“Out of Place”: Resistance and Belonging in Mending Workshops

ABSTRACT

This paper examines the activities that took place at five workshops we conducted with groups of individuals who create, mend, and reuse fabric in informal sewing ‘meetups.’ During the workshops, we asked participants to conceive of a combined item using two personal items in need of repair. In addition to paired items, the workshops resulted in multiple forms of resistance forged by members as they distinguished their values and practices from those promoted by our workshop facilitation. We end by reflecting on the role of boundary work in reinforcing and legitimating a sense belonging in creative groups.

Author Keywords

Repair, sewing, tailoring, mending, design workshops, boundary work.

ACM Classification Keywords

K.4.0 Computers in Society: general.

INTRODUCTION

Over the last decade, hobbyist sites for creative collaboration have become of increasing interest to the fields of human computer interaction (HCI), interaction design, and design studies [3,8,14,17,18,19,21,24,27]. They often exhibit what scholars have called a ‘do-it-yourself,’ ‘maker,’ ‘hacker’ or ‘geek’ ethos that suggests new forms of entrepreneurism, engineering education and design innovation. While some research has highlighted the work of craft communities as integral to these settings [3,24], the diversity of members and their core attitudes in relation to DIY activity has remained largely overlooked.

Here we examine the resistance we encountered in five sewing ‘repair’ workshops we aimed to study as sites of appropriation and reuse. At each workshop, we asked members to conceive of a combined item using two personal items in need of repair. We conducted the workshops to learn something about the forms of imaginative reuse that might arise from collaborations among skilled sewers. While we expected to find myriad examples of reinvention, we instead found subtle opposition to our provocations, punctuated by moments of misunderstanding and confusion. The types of activity we hoped to catalyze seemed overshadowed by the narratives of alternative amateur, DIY practices our activities embodied. We further found that the workshop structure imposed temporal constraints: rushing the flow of activity as well as the relationships people held to their items. This collision of attitudes and expectations shed light on the diverse nature of mending and the forms of difference articulated by these sewing groups, or what sociologist Thomas F. Gieryn’s [9] might call ‘boundary work,’ processes of delineating distinct fields of knowledge production.

In the paper that follows, we describe how denoting something ‘out of place’ becomes part of separating fields of experience, at once social, material, and performative. First we review prior work and detail the design and development of the five workshops. In light of our shifting focus, we consider what forms of resistance arose across the five workshops. We find that members’ sense of identity is reinforced not only by the other members of the collective but also by their physical surroundings and actions: the site of the ‘meetup,’ the objects underway, the tools at hand, and the techniques demonstrated. We conclude by recognizing the role of boundary work in reinforcing and legitimating a sense belonging in creative groups.

BACKGROUND AND RELATED LITERATURE

Before we turn to our investigation of the sewing meetups and our participants’ means of resisting our workshop format, we need to consider our motivation for beginning this work. As described by Buechley and colleagues [3] in their initial workshop proposal on links between HCI and DIY, the ‘maker movement’ is composed of an array of amateur artisans, engineers and design hopefuls oriented toward making, customization, and reuse. These cultures of craft and repair have gained recent visibility within the HCI, computer-supported cooperative work (CSCW) and interaction design literatures due to the alternative framings of design and use they present. Even as this activity become ubiquitous, it remains diverse in its form, purpose and scale

[1]. Narratives of production describe crafters as "reshaping how people consume and interpret the handmade" [16:xi]. While we often think of craft as organized by professionals in factories, fabrication labs, and other sites of material experimentation, in these settings we see craft organized by particular interest groups and communication media. This includes the "maker movement" typified by projects featured in the popular DIY magazine *Make* and events like Maker Faire [17,27]. Skill sharing websites such as DIY.org help coordinate meetups and online knowledge exchange. Instructional websites such as Instructables.com or iFixit.com and pattern-sharing websites such as Raverly for knitting and Thingiverse for sharing models for 3D printing enable users to create and share resources around processes of fabrication, maintenance, and personalization. Offline spaces include co-working sites such as hackerspaces and Fab Labs, events (fixer collectives, Renegade craft festival) and design tools (Arduino, Makey Makey).

