one of the first machines to be brought into the home. It was
feminised, decorated, and served both as furniture and machine. With its ambiguous form and mixed messages, the sewing machine promised domesticity while it supported female emancipation by presenting an opportunity to make an income. (Waldén)

In Threads, we have connected a digital embroidery machine to a mobile phone, which is a technology that many of us have on our person these days. We are not Luddites, sceptical towards technological development; rather, we are driven by a thoughtful curiosity for new opportunities that may arise in encounters between different technologies—old and new. Remember, even machines need care and attention. To learn about any technology, one needs to familiarise oneself with it. Try, and make mistakes. (Excerpt from the introduction to the manual of how to use the embroidery machine connected to the mobile phone. Our translation from Swedish. For Waldén, see reference list.)

Seam: A host who is preparing for an upcoming sewing circle phones us at work on a Friday afternoon. He says that he is having trouble configuring the technologies in Threads, particularly with uploading images. Kristina is on the phone with the host, unable to solve the problem. Åsa picks out a folder with manuals from a shelf and searches for guidelines because we realise that, when we are not on location with the technologies in our hands, we cannot communicate how to do it. Had we been in Threads, our fingers would have guided us and we would have appeared and felt more knowledgeable.

As we look through the various manuals we stumble upon the introduction to the manual for the embroidery machine and mobile phone that we wrote in 2010 to contextualise the technologies we introduce in Threads. In the manual, the Luddites are described mostly as being sceptical towards technology and progress. If we attend more carefully to the history of the Luddites a more nuanced picture emerges. Fox (2004) states that the rage and rebellion of the Luddites was not primarily against the new or against the machine as such, but against the order that these machines brought with them. The efforts of the Luddites, he continues, should partly be understood as resistance against forces that threatened their collective way of life. Fox refers to Thomson who states that attacks on the machine were not random.
The Luddites carefully selected which machines to destroy and focused on “...those that produced inferior goods” (Fox, 2004, p.34). One such example is the shearing frame, which could do the job that previously was done by the highly skilled artisans, a lot cheaper but not as well.

So far none of the machines or pieces of technology that are part of Threads have been vandalised, as the Luddites did. Still, the embroidery machine and smart phones do evoke strong emotions at times. The embroidery machines and mobile phones that are part of Threads might not be a threat to the participants’ incomes, unlike some of the machines were for the textile workers of the 19th century. Although the devices in Threads might not be a threat, they can be provocative. That is, if they are perceived as disregarding the participants’ knowledges and skills. The devices can also demand knowledges that the participants do not have.

In the manual we continue to suggest that we are driven by a thoughtful curiosity. As Otto von Busch points out, curiosity is also a skill: “For me, skill is not only a matter of ability but equally one of curiosity. Skill is in this sense something more than a linear path forward, it is also about taking an inquisitive look at the adjacent fields” (2008, p.45). As we understand his statement, to be curious means to attend to the unfamiliar, not only the expected and the known.

What we can bring with us from the Luddites’ protests is that technology is not innocent. Technological development is part of reordering ways of living, which is not altogether a good thing. This was the case during the industrial revolution and continues to be so. What we hope to achieve in Threads is to allow for both criticality and curiosity: to engage with the known and the unknown in thoughtful and curious ways.

Perhaps this is also what Suchman is referring to when she writes about artful integration:

New ways of working and new technologies grow out of old ones. They do so neither through a process of simple incremental change, nor through wholesale displacement and transformation, but out of an ongoing interaction between understandings based in prior experience on the one hand, and leaps of faith inspired by imagination on the other. (Suchman, 2002, p.100)
Seam: While travelling by train on our way to host an educational sewing circle, we try to order the uploaded images on the project website. We tag images, and they become aligned on different digital Threads resembling clotheslines. As the Wi-Fi connection on the train comes and goes, the question of being connected or disconnected also becomes the category of one of the Threads.

Haraway argues that to give better accounts of the world, we need to resist fixation and to be “...curious of the webs of differential positioning” (1991, p.590). In Threads, physical and digital clotheslines with easily movable patches, are used to align and at the same time avoid fixation of matter and meaning. On the website each image can belong to several Threads such as (Dis)connected, My most common or Mixed technology – categories we have created. All of the images are also associated with the location they originate from. We have visited some of these locations. We have been able
to connect to other locations through images and texts published by the participants on the website.

The accompanying text (above), written by one of the hosts, expresses the relief and excitement she felt when the mobile phone reception at the rural community centre proved to be strong enough to send text messages. Another image from the same location shows an embroidered SMS accompanied by the text: “What a summer. This is the only SMS in my inbox, which I don’t check very often” (our translation). Although the images share the same topic, the participants who chose to embroider these particular messages did not share the same feelings towards the issue of being disconnected. In one of the posts connectedness is associated with relief and joyful surprise, and in the other it is expressed as something positive to be disconnected for a while.

While the two examples of being (Dis)connected refer to rather different situations and relationships between humans and technologies than the ones that the Luddites rebelled against, there are similarities. The images and short texts published on the *Threads* website are in line with what the Luddites suggested: technological assemblages and entanglements affect our way of life and how we are with others.
Patch: Removed

Keep Sweden Swedish

Seam: When glancing through the *Threads* website one evening, a message attracts Kristina’s attention. Bevara Sverige Svenskt (Keep Sweden Swedish) is stitched in blue thread on yellow fabric. These colours correspond to the Swedish flag, which is a yellow cross on a blue background. Consequently, she asks Åsa on Skype what to do with the message discussion, we decide to take a screenshot of it. Then we remove it from the website since Keep Sweden Swedish is an organisation reminiscent ofnationalistic movements in the 80s and 90s, which today are again gaining ground in the political landscape. We do a quick Google search and it is confirmed that this movement aims to limit immigration to Sweden and to repatriate immigrants from Sweden.

In an email to the collaborating partners and to the host we let them know that we had removed the image and explain our decision: racist values do not fit in with the democratic basis of the project. The collaborating partners agreed.

Although we removed the message from the website, we decided to include it in this text. The reason for including it here is not because it is representative of the kind of message that is typically embroidered and
shared in Threads. On the contrary, the message is an exception and the only message that we have removed from the website. We discuss the message here because it explicitly raises issues of what to include as well as how to include messages on the project website. Should we have kept the Keep Sweden Swedish post on the website as a means of appropriately addressing the questionable agendas of nationalistic movements?

We usually claim that the aim of Threads is to facilitate the sharing of multiple and contradictory stories and values, without the need of reaching consensus (Lindström and Ståhl, 2011). This ambition, which is part of our design and political choices, does however not mean that there are no boundaries of what to include or exclude in Threads. Since the boundaries of Threads are suggestive, in the sense that they are articulated as an open invitation, it is not uncommon that they are redrawn in the encounters between people, places, machines, stories and materials. Usually these encounters result in expanding or further blurring the boundaries of Threads. In this particular encounter, we decided to remove a racist message on the project website and thereby tighten the otherwise rather loose and inclusive boundaries of Threads. One of the reasons for doing so was that, along with the other collaborating partners, we did not feel that we could address it properly on the website since it is not designed to support discussions of such a sensitive matter. Amanda Dahllöf, from the collaborating partner Vi unga who had been with us at the educational sewing circle in that particular region, suggested that we use it to discuss similar dilemmas in future educational sewing circles, and so we have.

By using the Keep Sweden Swedish embroidery example, we can present one of our previous dilemmas to our new hosts in order to provoke discussion and hopefully they will find ways of translating it into future, similar situations.

In one educational sewing circle a woman found it a relief that, in the library where she would be hosting Threads, there was already an existing library user agreement on what the visitors were allowed to write on the computers. She would be using the same boundaries in Threads.
While the Keep Sweden Swedish message was explicitly excluded and removed from the website, there are other stories, thoughts, questions and people that are implicitly excluded in *Threads*, as well as in this text.

**Patch: Leave It At That**

*She won't be part of our sewing association any more. I'll just leave it at that.* (From the song “Syföreningsboogie”, performed by Charlie Norman. Our translation.)

**Seam:** A woman starts singing lyrics (above). No one knows who sang the song originally, so Åsa looks it up on YouTube. It turns out to be Charlie Norman’s song “Syföreningsboogie”. Kristina asks why the girls in the text, one by one, are excluded from the sewing association. One participant says that the answer can be found in the verse. It is not expressed explicitly. However, when listening carefully to the lyrics, it becomes obvious that the girls are excluded because their behaviour deviates from what is socially accepted. Ahmed writes of circulation of social goods: “Through narrative, the promise of happiness is located as well as distributed” (Ahmed, 2010b, p.45). Through aligning with those stories and practices, participation in an affective community is expressed. Those who deviate from the social good challenge the community, suggest other directions and become kill-joys, according to Ahmed (2010a, 2010b). The women who were excluded from the sewing associations did most likely deviate from the social good of that particular community.

Sewing circles, including sewing associations, as social gatherings have been debated several times during *Threads*. On the one hand, sewing circles have been described as places for gossiping; on the other hand, they have been described as a context of practising democracy. One woman told us how the sewing circle she was involved in had to stop meeting in the participants’ homes because it became too much of a competition of who was the best and most generous host. This threatened their existence as a group, so they decided to meet in a nearby rural community centre instead.

One of the few male hosts expressed that he envied all the women who were part of sewing circles. He did not feel he could take part in them but very much appreciated being part of *Threads*, in which he felt included. At the same time, he was reluctant to be part of an article about *Threads*.
in the local newspaper. He laughed and said that some of his friends might not approve of him participating in Threads. His remark, however, did not prevent him from actually participating in Threads. Rather, it points towards the various networks, groups and collectives that we are all part of and which we move between. Since the various networks, groups and collectives might have different criteria for what to include and exclude, movements in-between can become troublesome.

While we attempt to make Threads a space that can host multiple and contradictory stories, values and social goods, we can neither control how information is transmitted nor how it is received in the extended set of relationships that we are all part of.

**Patch: Stories From Somewhere**

*The colonial powers teach the history from the south.*

(Fragment from field note. Our translation.)

**Seam:** On several occasions, in the inner parts of northern Sweden, colonialism has arisen as a topic in the sewing circle. It was the beginning of July. We hosted an educational sewing circle where the potato tops in the fields could almost be seen above the ground. We had just flown and then driven there from the south of Sweden where the potato harvesting was well into its season.

The participants point out that we are gathered in a part of Sweden with rich natural resources. They express that the dominant discourse in Sweden does not acknowledge the assets in their region, but rather belittles them as dependent on subsidies. One woman said that it depends on how we tell the story of Swedish economy, whether for example the energy production that stems from the northern rivers or the ironstone, is the starting point or not. She talked about the power of telling a story from somewhere.

Åsa asks how often they mention colonialism. Another woman responds that she gets palpitations by telling us about her insights on colonialism. She then manages to tell us how an energy provider, owned by the Swedish state, wanted to divert the water from a river near to where she lives. The energy company was offering small amounts of
money as compensation, which it expected the inhabitants to readily appreciate, despite rich fishing ground being lost. It was described as a democratic process. However, after the referendum, which ended with a ‘no’ to changes in the river, there were wounds in the municipality. The process, as she experienced it, made her think that colonialism was exercised. She contrasted the instrumental view on the resources and energy production with how relatives of hers had been living off the fishing in nearby waters without having any other income. They were not wage earners.

Later that day we had dinner with Lisa Lundström from the Swedish Travelling Exhibitions. Lisa, who grew up in the same region reminded us of a song about hepatica—a small blue flower—in springtime, which we used to sing as children. For her the lyrics were confusing as a child since she had never seen any. As hepatica does not grow in the climate where Lisa grew up, this was a story from somewhere far away from her.

Being from the south of Sweden, we had not realised the power of the lyrics in that song, because it affirms our experiences of seasons. We are, with the words of Ahmed, experiencing “...pleasure from proximity to objects that are attributed as being good” (2010b, p.41). To state that certain stories told from somewhere are a way of exercising colonialism would in many situations be a killjoy, disturbing happiness. It would most of the time be considered a destructive practice. Ahmed expresses killing joy as something generative:

I would argue that it is the very assumption that good feelings are open and bad feelings are closed that allows historical forms of injustice to disappear. [...] I think it is the very exposure of these unhappy effects that is affirmative, that gives us an alternative set of imaginings of what count as good or better life. (2010a, p.50)

Stories are always told from somewhere and, in order to live better lives together, it might be crucial that somebody points out the possibility of living otherwise; that we are exposed to sociomaterial effects of how stories are told.
**Patch: Being Invited or Not**

*Crowded in the sewing circle this evening! Bloody cool atmosphere. Sara will put pictures on the FB page with time. Regards Katarina, say hi to Kristina!* (Text message sent to Åsa on March 16, 2011 at 7:15 p.m. Our translation.)

**Seam:** Åsa cannot recognise the mobile phone number and has to re-read the message several times to understand where it has come from and by whom it is written. Finally, it makes sense: while preparing for the educational sewing circle in a former court house in Östersund, in north-western Sweden, a woman called Katarina Franck had knocked on the door. She invited *Threads* to be part of a youth club, Art for Gals, where women aged 12–25 can practise art and craft every Wednesday. She also invited us to her home for a Friday dinner saying that, when travelling a lot, staying in hotels and so on, it can be nice to also sit down at a table in somebody’s home.

Katarina Franck’s reason for establishing an exclusive organisation as a strategy was that she thought power and space were unequally distributed, particularly in the youth club in the former courthouse in Östersund, where she has an office. She wanted young women to have somewhere to gather where they could develop their creativity, just like a lot of young men already did, and loudly so: in the rehearsal rooms with their bands. During the educational sewing circle, it was debated whether *Threads* should follow the rules of Art for Gals or have an open invitation as usual. Katarina Franck was determined that, if *Threads* was to be invited into Art for Gals, it needed to follow its own rules and only allow female participants between the ages of 12 and 25. In that sense, the aim of creating a meeting place between and over generations, which the collaborating partners of *Threads* had agreed on, was replaced with the ambition to create a space for young women to meet and learn more about art and craft.

Again the boundaries of *Threads* were redrawn, not permanently but temporarily. In this particular case, we recognise the need for exclusive organisations as a strategy for participation. Through Art for Gals, the current exclusion of girls from the youth club was brought to light. Within this exclusive room, one possibility could be to empower the girls to be
better equipped for spaces such as the youth club, where they do not feel invited. Art for Gals, as an exclusive organisation, is not a means to an end, as in the case of Keep Sweden Swedish.

**Patch: Wasted Efforts**

![Image of a embroidered patch](image)

**Seam:** We have gathered around a table in Rävemåla with a new host and another participant. There are a few new embroidered patches to put on the clotheslines. What is more, there are embroideries that were not on the tablecloth the last time we saw it. Or, maybe they were there, but we cannot remember them. We notice an embroidered cake on one of the tablecloths, and take a photograph of it (above). Perhaps we notice this particular embroidery because of a conversation we had the previous week with curator/researcher Ele Carpenter, throughout which she had expressed her anger towards knitted cakes. In her text “Activist Tendencies in Craft” (2010), she argues that the surplus of knitted cakes has confused the political intention of craftivism, which has its focus on social reform rather than nostalgia towards the feminine ideals of the 1950s. Her point
is that the aim of DIY (do it yourself) is to develop knowledge, practical skills and resources, for example through “...taking apart your jumper or video player to learn how to fix or reuse it” (Carpenter 2010, para.16). This is in turn “...very different from buying a knitted cupcake complete with strawberry frosting, even if it is locally made” (ibid).

Our host has arranged buns and pots of coffee and tea on another table and plenty of food in the fridge for both omnivores and vegetarians. The amount of food is more than the four of us can eat. By the end of the day we felt a sense of failure, of wasted efforts. A lot of work had been put into making the day possible. We had travelled a couple of hours to get there, and the local host had spent a Friday afternoon collecting and carrying the material, an evening preparing food, and the entire weekend hosting very few guests.

A couple of months earlier, *Threads* is assembled in Järnboås. We are the hosts for the educational sewing circle. A woman who had not been able to bring *Threads* to her rural community centre approaches us. She tells us that she had tried to argue for *Threads* by suggesting that they would only have to invest their own time. On the other hand, a theatre play costing 2600 euros, for example, required the organisers to put much energy into seeking sponsorship. She adds that she sympathises with the fact that in *Threads* there is no exchange of money, but that everybody invests their own time. Still, she could not convince others to help her to accommodate *Threads*. She expressed that others had responded that *Threads* does not result in a house, not even a bird box. As we understood her, the lack of a clear goal or outcome made the others reluctant to engage in *Threads*.

We try to understand the difference between *Threads* and the theatre play that she talked about as appreciated by that community centre. Just like *Threads*, the theatre play does not result in a building. Kristina suggests that the difference has to do with whether it is a recognisable format or not. The theatre play has well-established roles: performer and audience.

In *Threads* we aim to establish relationships based on exchanges of knowledge, experiences and resources, partly in line with the DIY movement as described by Carpenter. Since the proposed relationships
in *Threads* are less well-known and defined than that between a seller and buyer of a knitted cake or a performer and audience of a theatre play, *Threads* does, at times, encounter resistance, rejection and exclusion. In the first seam we suggested that a little bit of thoughtful curiosity is needed to make *Threads* work—to dare to engage not only with the known but also the uncertain. In this seam we can see that the uncertainties in *Threads* do at times become troublesome and result in what is experienced as a failure or wasted efforts.

**Stitching Together Accounts**

Writing this text is an attempt to work accountably with *Threads*; it is not to give a complete overview, but to temporarily stitch patches or accounts of *Threads* together into a patchwork of text and a few images. Following the suggestion of Mol (2002) in her experimental book *The Body Multiple*, where she works with generous referencing in one stream of text and equally generous ethnography in another, we take methods of writing just as seriously as methods of gathering and analysing material as they are closely entangled.

As part of our writing process and patch working, we spread and move around fragments on the floor from manuals, contracts, field notes, images—either taken by us or uploaded on the website by other participants, and email conversations and text messages sent to us by collaborators. This was an attempt to acknowledge that the writing process is a highly material and spatial practice. At that time, we did not know exactly how to make the patches work, and which patches to include or exclude. We came to learn that much work had to be put into the seams that separate, as well as hold together, the patches.

Inspired by the mode of collaborative writing that Bränström Öhman and Livholts (2006) call story-quilting, we swapped pieces of text for the other to rewrite and alter. The writing process became an opportunity for dialogue and negotiation, not only in written text but also in oral conversations, opening up new perspectives and thoughts. Writing, combined with oral conversations, has continued as we have been sharing the document online and been able to follow each other’s edits live while sitting in the same room.
In this process we have also made several cuts, in the patches as well as the seams. These cuts are not only to the words, but also cuts in the object or networks of analysis.

Suchman argues that the cutting of networks is not a given but always enacted: “The relatively arbitrary or principled character of the cut is a matter not of its alignment with some independently existing ontology but of our ability to articulate its basis and its implication” (Suchman, 2007, p.284).

van der Velden also writes about ethics and accountability in telling technology stories (2008). She stresses that we make our relationship explicit with the technology that we study, whether it is as lovers (de Laet and Mol, 2000) or some other non-neutral position. This is how we make our accountability visible. She further argues that how and when these stories are told matters because this is how we decide what and who are significant:

Figure 6: Working with patches.
In the encounter with the other, in the 'situated partial connection', decisions of justice, of whom and what is included or excluded, are made. Epistemological and ontological issues, such as the question about what kind of technology story to tell, as a 'large critical story', a 'strong story, or a 'fluidity' of small stories, are therefore preceded by the ethical issue of who and what matters. (van der Velden, 2008, p.6)

There are multiple ways and reasons for telling technology stories. Our ambition has been "... to let the text do what it is about" (Bonnevier, 2007, p.51). As Mol & Law point out, “Academic texts may talk about strange things, but their tone is almost always calm” (2002, p.3). While the phenomena of study may be multi-layered, complex and surprising, the academic text tends to organise these phenomena into clean overviews with a clear beginning and end, Mol and Law continue.

In another text, Law & Mol suggest the application of the patchwork-logic to talk about materialities as local arrangements that are difficult to gather as a whole. The patchwork is described as a 'multiple logic' that allows us to: "... move from one place to another, looking for local connections, without the expectation of pattern 'as a whole’ ” (1995, p.288). This means looking at different stories of practices, interactions, designs, and how their materialities are partially related:

This, then, is the patchwork option. It’s to imagine that materials and social—and stories too—are like bits of cloth that have been sewn together. [...] It’s to attend to the local links. And it’s to remember that a heap of pieces of cloth can be turned into a whole variety of patchworks. (ibid, p.290)

Mol & Law urge us as readers to “Go and look. Trace connections. Partial connections. Here. There. Somewhere else again. Relational materialism doesn’t just reside in objects. It’s also a way of telling stories” (1995, p.291). In our quest to give an account of Threads, we have chosen the practice and object of patchwork partly because it is a way for us to organise the rather fragmented material we have gathered through our travels with Threads without creating a seamless whole.
Partial Connections, Alliances And Separations

Looking back at the patches and how we have sewn them together, we see partial connections, alliances and separations. We have made choices in the design of Threads based on democratic values, to create a meeting place for different groups of people, and to exchange different kinds of knowledges. These values are, however, not a given; they can be changed and questioned.

Law & Mol use the example of Robert Moses’ bridges in Long Island to argue that “...artefacts may be strategically designed to have politics” (1995, pp.280–281). Since the bridges were designed so that public transport could not pass underneath them, those who could not afford to drive a car were kept away from the beaches of Long Island. Furthermore, they argue that, while the bridges are still there, they have lost some of their strategic significance since more people in the U.S.A. have access to a car. In other words, the durability and politics of the bridges are relational.

Similarly, one could say that the values or politics of Threads are set in relation to other rules and practices that are made part of it, both on a short- and long-term basis. When Threads was hosted as part of Art for Gals, it became an exclusive group, barring some participants that were usually welcome in Threads. Other examples show how Threads has been excluded or rejected. For example, in one region Threads encountered resistance because of the lack of a clear outcome, or as it was expressed: we are not building a house.

We argue that Threads is similar to the practice and object of patchwork. It comes into existence through processes of exclusion and inclusion of connections, alliances, and separations – through putting things in relation to one another. What to exclude and include has, however, not always been well-defined in advance, but has become more or less explicitly articulated through encounters between people, places and things. We would argue that these ongoing and collaborative articulations most of all are good, even though they at times are experienced as troublesome, since they become reasons for making sense together as well as (re)considering what and who matters and why. Who is considered knowledgeable? Which stories do we align with? Why?
To be accountable for what we design, and for the continuous realignments in which *Threads* comes into being, we argue, in line with Suchman (2002) that we constantly need to locate ourselves within extended networks of sociomaterial relations. We cannot seek absolute control, but need to constantly ask ourselves how we proceed in a responsible way within every set of working relations.

Through including ourselves in the seams, where we are, what we say and what we do, we put focus on our own involvement in continuous intra-active (Barad, 2007 and Suchman, 2007), meaning-making processes. We have tried to give accounts of how we have pondered on dilemmas and why we have made certain decisions in *Threads*. We argue that to proceed in a responsible way might necessitate the removal of a racist message from the website, recognising that stories are told from somewhere, and exercising thoughtful curiosity when reconfiguring the known with the unknown.

This text is a way of tracing our own connections and recognising them as partial. By making explicit what we include and exclude we also, as van der Velden points out, articulate who and what matters to us.

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References


PATCH 4
Publics-in-the-Making—Crafting Issues in a Mobile
Sewing Circle
Making Futures: Marginal Notes on Innovation, Design
and Democracy (book) forthcoming
Introduction

In this chapter we will explore the potentialities of what we call *publics-in-the-making*. In short, *publics-in-the-making* refers to publics that come out of making things together and that are continuously reconfigured by their participants, humans and nonhumans. The potentialities of such public engagement will be explored through *Threads—a Mobile Sewing Circle*, where people are invited to embroider SMS by hand and with a machine. The participants in *Threads* do not necessarily know each other and do not necessarily have a shared issue when they gather and engage with the invitation. What they all share is that they have responded to an invitation that we argue articulates an area of curiosity—ways of living with technologies—rather than a predefined problem. In this chapter we will, however, argue that issues of living with technologies become co-articulated in the making.

*Threads—a Mobile Sewing Circle*

The image on following page (*Figure 1*) shows some people who are gathered around a table. Some are engaged in handicraft. Others are talking. Overall they look pretty happy. If you look a bit closer you can see that someone has embroidered on the tablecloth. In the background there are more embroideries hanging on clotheslines. If you look even closer you can also see one guy holding a mobile phone in his hand. The image is from *Threads—a Mobile Sewing Circle*.

*Threads* is a travelling exhibition where people are invited to embroider SMS by hand and using an embroidery machine connected to a mobile phone with bespoke software (see *Figure 2*).

Whereas most traditional sewing circles, in Sweden, would travel between the households of a set number of participants, *Threads* has been travelling to public spaces, such as rural community centres and libraries, and does not have a set number of participants. To make these travels possible, substantial work has been put into making *Threads* more mobile, by us, Lindström and Ståhl who are the initiators of the project, and five partners: Swedish Travelling Exhibitions, Vi Unga (a youth-led organization for leadership, democracy and entrepreneurship), National Federation of Rural Community Centres, Studieförbundet Vuxenskolan (a national organisation arranging study circles) and Malmö University. Together we have worked
Figure 1: Educational sewing circle in Åsgarn in 2011.

Figure 2: The invitation to Threads is to embroider SMS by hand and with an embroidery machine connected to a specially programmed mobile phone.
to set up an emergent network in Sweden in order for *Threads* to travel between 2009 and 2013.

For example, the two of us have hosted educational sewing circles where we hand over some responsibilities to local hosts, who can take *Threads* to their rural community centre. The educational sewing circles last for about six hours, and are based on learning by doing. The hosts are paid a small sum of money for their work by one of the collaborating partners.

All of the things that travel with *Threads* are put into two blue boxes (see Figure 3) that can be fitted into the trunk of a car. The transport of the boxes, between the rural community centres within one region, is thereby usually done by the local hosts. The transportation of the boxes between regions is paid and organised by one of the collaborating partners.

Yet another important part of making *Threads* travelable is the development of a website where, for example, the schedule of the tour is announced, and where participants can share documentations of *Threads*.

Joint efforts and resources amongst the collaborating partners are also put into facilitating and supporting this emerging network. Each collaborating partner has had at least one paid representative who has worked part-time with the project and has contributed with resources and facilities, such as local contacts and a place to host *Threads*. The two of us do this as part of our PhD studies funded by public means.

During *Threads’* travels about 90 sewing circles have been hosted. There is only one set of blue boxes travelling in Sweden, which means that it is consecutive and can only grow through time, not through multiplication. The embroidered SMS that participants have brought with them from *Threads* might have travelled to places that we are unaware of. However, we do know that some of the materials made in *Threads* are now in a museum for cultural heritage (Footnote 1) and the project has been used as a learning example (Footnote 2) for the Ministry of Culture on how to collaborate between cultural institutions and civil society.

All of the collaborating partners have slightly different motivations for engaging with *Threads*. For example, one of the reasons for Swedish
Travelling Exhibitions to join was that they wanted to explore how to design more participatory oriented exhibitions. The National Federation of Rural Community Centres wanted to reactivate rural community centres as meeting places. Studieförbundet Vuxenskolan was, among other things, interested in considering what a study circle could be. Although all the collaborating organisations had slightly varied main interests, they all shared an interest in participation and engaging the public. This interest made us set up *Threads*, where we invite the public to engage with issues of living with technologies, new and old, digital and physical, through making things together.

Before we move on to a discussion on how issues of living with technologies are in the making in *Threads*, we will provide some points of reference to help you follow how we came to connecting this with publics.

*Figure 3: Two blue boxes*
Towards Publics-in-the-Making
As you noticed we use the word sewing circle, or more specifically mobile sewing circle, to describe Threads. Sewing circles refer to a group of people who gather to do handicraft or make things together. Usually there is a set number of participants who meet regularly in a domestic setting. Participants in Threads have compared sewing circles with other groups that gather to make or do things together, for example: a team of hunters, communal feather pickers, those sharing a garage and so on. To this list could also be added makerspaces and hackerspaces which both signal urban settings rather than rural. The reason for these groups or collectives to gather to make things do most likely differ. In some cases it might be because it is more fun to do things together. There might also be parts of the making, for example when repairing a car, that are difficult to do by oneself. The need for collective efforts might stem from a necessity of sharing knowledge, or joint investments in expensive equipment. As a consequence of the different kinds of makings, the conditions for socialising, talking and so on also differ. The kind of belonging that is generated might also differ. Some are closed communities where the participants might know each other very well through sustained patterns of gathering, others are occasional get-togethers with less strong ties.

In our work with Threads, Waldén (2002) has helped us to understand sewing circles, as well as other groups that gather to make things, as sites of practicing democracy and creating publics. She has described sewing circles as hidden female publics, or shadow governments. In her description, handicraft is figured as, sometimes, an alibi for gathering, which allowed women to discuss matters that were important to them and which otherwise was not possible. An important characteristic of these groups is, according to Waldén, that they were closed groups where trust was built up over time. While the participants did not have access to formal decision-making forums, the sewing circles enabled them to make informed but informal decisions, that in some cases could be brought further to forums where the matters were formally addressed.

We very much appreciate Waldén’s work, but we are more interested in considering the potentialities of making things together as a kind of public engagement as something in itself, not necessarily an alibi for something more important, to talk. In other words, we want to explore how making,
tinkering and direct engagement with technologies and materialities can also become a way of understanding, negotiating or imagining issues of living with technologies.

To discuss this we will partly turn to Marres (2005; 2012), who uses American pragmatism (Dewey 1927 [1991]; Lippmann 1921; 1925) in combination with, for example, feminist technoscience and science and technology studies (STS) to argue for "material participation" as a specific mode of public engagement.

But first a few words about American pragmatism and how Dewey and Lippmann understood the constitution of publics in the early 20th Century, which was a time marked by technological development in communication technologies, technologies of transport and means of production. Much like today, technological development often resulted in complex issues that cannot easily be resolved by experts or institutions, but are left to the public to deal with. While this can be seen as a threat to democracy, Dewey and Lippmann argued that this problematic entanglement, of being affected by an issue and not having a direct stake in the matter, is both the problem of the public and that which makes the public emerge. The constitution of a public is thereby characterised by being both inside and outside, which certainly is a problematic position. Based on the debate between Lippmann and Dewey, Marres fuses their position into this summary:

...the public’s problem is that social actors are too involved in an issue to qualify as mere outsiders, who could leave the care for issues to other professionals. But at the same time they are too much of a stranger to the public affair in question to have access to the resources required to deal with them. (Marres 2012, 49-50)

In technological societies, where material entanglements continuously shift, it is not likely that these publics will map onto already existing groupings. Thereby these are rather unstable and ephemeral collectives that often lack a shared language, procedures or locations. The kind of gatherings, or publics, described by Waldén, where the participants usually know each other well, thereby differ from Lippmann’s and Dewey’s understanding of publics.
This position of being both inside and outside, can be approached as a problem of representation, which for example is the case in liberal theory. Marres argues that it is more constructive to think of this simultaneous inside-and-outside position as a problem of relevance. This means that what an issue is, who is affected, and what procedures and institutions should be used to address it, is not a given. The challenge then becomes to articulate issues, actors and their entanglements, or to establish relations of relevance. In line with Dewey and Lippmann, Marres points out that it should not be expected of a public to solve the issue at hand. The problem of relevance is a distributed problem, for the public, institutions and others to care for. This is not simply done through talk or debate in political forums, but also through everyday practices such as when to turn on a washing machine or turn down the temperature in the house, what Marres describes as material participation (2012). What characterises this participation is that material entanglements in issues, and public engagement, cannot be separated. In other words, Marres argues that use, and other ways of living with technologies, are potentially modes of participation in public affairs. This argument also implies that we cannot simply position the political in certain spheres, separated from the private or activities such as making or doing. It also invites us to think of the everyday as an environment for participation.

We align with Marres’ argument that we become materially entangled, and possibly implicated in a range of issues, through mundane usage of technologies. What these issues are and who might be implicated in them is, however, not a given. Through the concept of publics-in-the-making, we want to explore and propose making as a means for co-articulations of issues. This means to acknowledge that issues are not just there, but always in the making as a joint effort between those humans and nonhumans who have the capacity to act in the given situation.

The focus on co-articulations through making also implies a critique against a separation between thinking, reflection, public, and making, material which has been a dominant dichotomy in Western society. Similar thoughts can be found in works by for example Sennett (2008), Gauntlett (2011), and Ratto (2011). Gauntlett (2011) argues for making as a mode of connecting ideas to other people and to our environment. With support from Ruskin and Morris, two main thinkers in the Arts and Crafts movement in
Victorian England, Gauntlett argues for everyday creativity, that makes people happy. This should be understood in comparison to industrialisation, which divided production into discrete tasks, and thereby also separated making from thinking.

Sennett (2008) also argues against the separation between thinking and making, but from an ethical position. He conceptualises making, or craft, partly from the perspective of curiosity for what is possible to make and craft, and how to do it well. This curiosity is, however, not innocent. He means that we cannot allow the curiosity to run astray and judge in hindsight whether the outcome was beneficial or not. That way we might end up with (another) atom bomb (Sennett 2008). Instead of leaving the ethical question to the public, that only practices an after-the-fact ethics by responding to pressing issues, Sennett argues that we need to develop a craftsmanship that continuously asks ethical questions, in the making. This is a temporal and spatial shift which requires involvement rather than privileging distanced observers or representatives who can come and make a judgement afterwards. Curiosity, in Sennett’s conceptualisation, is then about the new, about what is possible to make, and must always be engaged with through ethical questions.

Ratto (2011a) works in more academic settings with making, in what he calls ’critical making labs’. In line with Sennett and Gauntlett, Ratto also aims to challenge the long tradition within Western society of separating thinking and making, and through highlighting “…the interwoven material and conceptual work that making involves” (Ratto 2011b, p.204). The reason for doing this work is that Ratto and his colleagues have experienced that there is a gap between our “…conceptual understandings of technological objects and our material experiences with them” (Ratto 2011a, p.253). Critical making is an exploration of how people can critically connect society and technology with their own daily experiences, through investing in making physical creations and conceptual explorations. To do so, Ratto argues that the combination of making and social theorizing is preferred to external viewing: “… the ability of the participants to engage with the social theories presented to them and to develop and share new understandings was intimately related to the joint conceptual and materially productive work” (ibid, p.258). As a potential of critical making, Ratto puts forward that investments made by those who participate in critical
making can engender a caring for sociotechnical systems. We understand this as taking responsibility for the applied work, which might involve innovative technological or conceptual making, that one has created.