Recently connected to this work on hobbyist making is a separate and arguably broader body of research concerned with the practice and analytic purchase of repair [12,13,14,15,23,25,26]. Roughly thirty years back, Lucy Suchman, Julian Orr, and colleagues famously followed the activities of photocopy machine repair workers to discuss the social organization of maintenance work [21]. In Orr's telling, photocopy machine workers "necessarily improvised, at least in diagnosis, and centered on the creation and maintenance of control and understanding" [Orr 1996, p.161]. Repair workers not only used manuals and codified organizational knowledge, but also relied on "war stories" shared over informal meetings and lunch, illuminating the crucial role social arrangements around skilled work.

Beyond device-level design, concerns for maintenance and repair emerge in the work of infrastructuring. Susan Leigh Star [26] shows how minor disruptions and aberrations in systems help reveal the workings of everyday technology and associated forms of invisible labor. Elaborating the politics of repair, Graham and Thrift [10] point to three central concerns: first, the foreclosure of repair opportunities embedded in the design of consumer products; second, the rise of disposal; and third, the prevalence of unaccounted for "secondary" byproducts of production. Other work has considered processes of building reconstruction [4], vehicle repair [12,13], and book restoration [25]. Most recently, Jackson and Kang discuss the bounds of technological agency in the context of technology repair used in art practice [14]. They suggest examining the "propensity of things" as a mode by which to identify the broken artifacts' capacities for action, using this framing to describe "both the nature and disposition of discrete objects and their arrangement or organization into larger 'configurations'" [14:9]. We build on this line of argument to consider what potentials for action discarded fabric might acquire.

To date, questions of who or what should define 'repair' have remained less central in research involving hobbyist craft meetups [23]. By following how people interpret calls for combining fabric and sharing alterations with others, we examine how an enhanced focus and connection with repair shapes the forms of value it produces [8,18]. In particular, we build on existing studies of maker and repair collectives to work toward an account of creative activity as multiple and distinct modes of knowledge production.

WORKSHOPS

We developed a series of five workshops as mechanisms for understanding the transformations of human-artifact relationships through fabric repair. In each workshop we set out to achieve two goals: first, understand the interplay between design and invention for these practitioners, and second, examine how sewing interventions could reveal insights into people's relationships with their objects. We hoped people might use our activities to make new connections and arouse personal attachments. Prior to the workshops, we requested that each participant bring a textile item in need of repair. Inspired by Halskov and Dalsgaard's [11] workshops exploring the connections between ideation and combination of inspiration sources, we asked people to conceive of an item made from the two existing items. With this activity we asked how this act of connecting might influence participants' modes of creative reuse and considered what it might reveal about people's relationships with their item.

Research through Design Workshops

We employ research through design [5,6,28] methods to examine how people take up frameworks of repair in the context of our workshops. For Zimmerman and colleagues [28], this approach emphasizes techniques for tackling complex challenges or *wicked problems* [2] to focus "on a condition that arises from a number of phenomena in combination, rather than the study of a single phenomenon in isolation" [28:496]. Following this approach, we use our designed systems to frame a set of research questions, catalyze discussion, establish significant invention, and eventually produce "pre-patterns from which design patterns can begin to emerge" [28: 498]. We judge the success of this process by: (1) evaluating our demonstration of *rigor within the design process* through documentation, detail, and justification, (2) justifying advancements and communicating technical opportunities, and (3) establishing *relevance*, and (4) demonstrating *extensibility*.

For modes of creative activity, this requires understanding the role of workshop design by: (a) interpreting our formative research and resulting conceptual framework for understanding the practices of people who develop and use tools for digital craft, (b) analyzing our own practices, and (c) examining people's activities with the workshops we developed. As we will detail below, we designed each workshop using an iterative design process in which our participants provided feedback and allowed us to iterate on the designs until we found it suited the criteria outlined above.

This process relied on the production of "observable-and-reportable" [7] accounts within the workshop.

We recorded each workshop through detailed field notes, images and video whenever possible. We transcribed selections of the video recordings and inductively analyzed these materials individually and as a group, iteratively developing analytic memos shared between team members and discussed alongside our theoretical engagements, as will become apparent below.

Workshop Procedure

Prior to each workshop, we asked participants bring a personal fabric that they would be willing to tear apart or that they considered in need of repair. Each workshop lasted approximately an hour, though the majority ran long and blended into regular group meetings. Whenever possible, we conducted the workshop at the group's regular meeting time and location, such as the "costume shop" or senior center. The workshop size varied from six to ten participants, allowing time for people to chat informally during group discussions. At three workshops one person withdrew midway through. After our first workshop, we worked with members of existing groups or recruited participants through online sites such as meetup.com. Beside one male in the first workshop, all participants were female, ranging in age from 18 to 65. As we describe in more detail below, several people participating did not bring an item in need of repair that they would be willing to use for the workshop activity. In these cases, we offered them fabrics to use instead or asked them to think of an item that they would want to repair and use this item for the remainder of the workshop.

The following five-part structure oriented the timeline for the workshop events:

1. Reflect on people's definitions of repair.
2. Recall narratives related to the items. We asked participants to recall a narrative related to the items they brought or any stories inspired by them items we gave.
3. Pair up with another participant.
4. Brainstorm ideas of a combined item using the two existing items.
5. Present combined project and discuss these projects in relation to the original items.

With each successive workshop we reflected on our observations and incrementally iterated on the workshop plan to help us explore mending as a mode of imagination: building a connected item using two personal items in need of repair. For example, we developed the first stage of the workshop from a discussion of repair definitions to a prompt for writing, allowing people to reflect on their own ideas before sharing them with the group. We also began to help people separate into pairs up by asking them to describe stories about their item in one word, writing it on a post-it note, and clustering the post-it notes on a board.

Workshop 1 – University Students

The workshop took place in a university lab space equipped with working tables, papers, markers, and a sewing machine. Six participants were recruited through word-of-mouth, five females and one male and ranged in age from 22 to 30. All participants studied in technology and design related fields.

Workshop 2 – North Seattle Neighborhood Group

Next we worked with eight members of the North Seattle Neighborhood Group of the Greater Seattle chapter of the American Sewing Guild. The group gathers 'people who love to sew' to share skills, ideas and resources around sewing. They host meetings once a month. We conducted the workshop at their regular meeting venue, Greenwood Senior Center, at their typical date and time. All eight participants were female and ranged in age from 40 to 65. We started the workshop after their usual activities: showing the item they completed, including successes and challenges.

Workshop 3 – West Seattle Neighborhood Group

The West Seattle Neighborhood Group is part of the Greater Seattle chapter of the American Sewing Guild. Like the North Seattle Neighborhood group, the West Seattle Neighborhood group gathers people who meet once a month to sew and discuss their ongoing projects. We held the workshop at their regular time and location, a meeting room of a retirement community. Ten people participated, all female. The group's regular activities ensued after the workshop.

Workshop 4 – Costume Club

The Costume Club is a student club oriented toward practicing and sharing skills around the design and construction

(a) Workshop 1 – University Students

(b) Workshop 3 – West Seattle Neighborhood Group

(c) Workshop 4 – Costume Club

(d) Workshop 5 – Seattle Sewing Guild Meetup

Figure 1: Workshop Sites

of drama or cosplay costumes. The club hosts a special working area they call the Cosplay Repair Station at an annual cosplay conference. The group meets every week in the costume shop on [a large university] campus. The costume shop is equipped with working tables, sewing machines, garments display models, and other tools and materials. Six people participated, but one withdrew the workshop after our first activity. All participants were female undergraduate students at the university.

Workshop 5 — Seattle Sewing Guild Meetup

For this workshop, we worked with the Seattle Sewing Guild Meetup Group, a collective founded on meetup.com. Events are usually announced on meetup.com and take place at different public sites. Members hold regular monthly meetings and other special events and events facilitated with other groups. We conducted the workshop in a design lab on [a large university] campus with large movable tables and prototyping supplies. Six people participated, but one withdrew from the workshop after the second activity. All participants were females and ranged in age from 35 to 50.