Marres’ version of American pragmatism, combined with feminist techno-science and STS coupled up with Sennett, Gauntlett and Ratto, leads us, instead of simply treating craft as an alibi for gathering, to consider the potentialities of making in terms of its gathering potential, and as a mode of engaging with our material entanglements. This is a move towards acknowledging co-constitution of humans and nonhumans, sometimes labelled the material turn (cf. Åsberg and Lykke 2010; Christiansen and Hauge 2012; Hird and Roberts 2011), and a move away from the dominant discursivity, which has predominantly regarded the problem of the public as a lack or a deficit.

To explore the concept of publics-in-the-making further we will attend to Threads, and see how issues are articulated and made relevant through the making in Threads. But first we will take a closer look at the invitation, one of those things which makes people gather.

**Invitation**

Compared to a public that comes together because of being implicated in the same issue, or because of belonging to the same collective, Threads is related to, but differs from, both, in that it gathers as a response to a somewhat public invitation. The invitation is made through various means, for example through posters and flyers, using formal and informal networks of the collaborating organisations, through the project’s website, and on a few occasions there have been ads in the local newspapers. Compared to the kind of sewing circles that Waldén has studied, Threads does not consist only of close friends, but of people who have responded to an invitation without necessarily knowing each other.

The invitation, in short, is to embroider SMS, by hand and with a machine in a sewing circle, during one day. Without trying to make any scientific claims as to what motivates participants to join, it feels safe to say that there are multiple reasons for responding to the invitation. Several participants have expressed that they did not quite understand what Threads was or could be, but that the invitation made them curious. One woman said that
for her, to come to *Threads* was a leap of faith. Another woman said that she was happy not to know too much because that puts pressure on her to prepare herself and perform. Others are very eager to prepare and bring, for example, embroideries or other handicraft.

It is also worth mentioning that the invitation does not only take place in advance, before the gathering, but continues throughout the day, through ours and other hosts’ introduction of the day, through the setting in the room, through embroidered flyers with instruction about how to forward a message to the machine, and much more. In other words, invitations are made through talk, text as well as material configurations.

Keshavarz and Mazé (2013) argue that through framing a design project, for example through the articulation of an invitation, a problem or issue is defined. To some extent this means that initiators of any kind of participatory project, more or less, in advance prevent the possibility for dissensus. One way of understanding this argument is that an invitation and who it is directed to, frames what the problem is, how to engage with it, and who are to be concerned. We certainly agree with Keshavarz and Mazé, that making invitations is a way of framing and doing so is not innocent.

However, rather than refraining from making invitations or articulations, we want to explore the potentiality in making invitations that are more about articulating an area of curiosity, as opposed to defining a problem. The particular technologies and materials that are part of the invitation to *Threads* have normative capacities, but these are ambivalent (see more in Marres 2012). This means that we do not presuppose what might be an issue and whom it might concern. As we have mentioned, *publics-in-the-making* gather although we do not quite know the issue. However, the invitation to embroider SMS, that is articulated using a variety of means, in different locations and times, is, as we see it, a way of expressing an area of curiosity as well as a proposal about how to engage with it. The particular area of curiosity in *Threads* can be framed as meetings between old, new, digital and physical means of communication. And the way we engage with this in *Threads* is through direct engagement with the technologies that the participants are entangled and engaged with in everyday use.
Co-articulations through Making in Threads

In this section we will introduce some examples of how the area of curiosity, as proposed through the invitation, is co-articulated through the making in Threads. Our accounts are based on material collected in connection with the educational sewing circles hosted by the two of us. The material consists of our field notes as well as images taken by us as well as other participants.

Although there was an atmosphere of joy and happiness on a crisp winter day, as can be seen in Figure 1, some members of that particular group also had difficulties aligning themselves with all the things and practices introduced in Threads. The embroidery machine and mobile phones, for example, were experienced as troubling to some of the participants.

During the introduction of all the various materials and technologies that are part of Threads, an image was taken to learn how to upload images to the website (see Figure 4) as a form of self-documentation. In this situation of learning-by-doing, sense of non-alignment, separation and split was expressed when the participants saw the picture. One of them said that we should not only write “nya värdar”, which means new hosts, but also “skilda världar”, which is a play with words. With or without the l in “världar”, “skilda världar” is pronounced the same way. But depending on whether the l is there, it can be translated to both ”separate worlds” and ”separate hosts”.

We are not speculating on which of all the possible splits this caption is referring to, but we take it as an an acknowledgement of simultaneously belonging and being separate. Threads gather participants that are not all acquainted with each other. We have put lots of what can be taken to be contradictions into the setup of Threads, such as embroidery machine and hand embroidery, smart phones and rurality. We have also invited curiosity towards how these contradictions could possibly be stitched together, or held separate. However, that is a matter of negotiations between the human and nonhuman participants. In this case the human participants responded to the image with playful resistance towards being taken as a simple unity of ’new hosts’, as if they had shared issues and ways of engaging with our multifarious invitation. In a coarticulation between humans and nonhumans, a non-specified difference was articulated.
Figure 4: “New hosts. Separate worlds?”. Our translation to English of the caption for an image posted on www.mobilsyjunta.se during an educational sewing circle.

Figure 5: Making an apron.
The ambiguous feelings towards the relation between the familiar and unfamiliar, and the old and new was expressed by one of the participants through embroidering a phrase in Swedish: “Svetten lackar redan” (see Figure 5). It was embroidered with the machine on an apron that she had made by hand. The phrase cannot easily be translated but can be understood as both the anticipation of something coming up, and sweating because of hard work being done.

She dealt with her anxiety towards the new technologies through actually using them in combination with something more familiar to her: a hand-woven apron. The making in this case was not only happy making but also rather demanding. First she had to ask for help to write and forward the text message to the embroidery machine. Then she had to go outside to send the message, since the reception at the rural community centre was weak. In addition to these efforts, it is worth noticing that the making had actually begun even before that day, when she made the apron out of a linen towel. She was proud of having made the towel, but had put it in a hope chest and never used until now.

The woman did not follow the invitation to embroider an SMS, but made something she found meaningful out of what she had at hand. Connections between past materials and ways of making and possible futures were made. Her concerns with the less known were, however, not settled.

During another sewing circle that was held in Stockholm, the capital of Sweden, several of the participants, who live elsewhere in Sweden, expressed how they experienced the capital as stressful. They exemplified with how people in the subway had been rushing and not looking at each other. The topic kept coming back throughout the time we spent together. A participant opposed herself to that urban/rural divide. She said that it was equally stressful in the countryside. While we would not say that her comment made any radical change to the conversation, or to the way that some of the participants experience Stockholm as stressful, there were further discussions during the days that dealt with ideas and ideals of well-being as being related to slowness and handicraft. One of the younger participants, who had moved to a ski resort in the Swedish mountains, expressed that it becomes stressful to allow oneself to take time for slowness without giving up other involvements and engagements.
Figure 6: “Sour dough hotel to have time to be slow”. Our translation to English of an embroidery in a textile file folder.

Figure 7: SMS conversation between parents and a friend of a person in Japan just after the 2011 nuclear power plant accident in Fukushima. Our translation from Swedish: “Quite OK!”, “Very little info... Want to know more”, “OK calling you. She lives 60 km W Tokyo”.
She was referring to having time to attend a sewing circle that she and her friends had initiated in her new home-setting. To her, there is a paradox in wanting to be part of many slow and relaxing contexts because it becomes stressful attending them all. Another participant mentioned hotels for sour dough, as an example of how the ambition of caring and allowing things to take time does not go well together with other commitments. At a sourdough hotel it is possible to leave the dough for someone else to do the work for you. Parts of this conversation were embroidered on a page in a textile filefolder, to which the participants are invited to engage in a slow form of documentation: to embroider parts of conversations that take place during the sewing circles (see Figure 6).

Again, the makings in Threads enabled co-articulation of issues of living with technologies. The concern of having time to allow for slowness was, however, not settled.

At other times text messages become cues to connect with experiences, people and more, outside of the sewing circle. At one sewing circle, one couple embroidered several text messages from just after the tsunami in Japan in 2011. The SMS were connected to the fact that their daughter lives west of Tokyo.

The father embroidered one message he had received, which said that the daughter would try to get to the Swedish embassy to pick up iodine, so her mother and father could wait a bit before sending iodine to her. The mother embroidered a conversation between the father and a friend of the daughter. The friend was not satisfied with the father’s short replies, which resulted in the father calling the friend. This unsatisfactory SMS dialogue, in combination with the fact that they knew that the daughter was OK, became part of a discussion about the qualities—possibilities and drawbacks—of text messaging. Yet another message in the SMS-conversation between the friend and the parents was embroidered by the machine on a pillow case: “OK, but nuclear power seems insecure” (our translation).

The ambiguity in the machine-embroidered message could have been the cue for us to talk about the more elusive presence of electricity and energy sources, and make an explicit link between the use of electricity for the embroidery machine and the fact that energy has to be produced
somewhere at that very moment, but we did not. Experiences of living far apart and feelings of being (dis)connected were shared and articulated through the process of making. Possible connections between our own use of electricity and the emergency that took place in Japan, were, however, not made. This does not come as a surprise since the concern about a daughter easily elicits strong feelings and is less politically charged than that about nuclear power and electricity supply.

Through everyday use of technologies, we become materially implicated in a variety of potential issues. As we have shown, some of these issues are co-articulated in the ongoing making in Threads. The co-articulations are not coherent or fixed, but are in themselves contradictory and ambiguous. Neither are they representations of issues that were already there to be represented, but in the making, and articulated between multiple actors, humans and nonhumans: how we have framed the invitation with embroidering an SMS as well as what we have brought in the blue boxes and what the participants bring.

It is also important to note that these co-articulations do not offer solutions to problems. However, the co-articulations do, at times, become interventions in, or reorderings of, the participants’ everyday entanglements. For example, the apron is not only part of an articulation of something, but also a reordering of sociomaterial entanglements.

This reasoning leads us over to the next section, which deals with the fact that the making that goes on in Threads is not only an intervention into the participants everyday entanglements; it also makes us entangled with making and work done elsewhere. As we will show, some of these entanglements are rarely included in the co-articulations of issues of living with technologies.

**Absent Present Entanglements in the Making**

In the last section we showed how one of the participant’s making in Threads was interlinked with making done outside of Threads: the weaving of a linen cloth, which later on had been made into an apron. She could bring this making and work into presence since she was the one who had done the making. But, there is, of course, lots of other making done elsewhere that Threads as a collective is materially entangled with,
although it is never articulated or in any other way brought into presence. We do, for example, not hear much about the making of the tablecloths that we set the table with. This work has so far remained absent present in *Threads*. When looking at the tablecloths they have a tag saying ’made by HEMTEX’. Hemtex is the brand, so the tag highlights the company but obscures how, by whom, under what circumstances the tablecloth was made.

The making in *Threads* has encouraged the participants to share experiences and articulate concerns, for example, related to unfamiliar technologies, stressing about having time for slowness, and living far away from loved ones. However, none of the participants have experiences of working at the assembly lines where the tablecloth, mobile phones or the embroidery machine have been produced. The woman’s experience of weaving her linen cloth was made in a time and space which perhaps can make it possible to recognise that there is always hard labour involved in producing such a material, but it is not mirroring the conditions under which a linen cloth is produced today in other parts of the world. Nor does the HEMTEX tag help out very much.

Through our invitation, materials, and more, we do not manage to establish relations of relevance between these entanglements. Challenges with *publics-in-the-making* are thus that it relies on the experiences of its participants and that the materials seem to have little capacity to make certain stories present.

### Concluding Discussion

In this chapter we have proposed *publics-in-the-making* as a specific mode of public engagement in issues of living with technologies. In short, *publics-in-the-making* refers to publics that come out of making things together, and that are continuously reconfigured by their participants –humans and nonhumans. In other words, what the issues are, are not pregiven but are in the making.

Other kinds of public engagement projects could be when experts invite the public to be informed about the latest scientific and technological developments. This is an enactment of one-way communication, where experts are the knowledgeable ones. In other cases it can be that scientists or experts make some kind of audience studies or gather the publics’
opinions in order to make use of them in their further development of science and technologies (cf. Mohr 2011; Bogner 2012).

As we can see in this volume, participatory design is an academic field that challenges the distinction between experts and laypeople. Participatory design has a long tradition of engaging the public in the design of new things, services and more. While some of the early participatory design projects took place mostly in workplaces, participatory design is today practiced in a range of contexts such as city planning, creative industry and social innovation, which are also explored in this volume. Participatory design can be described as an attempt to democratize science and technology, since the aim is that those who are to be affected in the future should have a say in the decision-making process, which is recognising that those who are affected have knowledge to contribute with (cf. Kensing and Greenbaum 2012). This reasoning can seem rather similar to liberal theory, in that it more or less assumes that what the issue is and who will be affected can be known in advance. In practice, we would, however, say that, much work done in participatory design is about articulating issues, not as something given, but as something in the making, through prototypes (Ehn and Kyng 1991; Suchman et al 2002), workshops, briefs, protocols and more. Similar reasoning can be found in Björgvinsson et al (2012) and Le Dantec and DiSalvo (2013) where participatory design is practiced as means of engaging publics, rather than an a priori community. This is, for example, done through infrastructuring, which suggests an ongoing engagement.

Through our proposal for publics-in-the-making we partly build on the democratic ambition of participatory design to engage publics in issues of how to live with technologies. In this chapter we have set out to explore potentialities of such an engagement, partly in terms of its potential to gather, and partly in terms of its potential as a mode of engagement. In practice, this is done through Threads – a Mobile Sewing Circle.

As we have shown, Threads manages to gather despite the fact that the participants do not know each other from before, as in the case of a sewing circle, and despite the fact that the participants are not implicated in the same issue, as would be the case in publics as put forward by Dewey and Lippmann. The invitation to embroider SMS by hand or with an embroi-
A dery machine connected to a mobile phone with bespoke software is not a definition of a problem, but, as written earlier, an articulation of an area of curiosity, which we would frame as curiosity concerning ways of living with technologies. Since *Threads* has been attracting participants since 2010, with predecessors since 2006, we can claim that this invitation has managed to also create curiosity amongst its participants.

The invitation is, however, not only a way to make people gather, but it also suggests a way of engaging with the area of curiosity: through making.

More specifically, our invitation to embroider SMS, by hand or with a machine, is, as we see it, an invitation to engage with everyday entanglements. As we have shown, these engagements do at times result in co-articulations of issues of living with technologies. For example, through embroidering the specific words “Svetten lackar redan” on the specific linen cloth turned into an apron, there was a co-articulation between the woman, the materials and the infrastructures about how to handle known and unknown issues of living with technologies. This co-articulation between various actors, including nonhumans, was an attempt at caring for familiar and less familiar entanglements as well as handling curiosity and anxiety in the same move.

When we say that this is a co-articulation rather than a representation we mean that the articulation is in the making. It was not simply there before to be represented, but was articulated during the making. Those that participated in the articulation were a women, her textiles, the absence of an SMS, lack of reception and more. Furthermore, it is worth noticing that these articulations are rarely solutions to a problem. And rarely do these co-articulations result in any kind of collective action to make change. This could easily be used to criticize the potentialities of *Threads* or, in more general terms, *publics-in-the-making*. In line with Marres (2012) we would, however, argue that the problem of the public, the position of being both entangled in issues and not having access to institutions, forums, or other contexts where the matter is addressed, is also what makes the public come into being. Instead of expecting a public to offer solutions, we align with Marres, who argues that: “...the composition of the public—which entities and relations it is made up of—must be understood as partly the outcome of, and as something that is at stake in, the process of issue articulation” (Marres 2012, p.53).
The composition of *Threads* is made through our invitation, as well as the multiple co-articulations that are in the making in *Threads*. Depending on what is included in these co-articulations, different stakes and stakeholders emerge.

In line with Sennett, Gauntlett and Ratto, we can here see that thinking and making is closely entangled. Rather than treating making as something that should be separated from the public, we suggest that making can be a mode of engaging with possible issues, before they become pressing (cf. Perng et al on agile publics 2012) in the midst of an emergency. This should be understood as a caring approach, which does not come as after-the-fact ethics. Care, notably, requires ongoing engagement, which is not to be expected to be finished or solved (cf. Mol 2008; Mol et al 2010; Puig de la Bellacasa 2011; 2012).

We take the co-articulations that are made in *Threads* to be articulations of issues of living with technologies. For example, how to handle the difficulties of a stressful life, whether it is in a rural or urban area, by trying to enact the promise of a slow and relaxing life by joining a sewing circle, or taking care of a sourdough. But then realising that one has engaged in too many relaxing situations and too much slow-food-cooking, and responding by insomnia and subletting the sourdough to a bespoke hotel.

What characterises these co-articulations are that they most of all deal with issues that are of relevance in the participants’ everyday lives. While we claim that the articulations are not representations of issues that were already there in advance, the participants’ previous experiences of living with technologies are important parts of these co-articulations.

While one of the potentialities of *publics-in-the-making* is to relate to the participants’ everyday entanglements, there is also a risk with this way of creating relevance through the mundane experiences of living with technologies, since more distant entanglements and distant effects of living with technologies are rarely made present or included in these co-articulations. Much like these more distant entanglements often remain absent in the participants’ everyday lives, they also tend to be excluded from the co-articulations in *Threads*.
For example, who makes the tablecloth, embroidery machine and the mobile phones, out of which materials under what circumstances, are not included in the articulations. These seem to require more care and perhaps it is a skill that could be practiced in the publics-in-the-making. But we also recognise that there is little potential in the publics-in-the-making to ask ethical questions in the making, when the making partly goes on on a distance from the gathering.