PARADIGMS OF REPAIR

Early in our engagements, we noticed differing definitions of repair surface around both the items and the relationships they embodied. What items people felt deserved, required or deteriorated through repair resonated differently across individuals participating in the events. People saw tattered ends and scraps of fabric as part of distinct object ecologies, each requiring different considerations of age, function and value in the mending process. In the descriptions that follow we discuss how these ideas emerged as concerns for recognizing distinct social, cultural and historical attributes of the fabric items.

Deciding Which Items to Repair

Many women participating in the workshops reserved the process of "repair" for items that were seen as inherently valuable, either due to sentiment or quality of materials. In North Seattle, several women expressed to us that they thought it would be a waste of their time to repair low-quality items, and in West Seattle, we saw echoes of that sentiment in the way people described the items they wanted to repair versus donate to the group.

Margaret, the leader of the November event (themed 're-purposing') in West Seattle, began her section of the meeting by pulling a large pile of sweaters from a bag, explaining that most of them were "up for grabs [if anyone else] wants to play and take them home and experiment with what you can do with a sweater." When she pinpointed a few that she intended to keep for herself, she explained why they're still valuable to her by pointing out that she "loves the color" or material ("it's cashmere,"). For example, with a particular green dress she found at a yard sale, she said, "I don't want to wear it, it's just not me, but it has all this interesting stuff on it," while motioning to celtic-patterned ribbing.

At the same meeting, Joanne, an older woman, presented two fluffy angora sweaters to the group, explaining that she would like to repurpose them because they were gifts from her deceased husband. While the main motivation for her was sentimental, she repeatedly pointed out details of the sweater's construction that gave it inherent value in other ways. For example, after a monologue about how ugly the sweaters looked on her, she exclaimed, "and they're lined! They're gorgeous sweaters, and they're lined, even!" Later, she reveals more about the sweaters: They're made from angora, acrylic and nylon, "they're one piece," and there is real mink knit into the sweater. "They're not real pearls," she confided, in a hushed voice. Compared to responses when someone described "experimental" projects, Joanne's fluffy sweaters commanded the most attention from the group, with everyone at the table providing input on possibilities for repurposing. Low quality items with no story inspired less creativity for the participants.

Here we see how the quality and history of the material becomes of interest to the group in two ways. First, based on the awed reactions from her audience, it is clear that this group appreciates solid construction, even on ugly sweaters with fake pearls. Furthermore, members used the words "experiment," "play with," and "adventure" to describe projects involving items of low quality. Presumably, they felt the desire to not only fix, but also improve items that already held value, whereas low quality items were seen as expendable for less predictable projects.

Although these women would not risk valuable items on unpredictable projects, they valued lower quality items enough to want to recycle them anyway. In North Seattle, participants described the way they "retire" a garment by cutting it up and turning it into rags. In West Seattle, participants brainstormed for an appropriate project for an ugly sweater, eventually agreeing that it would be best felted and turned into a dog bed. Despite agreeing that certain items have no value for repair, perhaps their involvement in a community that works with textiles keeps them aware of how many everyday uses there are for textiles others would discard.

Emphasizing Resourcefulness

In line with Joanne's fluffy sweater, several women interpreted the term "repair" as a means of making disregarded items usable again. Christina, a co-organizer of the Seattle Sewing Guild Meetup group, saw sewing, knitting and crafts as culturally embedded. *"I grew up with a lot of influences: female influences from my family and extended family everybody likes to do craftsmanship at home: Sewing, knitting and crafts you name it,"* she explained while holding the slippers. Christina learned to sew from her mother who learned from her mother, and now Christina had taught her son as well. *"For materials we were very resourceful. My mom, to be exact, she can pretty much be inspired with whatever came in hand to make use out of it. And I am not half as good as she was."* Christina shared a

pair of children's slippers that her mother had made from scraps of cloth and fabric sacks such as flour bags. Her mother used a different material for the sole and the interior from the rest of the object based on what her mother had available at the time, she noted. *"At the beginning this was just really to pass time or just to make things to make use of things around the house [...] I remember that neighbors come to our door and knock on it to request perhaps she can make some for them (slippers) and [...] She got back orders for holidays."* The slippers she inherited became important as a demonstration of skill in repurposing as well as a resource. They became a constant reminder of her family influences not only around craft and sewing but how craftsmanship became connected with useful ends.