The co-articulations enacted in and through Threads show us that publics-in-the-making can contribute to establishing relations of relevance, but can also fail, depending on how carefully curiosity is practiced in relation to the material entanglements that are brought into the present. What entanglements are brought into the present, or made part of co-articulations, matters. It matters since they are articulations of whose future and what consequences of living with technologies are cared for.

Footnotes
1: www.nordiskamuseet.se/artiklar/rekreation-och-revolution
2: www.kulturradet.se/Documents/publikationer/2012/kulturinstitutionerna_civila_samhallet.pdf

References


PATCH 5
Threads Becoming to Matter through Collective Making
Crafting the Future (conference proceedings) 2013

Abstract
Based on the concept of becoming it is suggested that innovation or invention cannot be located in one actor or moment, but is distributed to a variety of actors, human and nonhuman, who are spread out over time and place, and belong to multiple relations and histories, presents and futures. The question of how to proceed responsibly, or how to be able to have direction without being able to anticipate destination, is discussed through two timescales of the project Threads—a Mobile Sewing Circle that is based on collective making across time and space. The first timescale is called the extended project and the other is one specific event of future making. It is argued that it is important to bring multiple histories, memories, hopes and anticipations into the present, in order to be able to proceed responsibly. This suggest a mode of proceeding which aims to thoughtfully and curiously find ways to become with continuously changing conditions, rather than preserving or dismissing histories, experiences or genealogies of the involved stakeholders.

Keywords: collective making, becoming, extended project, future making
Introduction
In this paper we will attend to questions of future making, through the collaborative project Trådar–en mobil syjunta (translated to Threads—a Mobile Sewing Circle and hereafter shortened to Threads). Threads is a travelling exhibition and workshop designed to engage with issues of old and new means of communication. This is done through the invitation to embroider SMS by hand and with a machine. The discussion in this paper draws on work done between the year of 2006 and 2012.

When we present our work with Threads we are often asked how we came up with the idea of inviting people to embroider SMS. Although this is a reasonable question, we would rather like to attend to the question of how Threads is continuously becoming to matter. Becoming should here be understood as in emerging rather than being fixed and still, and matter by its double meaning—material as well as meaningful. We prefer this question since we think that it will allow us to tell more interesting stories of design, how futures are made or crafted, and hopefully something about how to proceed in ways that matter to us and others. The relatively long duration of Threads allows us, in comparison with much other design research, to build our arguments on collective making and design that is distributed across space and time. We call this the extended project.

We introduce the concept of becoming since we, in line with Grosz (1999), believe that how we conceive or conceptualize time, the relation between past, present and future—the politics of time—matters. It matters because it engender different ways of knowing and being in relation to the future—such as rehearsing (Halse et al., 2010), foresight (Edeholt, 2011), or imagining possible futures. All are phrases used to describe the practice of designing and suggest different relationships with the past, present and future. Watts argues that “The future is not out there, as though disconnected from past or present. As with other forms of technical and scientific knowledge, it is made in ongoing, everyday practices and places” (2008, p.187). She continues to give examples of such places and practices where futures are made—shareholder meetings, design studios, and science fiction stories. What if we add sewing circles to that list? What, and how, are futures made in and through Threads—a Mobile Sewing Circle?
To discuss this we will be attending to the concept of becoming that troubles and questions linear, predictable and singular time which is assumed to be measured reliably in hours, minutes and seconds with clocks.

**Becoming and the politics of time**

In the book *Becomings: Explorations in Time, Memory, and Futures* Grosz (1999) points out that terms such as newness, innovation and progress are social positives, while unpredictable and uncontainable change “... seems to unsettle scientific, philosophical, political, and cultural ideals of stability and control.” She further argues that we need to “… develop concepts of time and duration that welcome and privilege the future, that openly accept the rich virtualities and divergent resonances of the present” (ibid, p.16). As we understand Grosz, one of the major challenges that she presents is to find ways of ‘dealing with the future’ and ‘coping with and producing the new’ that embraces the open-endedness of both matter and life. To conceive the future as open-ended and emerging, is neither to align with the idea of free will, nor of determinism. It should, according to Grosz, rather be understood as a direction or trajectory without a known destination, or as movements without prediction.

Direction without destination might seem frustrating, stressful, and rather depressing as it suggests a constant struggle and movement without closure. But as Grosz points out in a lecture (Footnote 1) most problems, for example gravity and mortality, do not have solutions; they generate ways of living. This approach to problems might not be something completely new to the field of design, but we still think that the idea of direction without destination poses several challenges to the practice of design. For example in terms of how we set things into the world, such as plans, regulations, experimentation, or rehearsals, and so on. What design actions seem to be the most reasonable, interesting or responsible? How can we act and make change being located in the present?

In the book *In the Nick of Time* Grosz (2004) describes the present as always fractured, situated between reminiscence and anticipation, and between the ‘murmur of the past’ and the ‘potential of the future’. As we understand her argument the present prepares itself for the future through reactivating the past, which is not fixed, but continuously rewritten (ibid, p.254). The past is actualised or active in the present, for example through
memories, understandings, habits, or recognitions. It is not the cause of the present, but its potential for being otherwise. The past is thereby the condition not only for the present but also for every possible future, or the transformative effects of the future. The consequences of this reasoning is that which pasts or histories are actualised becomes of great importance. It becomes important because any actualization of the past makes other potentialities absent.

Also Ahmed (2006) stresses the importance of attending to the past. Not to preserve the past, but because she argues that looking and glancing at the past is a way of finding alternative paths and routes into the future, that the straight path that lies before us offers. She uses path because it is a trace of past orientations, and at the same time something that guide future movements. Straight paths help us move along as expected—for example to get married and have children. Paths are orientations, which guide and point us to the future. Each orientation also implies a background, which is both temporal and spatial:

Looking back is what keeps open the possibility of going astray. We look back, we go behind; we conjure what is missing from the face. This backward glance also means an openness to the future, as the imperfect translation of what is behind us. (ibid, p.570)

As we understand Grosz she argues that it is life which can bring the past into the present, for example through habits, memory, instincts and learning. We prefer not to stress the difference between life and matter, humans or nonhumans, subjects or objects. Rather, we would like to emphasise how closely entangled these are, and how not only humans, but also animals, materials and technologies participate in bringing certain histories into present, as well as making others absent. For example, as suggested by Ahmed, a path is created through repetition and becomes a way for the past to materialize itself in the present, and influence future movements.

When Barad (2003, 2007) writes of becoming she emphasises, in line with Grosz, the open-endedness of the world. She speaks of intra-action, not between one well bounded object and subject, but between phenomena. Each iteration of intra-action involves inclusions and exclusions, and consequently changes the condition for the next iteration of intra-action.
Within these continuously changing conditions there is however possibility and responsibility to act and intervene:

Particular possibilities for acting exist at every moment, and these changing possibilities entail a responsibility to intervene in the world’s becoming, to contest and rework what matters and what is excluded from mattering. (Barad, 2003, p 827)

While Grosz’s and Barad’s versions of becoming differ, what they share is that one cannot predict or control the future, but that there are potentialities to act in each moment. These potentialities are continuously different, depending on what is included or excluded through processes of becoming.

When entering into, or engaging with, these multiple pasts and futures we can do so in different ways. Grosz argues for continuous, elaborate and artistic experiments (1999, 2004). The aim of these experiments would not be to attain a certain goal but to attain maximum difference; to create rich resonances of potentialities in the present. Experimentation with no predictable end as well as concerns of detailed implementation co-exist. However, more attention has been directed to extending the present into foreseeable futures with planning and legislation, rather than to, as Grosz asks for, the “risk of a leap into the unknown” (2004, p.260).

Ontology of becoming, as proposed by Grosz and Barad, is starting to be introduced in design literature. For example, Westerlund (2009) uses Grosz to discuss explorations in the design space that is created through the use of video prototypes. While his work contributes to how designers can support processes of actualisations in the setting or workshops, his work does not contribute much to an understanding of design as a continuous becoming over time and space. The emerging character of design, and ethical implications of engaging in design work, is somethings that van der Velden and Mörtberg discuss with some help of Barad:

Design becomes an ongoing negotiation between our need to do justice in design and the awareness that we are not able to know the effects of our design decisions. Practically, this means for our design and research practice that we need to look carefully at the iterations (visions,
scenarios, specifications, abstractions, categories, prototypes, etc.) in the design process. Each iteration is an intra-action in which decisions are made about who and what matters and what may emerge out of the next intra-action. (van der Velden and Mörtberg 2011, p.18)

In their reasoning we would like to emphasize that the iterations of a design do not end after what one usually would consider to be a design process, but continues through processes of use, misuse, travels, and more. In each such iteration there is, what Suchman calls, mutual constitutions of subjects and objects in ongoing reconfigurations (Suchman 2007). Such ongoing and distributed becoming can be understood as the extended project, which is not confined to a set time frame nor to one well confined place. Surely we are not the first ones to point this out. Mazé (2009), for example uses the concept of becoming, partially as proposed by Grosz, to discuss design as things in the making. This is a making that takes place both through design and through use. In design literature, we do however find that there is a lack of studies that capture how designs come to matter over time and space, through design and use.

If we then align with the idea of becoming we can conclude that innovation or invention cannot be located in one actor or moment, but is distributed to a variety of actors, human and nonhuman, who are spread out over time and place, and belong to multiple relations and histories, presents and futures. In other words, it invites us to think of the design project as extended and premised by time as both open ended and multiple. Important questions will then be: How can one as a designer proceed in a responsible and competent way, with others (Footnote2)? How can one have direction without being able to anticipate the destination?

**Threads becoming to matter**

We started off by stating that we would rather attend to the question of how *Threads* is becoming to matter to us and others, than answering the question of how we came up with the idea to invite people to embroider SMS. To expand on this we will now tell two stories. The first one we call the extended project and has a timescale that spans from 2006, when we hosted the first sewing circle where we invited to embroider SMS, and onwards. In this story we will attend to the multiple forces and actors that have participated in the becoming of *Threads* over time. The other one has
Figure 1: Embroidery machine connected to mobile phone with be-spoke software.

Figure 2: Two blue boxes that contain the materials that travels with Threads.
a considerably more dense timescale and is situated in one specific event for future making: one (educational) sewing circle. In this story the focus will be on the multiple histories, and futures of Threads, and how they become to matter, or not, and makes a difference in the future becoming of Threads. In other words, we focus on both the durational and the more momentary. Through our stories we hope to show how these timescales are intertwined. Or, as Grosz has it: “There is one and only one time, but there are also numerous times: a duration for each thing or movement, which mels with a global or collective time” (1999, p.17).

Importantly, both stories are situated. The first one is told from the position of being part of Threads for a long time and the other from the position of being a participant in one sewing circle which has a more condensed timescale. On a very practical level these stories are based on notes and audio recordings done by the two of us along the way, when hosting sewing circles as well as being more on a distance.

**Extended project**

When we hosted our first sewing circle in 2006 it was called stitching together. At the time most mobile phones had little space to save text messages, which prompted users to delete messages every now and then. This, in combination with our interest in everyday communication, was one out of several conditions that played a role for us in setting up the first sewing circle where we invite participants to embroider SMS, by hand and at a later stage also with a machine. Since then mobile phones have changed. Many participants have smart phones which can store considerably more text messages. Still, Threads seems to matter. This technological development has also played a role in how parts of Threads is configured. In some of the earlier versions we assembled a computer, a mobile phone and an embroidery machine to be able to embroider a text message. In the latest version we have connected a mobile phone directly to the embroidery machine. In other words, technological development plays a role not only in terms of how Threads matters to its participants, but also in terms of how parts of it are configured.

Coinciding with technological development in terms of changes in design of mobile phones, there has been an increasing interest in handicraft, that is being appropriated and brought into new contexts. For example, in
parallel with our work with *Threads*, three major exhibitions—*Craftwerk 2.0* (see Åhlvik and von Busch, 2009), *Open Source Embroidery* and *Points of departure* (Footnote 3)—have been held in Sweden, with the focus on the interplay between digital technologies, craft, political actions and more. All of this play a role in how *Threads* is becoming to matter—to us and to others.

As a response to an open call we sent an application to the Swedish Travelling Exhibitions in 2008. We framed the invitation to embroider SMS in sewing circles as an invitation to also discuss, negotiate and explore past and contemporary ways of meeting and communicating.

Swedish Travelling Exhibitions’ ambition to reach out in a participatory manner and to reach beyond big institutions, coincided with our proposal and some other organisations’ interests. The collaborating partners became: Swedish Travelling Exhibitions, Vi Unga (a national youth organisation), National Federation of Rural Community Centres, Studieförbundet Vuxenskolan (a national association for informal learning) and Malmö University, where we are situated. Apart from overlapping interests, each organisation also had their own more specific interests and resources to contribute with. For example the Rural Community Centre’s main concern was how to reactivate the rural community centres as meeting places in new ways. And their main contribution to the project has been to facilitate with places to host *Threads* as well as local contacts.

In 2008 we hosted a pilot tour, and facilitated and extended the tour between 2010 and 2011. This was also when the project got the name *Threads—a Mobile Sewing Circle*. To make *Threads* travelable, we designed two blue boxes, that contain all the materials and technologies that travels with *Threads*. For example, an embroidery machine, tablecloths, textiles, mobile phones, chords, needles, inspirational material and clotheslines to hang embroidered material on.

We also developed an educational sewing circle and manuals in order to hand over the role of being host. The two of us hosted the educational sewing circles for local actors who would then be the hosts in their rural community centres. We did not participate when others were hosts. We also designed a website, where the schedule for the tour is announced, and
where participants could share images of their embroideries. This setup of blue boxes, educational sewing circles in each region and a website was one way of distributing the collective making.

In the beginning of Threads’ tour the collaborating partners found it difficult to explain to potential organisers, collaborators and participants what Threads could be. As the tour went on, requests for Threads started to come in. Threads was also recognised in other ways. Nordiska Museet, a major museum in Sweden on cultural history, invited Threads to be part of their exhibition on contemporary craft. Threads was also included as a learning example of how to collaborate between civil society and cultural institutions, in a report from The Swedish Art’s Council to the Swedish Ministry of Culture.

In the midst of all of these potentialities it was decided to prolong the tour with a new phase in 2012, but with a few changes. Due to cultural political decisions in Sweden, that at this ‘nick of time’ had changed the preconditions for the Swedish Travelling Exhibitions, the internal organisation of the collaborating partners in Threads was restructured. The formal project management moved from Swedish Travelling Exhibitions to Studieförbundet Vuxenskolan.-

As an attempt to activate the potentialities that had been opened up for Threads, in combination with the altered conditions and interests for the collaborating partners, we decided to gather in one educational sewing circle. We asked all who had invited Threads for 2012, experienced hosts and not, to come to Stockholm for one day in January. In the educational sewing circle we focused on sharing past experiences and plan for the future.

Throughout the collaboration the two main concerns that are dealt with in and through Threads and that were articulated in our proposal – to discuss, negotiate and engage with issues of past and contemporary ways of communicating and meeting – have not been settled and are therefore continuously relevant. Constant updates of phones and standards as well as changes in the collaborating partners’ assignments are also part of how Threads can continue to become to matter – how it is configured and how it becomes meaningful.
Figure 3: Local hosts gathered in an educational sewing circle.

Figure 4: Experienced and non-experienced hosts gathered in the educational sewing circle.
We will now tell stories from one specific event of future making: the educational sewing circle which was situated in the transition of Threads moving from one iteration to another. The focus will be on the multiple histories, and futures of Threads, and how they become to matter, or not, and makes a difference in the future becoming of Threads.

Educational Sewing Circle
The outline of the educational sewing circle was as usual to learn by doing. Since this particular educational sewing circle was attended not only by newcomers, but also by experienced hosts, we encouraged those who wanted to share their histories of how Threads had become to matter, or not, to them. The plan was to collectively engender future travels of Threads, based on these experiences, imaginations, anticipations and more.

The outline had been decided amongst the collaborating partners who were sitting at a big table, together with eight hosts who had travelled from all around Sweden to the capital Stockholm. Importantly, also the materials in the two blue boxes were unpacked, with traces and marks from participants in Threads. The embroidery machine and mobile phone were connected. Another mobile phone fully charged to upload images to Threads’ website. Clotheslines were hung across the room with embroidered SMS pegged onto them. The big tablecloths to hand-embroider onto was spread out over the table. One of the experienced hosts starts searching for a specific embroidery, that was done during her previous sewing circle, on one of the tablecloths. She wants to find it, but can not.

Gathered around the table, everybody introduce themselves. Some have a long history with the project, and others do not. One woman says that she is curious, but do not know quite what to expect of the day. During the presentation some share requests and invitations that Threads had gotten, not only from rural community centres, but also from museums, art galleries and festivals. It is, for example, mentioned that some materials produced in Threads are now exhibited at Nordiska Museet, such as the tablecloth the experienced host thought had gone missing. That tablecloth was a materialisation of her history with Threads. As a consequence of the distributed and collective making it is now at the cultural heritage museum.
One representative from the Swedish Travelling Exhibitions tells everybody that she is changing jobs to a contemporary art museum and drops a hint that she might invite Threads there the coming year. One representative from the Rural Community Centres expresses that these potentialities challenge the original plan, which was to visit rural community centres and reactivate them as meeting places. New opportunities for how Threads might become to matter in the future is simultaneously a threat to some collaborators. It interferes with previously shared directions.

After the introduction, we move on to embroidering text messages. The previously gathered group disperse into different activities. For example, the non-experienced hosts have to learn how to handle the embroidery machine and all get to try it out during the day. One host embroiders a message saying (our translation): “Appreciated if you contacted granny : )”.

She explains that she chose this messages because it deals with communication in several ways. Her grandmother had sent her a letter on her birthday. The text message that she embroidered was sent by her mother, because the grandmother had contacted the mother, to ask if the daughter had received the letter. When the message was embroidered the future host took a picture of it, uploaded it on the project website accompanied by a text saying (our translation): “Lots of communication!”

This example shows how we live with technologies, old and new simultaneously, and how we are entangled with them and changes with them. Embroidering the text message was one way of making Threads relevant to herself and her relations outside of this gathering.

The invitation to embroider SMS—if it is important or not—is further discussed later the same day. Just before lunch we gather again to share experiences, considerations and how things could be different in the future. One woman says that she was approached by an elderly woman who asked if it was ok to bring her own embroidery, rather than embroidering text messages. One experienced host says that the more she works with Threads, the clearer it has become to her that the overarching theme of Threads is communication. The conversation continues and several of the hosts share other examples of small deviations from the invitation to embroider SMS. One inexperienced host suggests that if elderly people are
to feel welcome maybe we need to allow for other activities as well. Several experiences of encounters in *Threads* add nuances to her suggestion. One retells of elderly people who use text messaging as well as other new technologies extensively.

The same participant tells us of another occasion where she did not manage to anchor *Threads* as she had expected to. Inspired by *Threads* she hosted a sewing circle at a youth club where she invited people to embroider SMS, but without the materials such as the embroidery machine configured with the mobile phone. Amongst the teenagers who had gathered, only one had a computer, and only one had a mobile phone. This meant that they did not have any text messages to embroider. In this case, when the machine and contextualising materials were missing, *Threads* did not manage to become to matter to participants without mobile phones. One of the two issues that are dealt with in *Threads*—to engage with new and old means of communication—got lost.

One of our experiences from the previous travels of *Threads* is that it takes time for *Threads* to become to matter in each location. In previous iterations of *Threads* hosts have found the stay too short, so some have asked for revisits. This has been taken into consideration and we have decided that *Threads* will stay longer in each region in the future—both where *Threads* is revisiting and where it is coming for the first time.

After lunch the focus shifts to the future becoming of *Threads*. In these discussions it became obvious that how and where *Threads* can continue to become to matter is dependent on local specificities, such as access to local contacts, facilities, budget and people with various histories with *Threads*. To make *Threads* tour and become to matter, a lot of the work has been done by volunteers as unpaid work. One of the experienced hosts expresses that she could not possibly host all of the sewing circles and cope with the estimated work that was planned for her region. Another participant has not envisioned being the host herself. As a developer of handicraft she was first acquainted with *stitching together* already before *Threads* was conceptualised. When *Threads* was only travelling to rural community centres she could not invite *Threads*, but now there are openings for her to do so. As part of her work assignments she aims to find a budget and pay some for being hosts in *Threads*. However, it
Figure 5: Tablecloth and embroideries exhibited at Nordiska Museet.

Figure 6: Image uploaded on the project website.
was agreed amongst the collaborating partners that in order to not lose Threads’ history, every sewing circle must have at least one host who has been through an educational sewing circle.

Since Threads has been travelling for some time there are several hosts who have a history with Threads. Whereas the one with a budget can pay for some of these experienced hosts to come to her region, it turns out that the other person has the advantage of having had Threads in her region earlier during the tour. That Threads has already become to matter in that region means that there are several who have gone through the educational sewing circle. In this case, the new actors, as well as histories, of Threads matters, in terms of how and where Threads can continue to become to matter.

So far we have mostly discussed this event of future making in terms of how multiple futures of Threads are engendered or not. It should also be noted that the collective making in Threads, that is and has been extended in time and space, also has participated in other events for making futures. For example, Threads as a collaboration between several organisations on the one hand, framed as cultural institutions, and civil society on the other hand was included as a learning example in a report from Swedish Arts Council to the Swedish Ministry of Culture. In the report the text about Threads was based on interviews of representatives from the collaborating organisations.

A couple of days before the educational sewing circle, the collaborating partners had gotten an invitation to also record some experiences from the collaboration, to be played out during an event when the report was to be handed over. As the day progressed, we decided that it made more sense to include not only the collaborators, but also the hosts’ voices and experiences, and thereby also include voices from the civil society. During lunch some of the experiences, of which some were already shared in the mornings session of the educational sewing circle, were recorded.

We realise that the recorded experiences most likely will not do much work in the becoming of future cultural policies. Based on the circumstances, this was however our attempt to bring into presence some mundane complexities of the work done by the local hosts, while not excluding the paid work
done by the collaborating organisations, that this kind of distributed and collective making actually involves.

**Proceeding responsibly through thoughtful curiosity**

In the introduction we posed the questions: What and how are futures made in and through *Threads*? When giving account of how *Threads* is becoming to matter, we did so through multiple timescales: what we have called the durational and the more momentary, or the extended project and the (educational) sewing circle. We claim that these timescales are intertwined.

We have, for example, shown that histories and sedimentations created through momentary future making events, such as educational sewing circles, engender certain movements of *Threads*. Revisits are possible without diverting from the agreement to have at least one host who have taken part of the educational sewing circle. We have also shown that new potentialities opened up for *Threads*, through new actors that offer new locations and contexts for *Threads*, challenge some of the collaborators’ directions, such as reactivating rural community centres as meeting places. When *Threads* travels as a learning example on collaboration between civil society and cultural institutions we argue that it is important to make the intertwining of durational and momentary timescales present, otherwise the kind of complex work, that collective and distributed making involves, becomes obscured.

Based on this reasoning we can conclude that innovation or any other kind of future making practice cannot be located in one actor, moment or one location. We can also claim that *Threads*, like most sewing circles, does not participate in making one grand future, but opens up for multiple potentialities, small and big, for individuals and groups, as well as nonhumans.

When opening up for potentialities there are also issues of responsibility, which invites us to ask: How can media and design practitioners proceed in responsible and competent ways, with others? How can one have direction without being able to anticipate the destination?

When we wrote the manuals that accompany the educational sewing circles, we included a suggested direction to the new hosts, of how
to approach new technologies and more specifically the embroidery machine that is connected to a mobile phone. We call this approach ‘thoughtful curiosity’ (Lindström and Ståhl, 2012). We thereby also put words on the direction that we had had in the design of Threads. Thoughtful curiosity encourages curiosity towards what is unfamiliar, however, not without hesitation. In the process of Threads becoming to matter our aim has been to pay close attention to the knowledge, experiences and histories of the collaborating organisations and the participants of Threads in combination with their hopes, concerns and anticipations of the future. To be thoughtfully curious does not mean to embrace the new, progress and development without considerations, but to bring past experiences, as well as hopes and concerns of the future, into the present. As Grosz (2004) argues, the present is always fractured and it is in the ‘nick of time’, the disruption between the past and the future, that multiple becomings can be engendered. To be able to embrace those might require both a bit of curiosity and thoughtfulness, from us and the others who, in one way or the other, join Threads. This is our attempt to have a direction without being able to anticipate the destination.

To practice thoughtful curiosity, being situated in the transitions between two iterations of Threads, we arranged an educational sewing circle. We wanted to continue engendering future travels and movements of Threads, but without setting strict and final plans. This was avoided since doing so would only allow for the making of futures that are possible to know in the present. Instead the aim was to participate in making new configurations and at the same time allow time to be open ended and multiple—to stay connected and let go in one move. This means to thoughtfully and curiously find ways for the changing conditions to participate in the future becoming of Threads, rather than preserving or dismissing histories, experiences or genealogies of the stakeholders involved. This is how we can proceed responsibly.

Footnotes
1: www.youtube.com/watch?v=mwHoswjw5yo
2: We have in earlier writings (Lindström and Ståhl 2012) referred to and dealt with the much needed concept of located accountability in design, put forward by Suchman (2002). In this paper we go on to borrow the
question that Suchman asks in relation to being entangled in an extended set of working relations: “How do we proceed in a responsible way?” (Suchman 2002, p.94).


References


Links
www.pointsofdeparture.se/en/content/about Accessed 14 January 2013
5.3 Seams
The seams re-activate patches to show the potentialities of publics-in-the-making. This means to focus on what is in the making and how it is made in the same move, since those are inseparable.

In the first seam we show how Threads, and ways of living with technologies more broadly, are becoming to matter through a kind of collective making that resembles a patchworking practice. These relational reorderings mean efforts and work that are extended in time and space. In the second seam we argue that the efforts put into making in Threads also enable co-articulations of issues of living with technologies. These co-articulations are not representations of issues that were already there to be represented, but are articulated between actors from multiple positions in the making. In the third seam we argue, speculatively, that the engagement in Threads also becomes a mode of practising caring curiosity. The aim is not primarily to resolve issues once and for all but to practice caring curiosity that can also be applied in other contexts.
5.3.1 Becoming to matter
Much like a traditional sewing circle (Waldén 2002) Threads gathers to make things together. However, in contrast with most sewing circles, the participants in Threads do not know each other beforehand. Neither do they share an issue, like the participants in an issue public (Dewey 1927 [1991]). Instead the participants in Threads have responded to an invitation to embroider SMS by hand and by machine in a sewing circle. In other words this is an invitation to make things together with others, which suggests both an area of curiosity, ways of living with technologies, and how to engage with it. This is conceptualised as publics-in-the-making in this thesis.

The invitation to Threads is not only made in words, but carved out in several materialities and temporalities. It is printed on posters, embroidered onto textile flyers used during the sewing circle, and it is expressed orally by the hosts as they welcome the participants. It is also enacted through how we set the table and how we, in various manuals, suggest ways of assembling the materials and technologies that we put into the two blue boxes that travel with Threads. Invitations are made by the two of us, by the collaborating partners, are passed on between friends, and much more.

In the different patches we deal with how this invitation, to put the materials and technologies that travel with Threads to work, to connect and disconnect them with the participants’ sociomaterial entanglements, manages to gather humans and nonhumans. In patch two we describe this in terms of how Threads become mattering, and in patch five we phrase it slightly differently: how Threads is becoming to matter. Through both of these wordings we emphasize the close entanglement between how Threads is materially composed, or made, and the ways in which it becomes meaningful to its participants. In this seam we will use the phrase ‘becoming to matter’. We use it to argue that for Threads, as well as the area of curiosity expressed through this multiple invitation, to become to matter, a lot of work and making needs to be done. This work is not made in one location, by one actor, in one moment. It is done collectively over time and space, by actors who can easily be understood as participants in Threads, as well as through more distant entanglements and engagements.
Although we did not start to use *becoming to matter* as a term until the fifth patch, we have a consistent focus throughout the patches on how *Threads* is made collectively in ongoing and continuous intra-actions (as one way of expressing the relational ontology that we outlined in the chapter on *patchworking*). In patches two and three we describe the design of *Threads* as a kind of design-after-design (Redström 2008; Binder et al 2011b), in the sense that the materials and technologies we have used to start the composition of *Threads* are generally off-the-shelf items. Thereby these technologies, such as mobile phones, needles, threads and embroidery machines, are familiar to most participants, or even used by them on a regular basis. In *Threads* these things have travelled far from their intended use and have been put into slightly new relations. In order for *Threads* to become to matter, work needs to be put into it. It needs to be put to work and composed. In the second patch we argue that *Threads* can become to matter because of its fluid character (cf. de Laet and Mol 1999; Law and Mol 2001; Law 2002; Law and Singleton 2005 on elaborations on the concept of fluidity and the distinction between fluid objects and immutable mobiles). Through the invitation to embroider SMS, participants can add and alter parts, partners and practices of *Threads*, and this is how *Threads* can become to matter, and become entangled in the participants’ everyday lives.

For example, in the second patch we mention one occasion when we did not have a location in which to host *Threads*. In other words, a location, which is crucial for *Threads* to work, was missing. During the educational sewing circle we met a woman who offered to bring *Threads* to a school where she worked. She wanted to incorporate *Threads* in her education, and to combine it with ongoing discussions on whether or not to allow students to use their phones during school. Yet another example of something missing in relation to *Threads* was a woman who did not have any text messages. To prepare herself for the educational sewing circle, she therefore wrote an SMS to her family members which said: “Need an SMS before Saturday”. Her husband, who happened to be in the same room with her while she sent the message, replied with an SMS that said he loved her. The daughter replied while we were gathered in the sewing circle. The text message read: “SMS are so impersonal. Can’t we call each other and talk instead”.

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There are also examples of when *Threads* has been hosted without the two blue boxes. For instance, one host brought *Threads* to a youth club. Since she did not have the material and technologies that are usually part of *Threads*, she bought a new tablecloth and invited the participants to embroider SMS by hand. Amongst the girls who came to her version of *Threads* it turned out that only one had a mobile phone. In other words, it was not only the materials and technologies in the two blue boxes that were missing, but also the mundane experiences of living with technologies such as mobile phones. Without the embroidery machine and mobile phones, the host expressed that it became more like any kind of embroidering and difficult for the participants to engage with the area of curiosity the way the invitation suggests. This does not mean that these participants do not live with technologies. However, the way the invitation was enacted did not make it possible for these particular participants to engage with the area of curiosity. As a consequence, the host re-articulated the invitation. Instead of only embroidering mobile phone text messages, they started to embroider information and symbols used, for example, in instant messaging chats. One participant made the @ sign into a rose.

One of the arguments here is that *Threads* works not *despite*, but *because of* its fluid character. The fluid character of *Threads* allows, or even demands, reorderings and work, which is also how *Threads* become to matter. It works, with some missing, altered, and added parts. Such argument also implies that it becomes difficult, or even not very generative, to determine where to draw the boundaries of *Threads*. For example, should we include those who sent text messages to the woman who did not have any text messages, as participants? Should we expand its duration, beyond the timeframe as it is expressed in the invitation, between ten in the morning and four in the afternoon on a Sunday?

In the third patch we describe this ongoing relational reordering, by the two of us and others, as a kind of *patchworking* practice. We suggest that through encounters between humans, places and things, the boundaries of *Threads* are continuously renegotiated through processes of inclusions and exclusions, of connections, alliances and separations. Though such *patchworking* practices can be troublesome, they also become an opportunity to collectively (re)consider what and who matters and why. In one region, for example, *Threads* was invited to be hosted as part of a local
art organisation, which arranges art courses for young women only. In this case the agreement amongst the collaborators to invite broadly was temporarily altered, as the invitation in this case was exclusively directed towards women between the age of 12 and 25. The exclusion here was meant to provide space for young women to try out creative and artistic expressions in a youth club where they had previously felt excluded. What mattered in this case, the exclusive focus on young women, temporarily remade the boundaries of *Threads* and influenced how *Threads* became to matter in this specific environment.

So far we have suggested that *Threads* becomes to matter through relational reorderings or through a kind of *patchworking* practice. In these accounts we have, however, most of all focused on how this is done in specific sewing circles. It is not until the last patch that we start to discuss how the collective making in *Threads* allows *Threads* to become to matter not only in one separate gathering, but in a constant interplay between sewing circles, and in what we call the *extended project*.

To some extent we have already discussed *Threads* as an extended project. Through the example of the woman who asked her family for an SMS before Saturday, we have shown that *Threads* as a gathering is far from discrete. Instead we have shown how its boundaries are vague and moving. Through the extended project we also want to put emphasis on how *Threads*, and ways of living with technologies, is becoming to matter differently over time. This means that making done in one gathering both enables and is dependent on making done in previous sewing circles. For example, hosts who had already been part of an educational sewing circle could make it possible for *Threads* to revisit a certain region without much other planning, effort and investment.

It also means that changing conditions, beyond the making in *Threads*, such as technological development, political decisions and trends, will play a role in how *Threads* becomes to matter.

*Threads*, for example, becomes to matter differently through an increasing interest in appropriations of traditional craft. Within just a few years three major exhibitions in Sweden dealt with questions of what contemporary handicraft could be. In addition, one of Sweden’s leading cultural heritage
museums, Nordiska museet, invited *Threads*. This meant that *Threads* came to matter in one version with some embroidered text messages hanging in a permanent exhibition about what handicrafts could be nowadays.

Yet another factor that plays a role in how *Threads* becomes to matter is the technologies that are at hand. When we first started hosting *Threads*, a lot of participants had very limited space to store text messages and had to delete messages. The invitation to embroider one message made several participants share their own strategies for handling this limited space. One participant said that she tried to have at least one message from each good friend. Another participant explained that her boyfriend saved all messages from her. Some also described how they would transfer some messages by hand into a diary-like book. Others would delete all messages every now and then. The invitation to embroider one message offered yet another way of handling the limited space in the phones, which in turn also opened up new ways for these messages to become to matter. Several participants have made their embroidered messages into gifts handed over to the one who first sent the message. In patch one we mention one woman who framed her message to put it up in her workplace.

With the proliferation of smart phones, storage space is rarely a matter-of-concern anymore. The practice of text messaging and the potentialities of making use of the embroideries beyond *Threads* still seems to matter. The development of smart phones also plays into the composition of *Threads* and how it becomes to matter in yet other ways. In the attempt to enable participants to embroider a text message with a machine we used a mobile phone, a computer, a usb-stick and an embroidery machine. Later on we have been able to connect a smartphone directly to the embroidery machine. Such a composition, as it turned out, was both engendered by and challenged by work and decisions elsewhere. For example, it turned out that the mobile phone Nokia N900, that we have connected to an embroidery machine Janome 350e, is no longer produced. In fact, Nokia dropped the Maemo/Linux operating system altogether, which was the reason for choosing this particular phone in the first place. We chose this platform since it was less restrictive than, for example, Android.

The decision to stop producing this particular phone and dropping the Maemo operating system was made far from our control, but has
several consequences for the continuation of the travels of Threads. For example it makes one part of Threads exclusive and fragile. If the phone breaks or gets lost we cannot easily replace it. Surely it would be possible to find another solution for embroidering SMS than using this particular phone, but it would demand more effort to make Threads continue to become to matter.

Being dependent on the development of operative systems or standards for file formats is, of course, not exclusive to Threads. On the contrary, this is of great concern for any designer who is making an application for mobile phones as well as those media practitioners who want to use an application but do not have the compatible phone. In other words, it becomes almost impossible to think of a design as well-bounded and autonomous. In this particular case the future travels of Threads are affected by a decision over which we have little control.

We started off this seam with suggesting that Threads gather, not because of a shared issue or because the participants belong to the same community, for example a community of practice (Lave and Wenger 1989; 1998). Instead Threads gathers as a response to an invitation, carved out in several materialities. In patch two we mention that there was a desire among the collaborating partners to articulate one strong story about what Threads is in order to make it communicable and travelable. Throughout the different patches we have instead shown that the boundaries of Threads are vague and moving. Through processes of boundary making, relational reorderings, as a kind of patchworking practice, Threads becomes to matter. Such ongoing relational reorderings, renegotiations of what to include or exclude, we argue, are how Threads can also become to matter in relation to technologies that are always in the making, for example in business meetings, in design labs, in use, in parliaments and more. Fluid boundaries thereby allows publics-in-the-making to deal with matters that are uncertain, unstable, and in the making. This means that sometimes a publics-in-the-making can become to matter because it invites broadly to try to bridge ageism, while at another time it can become to matter as part of an excluding invitation, because that is where it mattered in that particular time and space.
5.3.2 Co-articulating issues

In the previous seam we argued that *Threads* and the area of curiosity expressed through the invitation is becoming to matter through making that is extended in time and space. In this seam we will argue that such collective making can also engender co-articulations of more specific issues of living with technologies. Much like the invitation is not only expressed in words, the co-articulations are made through a combination of practices and materialities.

The focus on issue articulations, between humans and nonhumans, recurs throughout all the patches, but is slightly differently framed. In the first patch we argue that the invitation to embroider SMS at times also becomes an invitation to share and perform issues related to everyday communication. We show how the invitation both becomes an invitation to share past experiences, how the experience of participating in the sewing circle becomes a concern, and we speculate on the possibility that the materials made in *Threads* might become part of future conversations.

It is not until the fourth patch that we start to discuss the sharing and framing of issues as co-articulations, between the invitation to embroider SMS, and other participants’ responses to this invitation. An important shift here is that we argue that the issues that are expressed in *Threads* are not best understood as representations of issues that are already there, but as co-articulations (Marres 2012b) that are expressed, performed and enacted through various materialities, relations, actors and situations. This means that the issues were not just there before to be shared but are articulated collectively in the making. It is thereby not an articulation that comes from nowhere or just from one location, but by definition an articulation between several actors and locations. We regard this to be in line with the figuration of *patchworking*.

Let us retake and slightly push an account that we give in the seam *Becoming to matter* about one participant who did not have any messages to embroider. To prepare herself she asked her family members to send an SMS to her before Saturday. While we were gathered in the sewing circle, the daughter replied that she preferred calling to text messaging. In the previous seam we use this example to suggest that *Threads* becomes to matter through work, and through entanglements. In this seam we argue
that this collective making is also a process of co-articulating an issue of living with technologies. Our invitation, the woman’s initiative to send a text message to her family members, their replies, her embroidering and the other participants’ embroidery became a co-articulation of the co-existence of a push, curiosity as well as reluctance towards new technologies. The ambiguity of the matter, or lack of resolution, was further enhanced by the making of another participant in the same sewing circle who embroidered another text message, from her daughter, that said (our translation): “Perhaps we should start texting each other rather than calling”. This was sent to her after they had a fight on the phone.

Yet another example of a co-articulation was when two young participants responded to the invitation to embroider an SMS by making a BFF-pillow, made out of two linen towels. BFF is short for Best Friends Forever. Our invitation, the selection of text messages which were sent between the two of them but also between other friends of theirs, in combination with the making of a pillow, became a co-articulation of their relationship as best friends. Since they included messages from others than the two of them, their relationship as best friends was enacted as part of various other relationships. Through the making they articulated how their relationship has been, and possibly will be, enacted through the use of technologies such as text messages or a BFF-pillow. When we last met them they said that they would take turns in having the BFF-pillow in their homes.

We claim that these two examples show how issues are co-articulated in the making. The co-articulations, across time, space, actors and materialities, are not representations of what was there before this assembly gathered. This does, however, not mean that they are disconnected from their sociomaterial entanglements. Rather, the co-articulations of living with technologies are situated in their lives. Since the invitation usually involves a kind of engagement with everyday entanglements, these co-articulations do at times also become interventions into the participants’ everyday lives. Or, re-enactments of sociomaterial entanglements. This means that participating in the making of Threads becoming to matter, and participating in co-articulating issues, also are ways of re-enacting relations and realities. Here the entanglement and participation in issues overlap, as Marres (ibid) has put forward through her concept material participation.
This shift from representations to co-articulations is in line with design approaches such as speculative design, that aim to engender inventive problem making (see Michael 2012b). One difference is, however, that the invitation to Threads is to engage with the participants’ everyday entanglements, and thereby the co-articulations in Threads are enacted and situated in the everyday lives of the participants, rather than being highly speculative. This is thus different from most speculative design that mostly uses objects to support debate and speculations about issues related to living with technologies further into the future. Furthermore the co-articulations, or inventive problem making, in Threads is in line with what Ratto (2011a; 2011b) argues for through his work with critical making, located in the making, rather than in evocative objects, as critical design tends to do.

In patch four we mention that there are some entanglements that rarely become co-articulated. For example, the entanglements with labour done at assembly lines that come about through the use of the embroidery machine, mobile phones and linen tablecloth are rarely made present. We think of them as absent present (Law and Singleton 2005). To make such absent present entanglements present is a challenge for publics-in-the-making, since these entanglements are hard to sense and understand only through tinkering with materials.

We could argue, somewhat along with Sennett (2008), that a skilled craftsman has better odds of sensitising him/herself to the work, techniques and knowledges that have been put into the making of, for example, a linen tablecloth, a mobile phone, or an embroidery machine. But other aspects of technologies with which we live, such as working conditions, have a harder time becoming part of co-articulations in Threads without direct experiences and rich narratives amongst the participants. Much as the materials rarely speak up about certain issues in the everyday, they do not speak up in Threads. Neither are actors in general able to sensitise themselves to what could possibly be, for example, understood through the materials. In the making of this temporary ‘we’, some humans and nonhumans are marginalised and we find it important to recognise such a limit to what we call publics-in-the-making.
*Threads*, with its area of curiosity centred on ways of living with technologies, can also become an actor in other publics and *publics-in-the-making*. This is done when *Threads* participates in co-articulations elsewhere and in other areas of curiosity. For example, at Nordiska museet, as we write about in patch five, *Threads* was included in an exhibition on contemporary craft. Another example, which is also described in patch five, is when *Threads* was included as a learning example of collaborations between civil society and cultural institutions. We do not write about it as co-articulations in that patch, but taking the concepts and arguments in patch four together with this example from patch five, we can regard them as such.

Through *Threads* we suggest a way of gathering around, engaging with and co-articulating issues of living with technologies. Through doing this, we and the other participants are also enacting a certain relationship between experts, civil society, publics, researchers, financial budgets, cultural institutions, cultural policies and politics. Co-articulating issues can make sedimentations in a specific rural community centre, such as one host who started to host small courses on embroidery graffiti, as a means to express how she and others around her were part of a bigger movement of handcrafters who deal with issues of living with technologies through making. Co-articulations can also travel onwards and contribute to the repertoire of cultural imaginaries, policies and commissions of how relations between publics and institutions can or should be done, as we have given account of in this seam.
5.3.3 Practising caring curiosity
It would seem fair to say that Threads has evoked curiosity. The invitation has managed to gather humans and nonhumans despite the fact that several participants have expressed that they did not quite know what to expect. Such curiosity is, however, not enough for Threads to work. As we state in the second patch, one challenge, when trying to make Threads travel, is to make local actors caring in relation to Threads. It could also be argued that caring relations are made through effort, investment and practice. In this seam we will argue that engagement with Threads is a way of practising caring curiosity towards living with technologies broadly, rather than simply towards Threads.

Caring curiosity could be thought of as an attitude, approach, direction, way of being or living with. In the third patch we mention a similar phrase, thoughtful curiosity, that we use in the manual that we made for the embroidery machine connected to the mobile phone. In the manual thoughtful curiosity is described as something that has guided us in the design of Threads—that we, for example, try to bring together old as well as new technologies. It is also used to propose a way of approaching, relating to and getting familiar with the specific arrangement of the embroidery machine that can be connected to the mobile phone.

In Threads, we have connected a digital embroidery machine to a mobile phone, which is a technology that many of us have on our person these days. We are not Luddites, sceptical towards technological development; rather, we are driven by a thoughtful curiosity for new opportunities that may arise in encounters between different technologies—old and new. Remember, even machines need care and attention. To learn about any technology, one needs to familiarise oneself with it. Try, and make mistakes. (Excerpt from manual in Threads)

From the specificities of designing and assembling Threads the practice of thoughtful curiosity can also be moved to a mode of engaging with new or unfamiliar technologies in general. To assemble the embroidery machine with the mobile phones becomes an opportunity to practise thoughtful curiosity, a curiosity that can be used also in other contexts.
In patch three we also turn to von Busch (2008), for his argument that skill is not only ability but also curiosity towards the unfamiliar. Suchman (2002, p.100) foregrounds that when new practices and technologies come into the world they do so through the blending of what she calls a “leap of faith”, which could be understood as curiosity, as well as experiences of previous practices with technologies. To be involved in making new relations through crafting is thus not, like Arendt argued, to let go of judgement, and leave the ethics for somebody to take care of a posteriori. Instead we align with Sennett (2008) who claims that craft is ethics in the making.

In patch five we revisit the concept of thoughtful curiosity, to propose a way of proceeding responsibly, and describe it as a “direction without a known destination” with the words of Grosz (2004). Through writings by Grosz and Barad (cf. 2003; 2007), we use the concept of becoming to argue that while time is open-ended and multiple there is the possibility to act in each moment. Since it is not possible to fully control or predict the future, we need to find ways of handling or embracing the future as unknown and open-ended, to have a direction without being able to fully anticipate where we will end up or what is to come. To have a direction without being able to fully anticipate the destination does, however, not mean that we cannot participate in making the future. It means that agency is situated in the present. And the present is always made through a combination of sedimentations of history and anticipation of what is yet to come.

Such an understanding of temporality means that, while we cannot fully control the future, it matters what is brought into present. It also suggests that curiosity should not only be directed towards the new or the future, but also to the past. Importantly, facing the past does not mean an attempt at preserving it. And facing the future does not mean to embrace progress and development without hesitation.

To practise such thoughtful curiosity in and through the making in *Threads* we have brought together multiple materialities, temporalities, practices and knowledges. For example, the invitation to *Threads* is to embroider an SMS, by hand and with a machine. This means that we emphasise the combination of textile practices and the practise of text messaging, which
is a form of communication that has a considerably shorter history. By responding to this invitation, participants have brought anticipation, hopes, worries as well as materials, histories, experiences and makings of the past into the present.

One such example can be found in patch four, where we give an account of a participant who came to Threads without much prior experience of text messaging. While she did not bring experiences of mobile phone use to Threads, she had other things with her, such as an apron that she had made out of her hand-woven linen cloth. She had picked up the linen cloth from her hope chest. Since she did not have any text messages to embroider she decided to write a new text, send it to the embroidery machine, and have it embroidered on the apron. The text said: “Svetten lackar”, which can be understood as sweating in anticipation as well as sweating because of hard work being done. In this case the hard work included to compose and complete her first text message as well as finding reception for the SMS to come through. In the patch we take this to be an example of a co-articulation of an issue of living with technologies. More precisely this co-articulation has to do with how to handle the familiar in combination with the less known, or not yet known. In this seam we use this account also as an example of practising a combination of thoughtfulness, care, curiosity and making. In the making in Threads she found ways for hopes from the past and hesitation for the new to be brought into present. Doing so demanded effort.

In the third and fifth patch we write of thoughtful curiosity. In this seam, however, we use caring curiosity. Thoughtful curiosity was, in line with Sennett’s move, one of our attempts to add a kind of ethics to curiosity. However, in this seam we want to use care instead, since it does not limit us to practices of thinking and reflecting through words. Care brings us closer to the making, and as we see it, care entails a stronger commitment than thoughtfulness.

Others have also turned lately to care, to explore what it can do conceptually and in practice. For example, Mol (2008) has written about the logic of care as opposed to the logic of choice in hospitals. More relevant to publics-in-the-making are perhaps writings by Ratto (2011a;2011b), who explicitly relates making to the possibility of fostering care for the
relationship between technology and society. Ratto argues that making has the potential to engender care for something, rather than simply caring about. The difference here is that care for also means to see oneself as part of an issue and thereby also being partially responsible. This also means to treat technologies not as matters-of-fact but as matters-of-concern (Latour 2005a; 2008).

As we have mentioned in the chapter on patchworking, Puig de la Bellacasa wants to put even more emphasis on care by using the term matters-of-care. In line with other feminist scholars, she stresses that it matters what stories are told. Furthermore she argues for an ethical commitment through care. To care is to move the situation and at the same time be moved by it. Since all situations are different, there is not just one way of practising care.

To practice care in relation to the area of curiosity that we articulate through the invitation in Threads, we argue in this seam, is to both move ways of living with technologies and to allow oneself to be moved by them. Furthermore it implies to allow for multiple ways of living with technologies to co-exist. Not as unquestionable or unavoidable ways of living with. Not as practices simply driven by a curiosity: to do something just because it is possible. But as practices, knowledges and entanglements that are in need of both curiosity and care.

During Threads’ travels, as we have shown here, it has become obvious that Threads is normatively ambiguous, rather than fixed. Threads does not suggest one way of living with technologies.

For example, through collective making across time and space, Threads as a gathering has been made into a separatist group for young women, it has been made into a gathering for slowing down and it has been used to attract young people to rural community centres. At times the invitation has been rearticulated. On one occasion it was because the participants did not have mobile phones and no text messages to embroider. In another occasion it was altered because the participants preferred to embroider Christmas greetings to friends and family. All of these are ways of living with technologies that co-exist, as oppositions, contradictions, overlaps and more. They are also played out as promises and hopes of industrial efficiency and labour saving by the presence of the embroidery machine as
well as meditative spaces of handicraft and upgrading of those skills. To live with these requires both care and curiosity, since living with technologies is at once complex and uncertain. There is no problem to be resolved once and for all, but the sociomaterial entanglements require continuous care and curiosity. The making in *Threads* is one way of practising such caring curiosity towards living with technologies.
5.4 Re-patterning
Through the seams we have proposed three potentialities of publics-in-the-making. To end this patchwork we have written two texts that suggest what work this patchworking of publics in the making can do. One suggests how patchworking publics-in-the-making re-patterns designerly public engagement in media and communication studies, and one suggests how patchworking publics-in-the-making re-patterns designerly public engagement in interaction design. The re-patternings are individually written, but of course draw on the joint work in the thesis. Therefore there will be both first person singular, I, and third person plural, we. One of the reasons for using these texts to more explicitly address the two disciplines that this thesis is to be defended in, is that while our work is collective and goes across disciplines and practices; it does different kinds of work in different disciplines. For example, within media and communication studies practice-based research is not common, whereas most research within interaction design uses this mode of inquiry.
5.4.1 Designerly public engagement in media and communication studies

Written by ÅSA STÅHL

This text builds on but also diverts from genealogies of public engagement with issues of living with technologies in media and communication studies. It stays with the discipline’s long-standing interest in publics but with a performative understanding, greatly influenced by Marres (2012a; 2012b), who conceptualises publics as simultaneously inside and outside through socio-material entanglements. This thesis thus gets to publics without going through audiences, nationstates, mass media, consumption, production, representation and discursivity. Notably, it recognises that all of these concepts have effects, but asks, along with feminist technoscientists, such as Haraway, Stengers, Barad and Suchman: how could it be otherwise?

As Bogner (2012), Mohr (2011) and Michael (2012b) write (see Chapter Four), social science public engagement with science often enacts communicative models that rest on representation and information that is distributed from sender to receiver. Michael (2012b) sketches an ideal type of social science public engagement with science, which enacts “...discrete, linearly arrayed events which can be specified, minimally, as follows: problem identification, public and expert recruitment, engagement event, analysis, dissemination” (ibid, p.543). Apart from this sequential communication model, Michael also characterises most social science public engagement with science as steered by an idea of a democratic deficit (ibid p.541, see also Marres 2012a; 2012b).

Understanding Threads through that ideal social science model of public engagement would lead to a list of deficits. For example, Threads does not channel a public’s voice into procedures of formal decision-making. Threads does not introduce the public to what is most often understood as a new technology, rather it uses off-the-shelf devices – mobile phones, an embroidery machine – and technologies – text messaging, embroidery – and gathering in a sewing circle.
In accordance with Michael (2012b), in the same chapter, we write that this thesis suggests a move from social science public engagement with science to designerly public engagement with science and technology. This should not be taken as if the word ‘designerly’ makes it irrelevant for social sciences. Quite the contrary. I argue that it is because of the combination of design and social science, sewn together with feminist technoscience, or call it new materialism, material turn, material semiotics, new feminist materialism or posthumanism, that this is a generative re-patterning of dominant social science ways of working with public engagement. With reference to King (2011a), see Chapter One, I argue that this thesis works both intensively and extensively, drawing on and giving back to both disciplinary discussions and transdisciplinary ones.

In Chapter One there is an outline of how the engagement in media and communication studies with publics and public engagement traditionally has been based on a distanced observer role of text, discursivity, deliberation and linguistics. For the most part, it still is.

To understand the re-patterning that this thesis does with public engagement with issues of living with technologies I therefore regard it as of relevance to turn to not only topical, but also disciplinary genealogy. In the frame on media and communication studies in Chapter One, I wrote that media and communication studies is a discipline that is closely affiliated with other disciplines. According to Hjarvard (2012) and Melin (2012; 2013) the Nordic version grew out of social sciences, humanities as well as technological studies. Melin specifies with disciplines such as political science, sociology, psychology and cultural studies. She argues that the discipline was consolidating around the 00s, but that it has lately opened up to transdisciplinarity again (Melin 2013).

The contributions of this thesis draw on such re-openings for trans-disciplinarity. And, it has been stated many times by now, in this particular case it is performed through a combination of media and communication studies and interaction design. We do
so partly through taking in media archaeology, see Chapter Four. Media archaeology is mostly an academic practice and subfield in media and communication studies. Here we suggest, together with Parikka (2012, see also Hertz and Parikka 2012; Gabrys 2011), that media archaeology also has the potential to invite for collaborative, public engagement in issues of living with technologies.

Public engagement in issues of living with technologies does not, however, only mean engagement with old artefacts. In critical making, which Ratto (2011a) suggests as a social science way of engaging with sociotechnical assemblages, new artefacts are created (see Chapter Four for how we relate this to public engagement with issues of living with technologies). However, the artefacts are not necessarily the centrepieces. They are, rather, a means to develop literacy and a caring for sociotechnical issues. Media archaeology and critical making also have the potential of becoming to matter, co-articulating issues and practising caring curiosity, in line with what we show with *Threads* in the seams, and which we claim could be conceptualised as *publics-in-the-making*.

In patch five we give accounts of how multiple futures of *Threads* are engendered or not. And we also note that the collective making in *Threads* has participated in cultural imaginaries of how to enact the relation between publics and institutions. The example used is when *Threads* was included as a learning example in a report by the Swedish Arts Council and handed over to the Swedish Ministry of Culture.

We take this mobilization of *Threads* not only as a recognition but also as a worry as to what kind of public engagement ideas and ideals *Threads* thereby contributes to enact. At the event when the report was handed over to the Swedish minister of culture, we therefore wanted to make present the mundane complexities that this kind of distributed and collective making actually involves. Our work with *Threads* has shown how much effort is required both by unpaid participants and by paid partners at the cultural institutions, and we wanted to avoid the risks that *Threads* came across as an effortless coupling of experts and laypeople. This is
not only a matter of arguing for funding for public engagement, but also, as we have shown in the seam becoming to matter, that it is through engagement and work that publics, as in issues and collectives, co-emerge. In the second seam we develop co-emergence, which should be understood as a move away from representation. The same seam raises concerns about the limits of co-emergence in that some sociomaterial entanglements are kept absent-present.

Importantly, *publics-in-the-making* does not exclude other kinds of public engagement. Rather, *publics-in-the-making* should be seen as one of many ways of enacting public engagement in issues of living with technologies that need to find ways of co-existing. *Publics-in-the-making*, I argue, is apt for issues of living with technologies, whereas, for example, media archaeology is more suitable for somewhat obsolete media devices and critical making for more pedagogical efforts.

Instead of the technological determinism and the cultural, social and human determinism that has been marking media and communication studies, I position this thesis amongst the media and communication studies scholars who work with an understanding of co-shaping and mutual becoming of media, technologies, nature and humans, culture and society. This entails a changing researcher role.

As previously stated in this thesis, media and communication studies has mostly been observing a posteriori. To me, that means that rather than assuming that there is an observational position where one can stay clean of messy entanglements, media and communication studies scholars have a lot to benefit from disciplines that are trained in speculating on futures and recognising the performativity of scholarly practices. However, one does not have to turn to other disciplines, since it is actually happening in media and communication studies as well. For example: Kember and Zylinska (2012) writes of what they call creative media, which they describe as “...a new paradigm not only for doing media critique as media analysis but also for inventing (new) media”
It is not necessarily collaborative, although Kember and Zylinska partly co-write their academic pieces. Kember has developed her creative practice from, for example, cyberfeminism (cf. Kember 2003), which means that her science-fiction writing is an integral part of her academic practice within media and communication studies. In the novel *The Optical Effects of Lightning* (2011b) she works with several of the key concepts within (new) (feminist) materialisms, such as technologies, humans and nonhumans in hybrids. I regard it as a media and communication studies attempt to, through means of literary forms of expression, make various theories, research methods and worldviews perform, which this thesis is kin with, and to which lineage more examples can be added.

The practice-based research, which I here take to include artistic research and creative media, which we align with, coincides with rethought ontologies, epistemologies and methodologies. This is a consequence of a recognition that if you are involved in a co-constitution of onto-epistemologies, then you also need to ethically try to make cuts that matter; that cut well (cf. Kember and Zylinska 2012, p.82). The insistence on well is reiterated in references such as Gabrys (2011). Parikka draws on Gabrys’ work to, for example, keep attention to the long networks that traverse time and space (Parikka 2011a; 2011b; 2012). They both suggest that this can be beneficially done through various artistic or otherwise practical work of actually putting technologies into new relations with other actors. To our work this means taking seriously that the mobile phones that we live with and that are part of *Threads* are material and are included in extremely complex infrastructures. Just because a mobile phone comes in a neat box in the store, it does not mean that a westerner’s living with this piece of technology either starts there or ends when it is put in a drawer or recycled. What Gabrys (2011) opens up for is the invitation to rethink who and what we are living with when we are living with technologies such as mobile phones, and who should be involved in a public in which the gathering and the issues co-emerge—and that we need to "waste well". This shift from representation to sociomaterial entanglements, I argue,
seriously challenges the business as usual in media and communication studies.

Balsamo (2011), Ratto (2011a), Hertz and Parikka (2012), Bogost (2012) and Gansing (2013) also take their creative practice seriously as media and communication scholars, which to me is a recognition of mutual becoming of contingent entities. Through their works they show that there are many ways of knowing, which is an argument that this thesis modestly seeks to strengthen in media and communication studies.

I am wary that if this thesis is not taken as an attempt at outlining and performing relational ontology and situated knowledges, then the potential this thesis has to re-pattern media and communication studies is diminished. For example, in the introductory frame to media and communication studies I stated that there is a risk that efforts to efface differences between various currents run the risk of compromising the edges of a work or of a topic of study. I flagged that I would return to this discussion here when we had outlined our philosophy of science in Chapter Three, how we got to our concept of publics-in-the-making in Chapter Four, as well as our analysis of Threads previously here in Chapter Five. Let me therefore take the concept of publics-in-the-making that we put forward in this thesis and use it to outline the potentialities we explore. Publics-in-the-making is offered for further travels into media and communication studies. The potential to do re-patternning work as a concept, I argue, is strongest if publics-in-the-making travels in its, at least, double meaning – publics that come out of making things together, and in which issues, relations, actors and procedures are not preset, but continually in the making – and if it is allowed to travel together with the patchworking figuration. This is because as patchworking publics-in-the-making it travels both with its philosophy of science – which spans ontology, epistemology, method, ethics and narrative – as well as with its attention to gather humans and nonhumans who are involved in making. When publics-in-the-making travels as part of (new) (feminist) materialism it can hopefully re-pattern the sedimentations in media and communication studies that make the discipline
all too often deal with representations and more or less given entities that need to be mediated (cf. Kember and Zylinska 2012).

The *patchworking* figuration, we argue, allows us to come with a suggestion, *publics-in-the-making*, of how to understand gatherings not through somewhat elaborated and modified linear communication models with entities that need to be mediated, but as subjects and objects that become to matter and which co-articulate issues of living with technologies.

When the world is under enormous pressure in relation to issues of living with technologies, a situation which perhaps can be expressed as a proliferating electronic wasteland, with mines for extracting minerals and metals being opened up and media devices being charged and then changed with an increasing pace, to then start leaking toxins which affect humans and nonhumans, then I argue that there is a need for scholarly work in media and communication studies not only of media and communication as text or practice, but through approaches with philosophies of science such as relational ontology and situated epistemologies that can understand materialities and performativity. *Patchworking, publics-in-the-making* and designerly public engagement are, then, our proposal for taking major health, economic, ethical and political issues of living with technologies into account and a proposal offering an opening towards responsible ways of knowing what is emerging.

When writing the references for this thesis it is striking that many are very recent. Does that mean that this thesis performs an unhealthy presentism? I prefer not to understand it as a deprivation or a lack of a history; rather, I think it should be recognised that there have been ongoing discussions, which to some extent have come out in written form during the last couple of years. Our references also, of course, rely on scholars that have come before them.

However, the predominantly recent references imply that writing this thesis would have been very difficult only a few years ago. It might also require recognition that this thesis is part of some-
thing that is going on right now. The possibility of a re-patterning
of the sort that this thesis suggests has become with the other
relations that create capacity to act at this very moment. Now that
this thesis forms part of sedimentations of these specific relations,
it also opens up for others to join the emerging re-patterning of
media and communication studies. Consider that an invitation.
5.4.2 Designerly public engagement in interaction design

Written by KRISTINA LINDSTRÖM

In the first chapter, under the heading Disciplined, we argued our work to be an interdisciplinary practice rather than an interdisciplin ary project where we approach a topic from two distinct disciplinary perspectives (Dourish and Bell 2011). This means that our work with the shared topic of public engagement in issues of living with technologies has meant to also adjust and remake approaches, perspectives and objectives within our respective disciplines. This is first of all manifested in our articulation of patchworking publics-in-the-making as an approach to how to deal with issues of living with technologies. In this text I will discuss how patchworking publics-in-the-making both draws on and re-patterns what we in this thesis have framed as designerly public engagement in interaction design. This means to both displace and align with emerging patterns in the field.

Patchworking publics-in-the-making proposes a specific understanding of the world, where the social and material are closely entangled, and where agency is mutually constituted between humans and nonhumans. We thereby align with emerging patterns within interaction design that draw on work done within feminist technoscience and STS35.

Furthermore patchworking publics-in-the-making suggests a practice of how to engage publics in issues of living with technologies, which should be seen as part of an assembly of other kinds of designerly public engagement. This means that we more specifically situate our work in the intersection between design research, STS and publics (cf. DiSalvo 2009; DiSalvo et al 2011; 2012a; 2012b;

35 This emerging pattern is for example noticeable in some recent conferences. At CHI2012 (Computer Human Interaction 2012), which is is one of the most influential conferences within HCI, a panel called “Material Interactions”–From Atoms & Bits to Entangled Practices (Wiberg et al 2012) was organised. At CHI2013 (Computer Human Interaction 2013) Bruno Latour (Latour 2013) was keynote speaker. At PDC2012 (Participatory design conference 2012a), which is the main conference within participatory design and co-design, a workshop on design and ANT was organised (Storni et al 2012).
Binder et al 2011b; Björgvinsson et al 2012; Michael 2012b; Le Dantec and DiSalvo 2013). While we share some objectives and ontological and epistemological assumptions with these scholars, we also differ in terms of how we make our cut of engagements. By this I mean both what we engage with and the temporality of such engagement. This will be further explored in this section.

The term designerly public engagement is borrowed from Michael (2012b), who proposes this type of public engagement as an alternative to the traditional models for public engagement within social science that enact engagement as a linear process, with an already articulated problem which is dealt with by discrete actors in a discrete event which has a clear outcome to disseminate. Through designerly public engagement, Michael argues, the public are not primarily characterised by deficit, but also by their capacities. In other words the public is enacted as if composed of rounded, nuanced and mature people, who are capable of confronting the ambiguous and somewhat idiotic artefacts made as speculative designs. In participatory design, public engagement has predominantly been enacted as a process of mutual learning between participants and designers who bring different skills to the collaboration. More recent work within participatory design has also suggested that participatory design can do important work in contexts where no strong social community or consensus exists, by engaging in processes of infrastructuring design Things (Ehn 2008; Binder et al 2011b; Björgvinsson et al 2012). The aim here would not necessarily be to solve conflicts, but to find ways to deal with differences. In Chapter Four speculative design and participatory design have also been coupled with approaches from the social sciences such as critical making (Ratto 2011a; 2011b) and media archaeology (Parikka 2012), where making, tinkering and reactivating obsolete technologies is enacted as modes of developing sociotechnical literacy. While these fields and approaches are usually not framed as public engagement, we have brought them together to further expand what Michael (2012b) first framed as designerly public engagement.

To understand and explore new modes of public engagement we have also turned to Marres' (2012b) reading of the American prag-
matism of Dewey and Lippmann. In Chapter Four we describe that her reading offers an understanding of publics as characterised by an inside outside position: of being closely entangled in issues at the same time as not having access to formal forums for addressing such issues. The challenge Marres brings forward is how to establish relations of relevance between actors, issues, things, institutions and more. Such work is not simply about representing the public in already existing forums, as if it is already given who is concerned, what the concerns are and where and how the matter should be dealt with. Instead we take Marres’ argumentations to suggest that publics and their issues are in the making. And the making or composition of publics and their issues is in that sense both what is at stake and the outcome. Yet another crucial point here is that since living with technologies makes us entangled in a range of issues that are extended in time and space, those who are implicated in an issue most likely do not make up an already existing community.

Given that who is concerned, what the concern is and how it could be addressed is not a given, one challenge is to invite for public engagement. Rather than writing a design brief with a well defined problem and with a clear articulation of who is concerned we have, as we describe in Chapter Four, crafted an invitation (to embroider an SMS by hand and with a machine in a sewing circle) that articulates an area of curiosity (ways of living with technologies) and a proposition of how to engage with it. We thereby explore making, in terms of its potential to gather as well as a mode of engagement. Through the seams we further articulate potentialities of publics-in-the-making, given the way we have articulated the invitation to Threads. While we do believe that these potentialities could also apply in other contexts, I would say that with another invitation there would most likely also be other emerging potentialities. To discuss how patchworking publics-in-the-making re-patterns designerly public engagement in interaction design, I will revisit the seams and put them in relation to other modes of designerly public engagements.
In the first seam we describe the process of crafting an invitation and responses to this invitation as a process of *Threads becoming to matter*—becoming materialised and meaningful. Both the invitation and the responses to this invitation can also be understood as a kind of *patchworking* practice—of taking what is at hand and putting it in new relations. By putting focus on and engaging in how *Threads* is *becoming to matter* over time, we slightly re-pattern temporality of design work. Compared with much other design research, that puts focus on the ideation phase of a design project and makes a cut of engagement when a design is ready for use, our work with *patchworking publics-in-the-making* suggests that *project-time* and *use-time* become intertwined. Or, perhaps it is better expressed as an acknowledgement of multiple *project-times* and *use-times* that co-exist. Such entanglements have, for example, been discussed through our conceptualisation of the *extended project*, which in short implies that how *Threads* becomes to matter in a specific location and time is always dependent on and entangled with work, care and makings done elsewhere. In other words, how *Threads* becomes to matter is, for example, entangled with work done in another sewing circle hosted a couple of weeks ago, in a design studio where the mobile phones that we use were once conceptualised or in an assembly line where the same phones were assembled. The point here is not only that past makings have implications for *Threads*. With help from Grosz (1999; 2004) and Barad (2003) we instead argue that time is open ended and multiple. And, potentialities of each moment are constructed of both sedimentations of the past and anticipations of the future. What is brought into the present is partly related to how the invitation is crafted, but not determined by it.

In the second seam we argued that our invitation at times enabled *co-articulations* of issues. These articulations are not representations of issues that were already there, but issues articulated in the making, between both humans and nonhumans. These articulations are thereby a kind of inventive problem making (Michael 2012b) which implies that the parameters of the problem are changed. Instead of using objects to pose questions, or enable inventive problem making, in line with the concept of critical making (Ratto
we here propose making as a mode of engaging with issues of living with technologies. The articulation of issues is thereby located in the making, rather than in objects as is usually the case in, for example, critical design. What characterises our making is that we use materials that are part of the participants’ everyday entanglements, which makes the issues situated in their everyday lives. This is, as we see it, one difference between publics-in-the-making and most speculative designs, which engage with technologies such as biotechnology, which is not quite part of people’s everyday lives yet. The co-articulations of issues in Threads, are thereby more kin with participatory design, that usually has a focus on the everyday. To use design objects and practices to engender “collective articulation of issues” has also been put forwards by DiSalvo et al (2011). One difference between their work and publics-in-the-making is that they work with a more or less already existing collective, which has consequences for potential effects of these articulations. Whereas DiSalvo et al (ibid) envision that the collectively articulated issues can be made accessible, for example to designers that can make use of these articulations in future designs for this collective, the articulations made in Threads have not been gathered and disseminated as a whole. Since Threads is travelling and constantly assembled, disassembled and reassembled during these travels the sociomaterial entanglements change, and consequently also the issues that are articulated. The issues that are articulated are thereby multiple, rather than narrowed down to one or more core issues to be passed on to a designer or any other pre-defined institution.

In the third seam we suggest that the process of becoming to matter and co-articulating issues in the making becomes a mode of practising caring curiosity towards ways of living with technologies. In other words, rather than solving issues, the act of making has, in line with arguments by Ratto (2011a), potential of fostering a caring for. This, we argue, is important since issues of living with technologies are never settled once and for all, but in need of both care and curiosity. In Chapter One, where I position the topic of this thesis in interaction design, I refer to Mazé (2013), who argues for the importance of not designing objects that already embody a
solution to issues such as sustainability. The reason for this statement is that sustainability “is always and continuously at stake” (ibid, p.109), for example through negotiations in everyday use of things. The same could be said about issues of living with technologies. A difficulty has been to extend this caring curiosity to the more distant relations and entanglements such as work done in mines that extract minerals from which phones are made or at assembly lines where the phones are assembled. This is not only a challenge for publics-in-the-making, but also an issue for interaction design in general. I would say that curiosity towards potentialities of emerging technologies often is put to work within interaction design. Care for the ongoing living with technologies on the other hand, has been less attended to.

Our proposal of patchworking publics-in-the-making is, as I have described above, not a radical break with other modes of designerly public engagement, but can potentially contribute with re-patternings in terms of how to make cuts of engagement, and what the objective with such engagement can be. In the seams we showed that the potentialities of publics-in-the-making, among other things, are to enable co-articulations of issues of living with technologies between actors who do not make up an already exhibiting community, and to practice caring curiosity towards the ongoing living with technologies. This re-patterning is important, I argue, since living with technologies is not necessarily only an issue for an already existing community of practice that early participatory design projects used to work with, nor is it only a matter of future technologies that speculative design usually works with. Living with technologies is also a matter of the everyday use of technologies and how they become to matter over time, and makes us implicated in a range of issues and actors, that can never be fully anticipated during project-time. Furthermore, this re-patterning implies that the main objective with patchworking publics-in-the-making, is not to design a new thing, system or service that solves a problem, which would usually be the case for design work. Instead that which is in the making, through making things together, is the compositions of publics. This composition, that is constantly remade through collective patchworking, should be understood as both that which
is at stake and the outcome. In the case of *Threads*, that which is at stake, and the outcome is not singular but multiple. The public is in other words not enacted as one united we, with one shared concern, but as multiple and emerging collectives and groups with concerns that both align and differ. Furthermore *patchworking publics-in-the-making* re-patterns temporality of design work, to suggest a more ongoing engagement and to *stay with* a project beyond a traditional project frame. The re-patterning done through our work thereby implies a non-discreteness both in terms of what to engage with and when to engage as a designer.

Given these re-patternings, I would argue that the crafting of an invitation to *publics-in-the-making* is a way of caring for what imaginaries, experiences, materialities, anticipations, actors and more, is brought into the present. The crafting of an invitation matters because it will influence what becomes to matter, what issues are articulated, which relations can be made or what we can direct both our curiosity and care towards. What I am trying to say is that when we invite for *publics-in-the-making*, or any other kind of designerly public engagement, it is important to consider what kind of making we are inviting for, and what potentially will be in the making through that making. In the crafting of our invitation we have tried to care not only for new and emerging technologies and practices, but also for past ways of living with technologies. Yet another important aspect of crafting an invitation, is to care for how it can be picked up by others, how it can travel and become appropriated and re-articulated by others—how it manages to become with continuously changing conditions of living with technologies.

A potential critique of *patchworking publics-in-the-making* as a mode of public engagement could be that we locate too much responsibility on the public, since we do not design a new thing, system or service that will solve the issues. I would however argue that since issues of living with technologies are continuously at stake in labs, in design studios, in parliaments, in use and more, responsibility will inevitably be distributed between multiple actors and collectives that are at once separated and closely entangled with each other. As consequence of such distributed accountabi-
ilities and responsibilities I argue that one important aspect of designerly public engagement is to enable co-articulations of issues that are situated in people’s everyday lives, to acknowledge that theses issues will differ over time and space, and to practice a kind of caring curiosity towards the continuously changing conditions of living with technologies. This argument should not, however, be understood as an argument against other kinds of designerly public engagement.

In line with the *patchworking* figuration that we have used both in our academic and artistic practice, our proposal of *publics-in-the-making* is not a counter suggestion. It is not instead of or in opposition. Rather, it should be understood as part of an assembly or patchwork of designerly public engagement, which all align and separate and do different kinds of work. Most of the references that we make use of in our articulation of designerly public engagement are usually not framed as such. Aligning and separating approaches from both design research and the social sciences under this framing, has, however, been important to us, to articulate what kind of work *publics-in-the making* can do. It has also allowed us to make knowledges, concepts, practices and more travel between and across disciplines.

Finally I would like to point out that our work is not only a matter of re-patterning public engagement in interaction design or media and communication studies. Our work of *patchworking* publics in the making potentially also re-patterns how public engagement is imagined and practised outside of academia. While re-patterning public engagement in an academic context is first and foremost done through papers, articles and this thesis, re-patternings of public engagement in other contexts usually take other forms. One such example, which is mentioned in the fifth patch, is a report by the Swedish Arts Council handed over to the Swedish Ministry of Culture, in which *Threads* was included as a learning example of collaboration between cultural institutions and civil society. Whether it is in a paper addressed to an academic audience, an oral presentation for the collaborating partners or a report addressed to politicians, all of these narratives of *Threads* participate in
the making of cultural imaginaries of how to enact the relation between publics and institutions. When we were included in the report, we and the other collaborating partners were flattered. At the same time, we were also worried that all the paid and unpaid work and care that had been put into the composition of Threads would not come across. To acknowledge this work and care is important since it is how both Threads, and ways of living with technologies more in general, become to matter.
6 SUMMARY AND CONCLUSIONS

As a response to a widespread call across disciplines for new ways of knowing mess and complexities, we have, in this thesis, proposed and practised the patchworking ways of knowing. In contemporary living with technologies, that we take to be a mutual becoming of humans and nonhumans where capacities to act are produced in assemblages, some ways of knowing that have been developed for, in and with an industrial society, might have to be left behind or complemented because they are too focused on knowing order, discrete entities and predominantly granting humans agency.

More specifically, our suggested ways of knowing, patchworking, is, as we express in Chapter Three, to know through collective interventions and to stay with such interventions. In line with other practice-based research the patchworking ways of knowing is to know through intervening in the world. What characterises the patchworking intervention is that it aims to know that which does not quite yet exist through engaging with what is at hand. Furthermore, the patchworking intervention is made collectively. This does not necessarily mean that everybody have the same agenda, but that the ‘we’ that constitutes the collective is uncertain and emerging. Finally, the patchworking ways of knowing implies to stay with this collective intervention. It is trying to not only be accountable, relevant and reliable to the confines of a closed community such as a lab or a discipline. Taken together, the patchworking ways of knowing is not simply about knowing the already existing. It also aims to speculate and to produce knowledge on that which does not quite yet exist, together with a contingent collective. Therefore the patchworking ways of knowing does not mean to unveil or discover, but rather to participate in making realities.
In this thesis we have practised *patchworking* to explore and speculate on potentialities of *publics-in-the-making*, which in short implies publics that come out of making things together, and in which actors and issues are not pre-set but in the making. This kind of public engagement is proposed as part of a bigger repertoire of designerly public engagement that, for example, is done within participatory design, media archeology, critical making and speculative design. In other words, *publics-in-the-making* should not be understood as an argument against these other kinds of public engagement, but as complementary, since they all handle different aspects of living with technologies differently.

To explore and speculate on potentialities of *publics-in-the-making* as a public engagement, we have engaged in different kinds of *patchworking* practices. For example, our and others’ engagement with *Threads* is an attempt to know through a collective intervention that we have stayed with for several years. This means that we have explored potentialities through the *patchworking ways of knowing*.

When writing this thesis we have used what we call a *patchworking* narrative, which means that we have aimed to make the text do what it is about. The patches in this thesis are papers and articles that we have published along the way. Through the seams we have reactivated the patches to articulate potentialities of *publics-in-the-making*. The seams are thereby where the first aim of this thesis is addressed: to explore potentialities of *publics-in-the-making*. In the seams we express that such potentialities are becoming to matter, co-articulating issues, practising caring curiosity.

*Publics-in-the-making* could, in a short version, be described as having the potential to gather because of an area of curiosity, rather than gathering because of an emergency. Another potential with *publics-in-the-making* is that the participants, humans as well as nonhumans, do not need to know each other from beforehand. This means that there is no need for particular skills or previous experiences. *Publics-in-the-making* has the potential to co-articulate matters-of-care concerning living with technologies, which should be taken as the ongoing living with mundane technologies and not necessarily what seems to be the newest amongst early adopters. *Publics-in-the-making* also has the potential to foster care in the making, rather than to evaluate and judge in hindsight.
The second aim of this thesis is to add an exemplar to the existing repertoire of how to accountably create knowledge across disciplines and practices. In a way we have already provided such an exemplar. The exemplar is the way in which we have patchworked publics-in-the-making. This patchworking takes place both in the making of Threads and in the writing of this thesis.

To care for the disciplines separately and together, we have written texts that more directly address the disciplines, whereas most of the thesis addresses both disciplines as well as other disciplines at the same time. We have also articulated a topic, public engagement in issues of living with technologies, which draws on interaction design, media and communication studies as well as other academic fields, theories and practices. This thesis is thereby both extensive and intensive, with reference to King (2011a). This is also how we handle focus on individuals, which is performed so strongly at doctoral level.

It is important here to understand how method and that which we aim to know cannot be separated. This means that method and problem emerge together or are made together. We have practised the patchworking ways of knowing to speculate and to explore potentialities of publics-in-the-making. The patchworking of Threads is thereby both our method and that which we aim to know. Such a statement raises questions of how knowledge produced in this thesis can travel or become generative in other contexts.

Patchworking can travel as a practice and as a way of knowing, but it will always change since what is at hand will always be different. Through our patchworking publics-in-the-making, we have also changed what is at hand, since we have added an exemplar to what we have framed as designerly public engagement. In the thesis we have mostly focused on how the patchworking ways of knowing has led us to publics-in-the-making. Through stitching together papers, articles and a book chapter we made a patchwork that we call publics-in-the-making. This patchwork, that we call publics-in-the-making, can also be seen as a patch in another patchwork: designerly public engagement. This latter patchwork is, of course, made out of more exemplars of designerly public engagement such as critical making, media archaeology, speculative design and participatory
design. Through bringing these other exemplars into this specific patchwork, only certain characteristics of them are put to work. For example, we put focus on how they enact the relationship between publics, institutions and technologies differently. Through the disciplinary re-patternings in Chapter Five we attend to how publics-in-the-making both draws on and potentially re-patterns designerly public engagement. The reason for making these texts address our two respective disciplines, is that our collective work does different kinds of work in our disciplines. However, this thesis also contributes with an exemplar of how to do doctoral work across disciplines and practices. The articulations and proposal of patchworking publics-in-the-making, as well as designerly public engagement, are part of what this work has made possible.
7 SAMMANFATTNING


I sin helhet bör avhandlingen förstås som ett inlägg i diskussioner, som pågår både inom designforskning och inom samhällsvetenskaplig forskning, om hur och om vad vi kan skapa kunskap om. Dessa diskussioner handlar till stor del om ett ifrågasättande av sätt att skapa kunskap som har utvecklats för, i och genom ett industriellt samhälle. Anledningen till kritiken är delvis att de är alltför inriktade på att skapa kunskap om ordning, diskreta enheter och främst inriktar sig på människors kapacitet att handla och agera.

Den här avhandlingen svarar på den efterfrågan genom att föreslå och praktisera vad vi kallar för *patchworking ways of knowing*. Det är ett sätt att skapa kunskap utifrån figurationen *patchworking*, vilket skulle kunna översättas med lapptäckesgörande. I korthet innebär *patchworking ways of knowing* att skapa kunskap om det som ännu inte existerar genom att ta det som finns till hands och sätta det i nya relationer. En viktig del av *patchworking ways of knowing* är därmed att kontinuerligt ställa frågor om vilka relationer som skapas och hur, samt om vad de innefattar och utesluter. Dessutom handlar *patchworking ways of knowing* om att vara med och skapa verkligheter.
I denna avhandling har vi, mer specifikt, använt *patchworking ways of knowing* för att utforska och spekulera i potentialiteter i vad vi kallar för *publics-in-the-making*. Publics-in-the-making innebär i korthet offentligheter som skapas av att människor gör saker tillsammans, och i vilka aktörer och frågor inte är förbestämda, utan skapas under själva processen. Denna typ av offentligt engagemang kan ses som en speciell form av vad vi kallar för ett designbaserat offentligt engagemang (*designerly public engagement*). Andra former för *designerly public engagement* är till exempel *participatory design, mediearkeologi, critical making* och *speculative design*. Publics-in-the-making bör inte förstås som ett argument mot dessa former av offentligt engagemang. Eftersom de alla hanterar olika aspekter av att leva med teknologier finner vi det mer konstruktivt att se till hur de samspelar och kompletterar varandra.


Vi skriver också om hur vårt förhållningssätt till trans- och interdisciplinaritet är att både kunna tillföra något inåt till den egna disciplinens mer slutna
krets och att vända sig utåt till en bredare krets. Samtidigt framhåller vi att interdisciplinärt arbete också är med i en omgörning av disciplinerna.

Kapitel ett avslutas med tre ramverk. De två första är individuellt skrivna texter där vi går igenom de respektive disciplinernas historik i all korthet samt hur de förhåller sig till ämnet för just den här avhandlingen: offentligt engagemang i frågor kring att leva med teknologier. Det tredje ramverket är det interdisciplinära fältet feministisk teknovetenskap som vi menar behövs för att sy ihop våra två discipliner när de möts för att utforska just den här avhandlingens ämne. Därmed har vi placerat avhandlingen i vad som kan kallas för den materiella vändningen, posthumanism eller feministisk nymaterialism där kunskapsproduktion sker i samspel mellan människor, teknologier, material och tidsligheter.


I kapitel två skriver vi också om hur samarbetsparternas verksamhet kan beskrivas som folkbildning, vilket vi ser som en slags form för offentligt engagemang.

I kapitel tre utvecklar vi den tidigare nämnda efterfrågan på nya sätt att skapa kunskap. Det är också här vi, genom att vända oss till vetenskapsfilosofi som kopplar samman metod, ontologi, epistemologi och etik lägger grunden för patchworking ways of knowing som innebär kunskaps-


*Publics-in-the-making* bygger vidare på amerikansk pragmatism och feministisk teknovetenskap där offentligheter beskrivs som framväxande i samband mellan människor och icke-människor istället för givna enheter. Dessutom sätter vi *publics-in-the-making* i relation till inriktningar inom design och samhällsvetenskap såsom de tidigare nämnda participatory design, mediearkeologi, critical making och speculative design som vi kategoriserar som *designerly public engagement*. Samtliga fokuserar på göra saker att leva med teknologier, men på olika aspekter därav. Till denna repertoar lägger vi alltså vårt koncept *publics-in-the-
making. Vi håller också fram andra inspirationskällor kring görande och hantverk och vilka slags samlingar som kan komma ut ur görande.


Kapitel fem avslutas med varsindividuellt skriven text där vi vänder oss till respektive disciplin med det som vi har skrivit fram i avhandlingen och artikulerar oss kring hur det kan bidra till att göra om disciplinerna vad det gäller ämnet offentligt engagemang i sätt att leva med teknologier.

Det andra syftet med avhandlingen är att bidra med ett exempel till den befintliga repertoaren av hur det är möjligt att ansvarsfullt skapa kunskap inom och mellan olika discipliner och praktiker. På ett sätt har vi redan bidragit med ett sådant exempel. Med det menar vi det sätt vi har utforskat potentialiteter med publics-in-the-making genom patchworking ways of
knowing, vilket ska förstås både som skapandet av Trådar och skrivandet av denna avhandling.


Det sistnämnda lapptäcket består delvis av de andra exemplen på designerly public engagement som tidigare nämnts: participatory design, mediarkeologi, critical making och speculative design. Genom att föra in dessa exempel i det här specifika lapptäcket sätts dock endast vissa delar av dem i arbete. För att visa hur vårt gemensamma arbete gör olika slags arbete i våra respektive discipliner har vi skrivit individuella texter i kapitel fem som mer specifikt adresserar dessa discipliner. Men för att understryka att avhandlingen även kan tas som ett exempel på kollaborativt doktorandarbete över disciplingränser och praktiker möts vi i texten igen i kapitel sex.


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What issues of living with technologies do we touch when we embroider an SMS in a mobile sewing circle? Kristina Lindström and Åsa Ståhl have explored this, in collaboration with numerous partners and participants in Sweden, through the artwork *Threads—a Mobile Sewing Circle*.

One challenge with contemporary living with technologies is that there are multiple uncertainties regarding what potential issues are, who they concern, and how these issues could be addressed or cared for. Given this challenge *publics-in-the-making* is proposed as one mode of designerly public engagement. In short *publics-in-the-making* implies publics that come out of making things together, and that issues, relations, actors and more are not pre-given but in the making. Potentialities of *publics-in-the-making* are explored through what is described as *patchworking ways of knowing*—to know the not-yet-existing through engaging with what is at hand.

The potentialities of *publics-in-the-making*, and the *patchworking ways of knowing*, are explored and practised through engagements with *Threads*. Taken together this work is a proposal of how to, in an accountable way, create knowledge across disciplines and practices. More specifically, this thesis spans interaction design, media and communication studies, and feminist technoscience.