Histories of Draping and the Body

The women we worked with in the Seattle Sewing Guild used their items to reflect on histories of sewing techniques. Adrianna, for example, brought in a black 1920s dress for the theater. While her group members Heidi and Meredith discussed ideas for combining their two items, Adrianna announced: *"I am going to put this on because this one doesn't take shape until you put it on."* Taking off her clothes, Adrianna noted that she had a red slip underneath which she purposefully wore for this age and style of garment. Upon trying it on, Adrianna shared that she recently lost 167 pounds, noting how the dress now fits her body.

Heidi agreed that it would be a good idea to wear the dress to see the fitting on Adrianna's body. Heidi commented on how the style of the dress being 1920's or 1930's wouldn't fit Heidi's body shape. Adrianna talked about the miss conception of old styles and body shape fitting: "*it's like modern clothes it's what you choose, because there are things is in every decade that are appropriate for every fit. It just takes a little bit more effort*." The rest of the room gathered around Adrianna to discuss the fitting of the dress. Heidi pointed out how the dress was lying on Adrianna's hips and how it was accentuating her figure. Meredith also mentioned how the seams of the dress lay flat and the details of the draping shaped Adrianna's body in an hourglass figure. Meredith piped up: *"to get those seams to lay flat and draped to just gonna"* and she gestured an hourglass shape with her hands. Meredith expressed that she likes the lip-insert with the extra seam referring to the draped tail on the back of the dress. Chris mentioned that this style of sewing was very common theme at the time (early 20th century), and how most designs where following Madame Vionnet style. Darcy comments on Madame Vionnet's style by being "*Insanely structured, technically brilliant designs yet so simple and draped*." Everyone was fully engaged in the conversation on how the seam detail and structure were incredible to be done in away to lay flat and yet still be fitting and flattering to the body shape. They all admired the structure and the fluidity of the dress. Adrianna posed for others to look at the details, swirled to show the fluidity in the dress movement and modeled across the room to show the dress tail shape. All participants gathered around Adrianna to admire and comment on the style fitting of that dress on her.

In this light, details of the garment could not be separated from Adrianna's body or her story of extraordinary weight loss. What "lay flat" or became "insanely structured" was part framing what became a good fit for a particular body. In Adrianna's words, the garment could not "take shape" until worn, pointing to entanglements of the draped fabric on her body and the histories of the technique, always making and legitimating one another. Through combining objects, the workshop highlighted this process of interweaving the appraisal of the body and the garment's history.

Reaffirming Identity through Repair

This attention to object heritage extended to particular cultural concerns. Take the example of Darcy, a white American women who grew up in Japan, an experience that profoundly shaped her sense of self: *"it was a significant time of my life,*" she described to her Seattle Sewing Guild meetup, *"because it framed my self identity and shaped my cultural identity, which is always a little odd since I don't look Asian and nobody has any sense of this."* Bringing in a kimono to repair and repurpose, Darcy explained that she had found it "languishing" in a second-hand shop and despite being over her budget she "had to take it home." Made of black silk thread with colorful shades of green, gold and red embroidery, the kimono depicted a large Phoenix, impressing other attendees. She linked the item's value to her love for textiles and her childhood memories growing up in Japan. *"I didn't want to just - to hang it on the wall where it will never be worn. I have several other art kimonos hanged on the wall, and I don't have the space to hang more. I didn't want it to become costuming or as an art piece. It was made with a great deal of skill and dedication intending to be worn."* Her plans for the garment involve returning the fabric to use, a process that has taken her several months to conceive: *"it is going to be remade into a long side open slit skirt. And I am finding hard time finding the right silk color to match it with it. The top part is in the process of being making into a jacket-- there is a lot of damage to it and it is need to be addressed."*

Repair in this setting not only restores function to the fabric but also helps reproduce the item's refined quality and Darcy's connection to Japanese culture, represented by the garment. For Darcy to appreciate the object, she felt she needed to respect the maker's intentions for the garment to remain "worn." By repairing the damage and refiguring the pattern, the kimono works as a demonstration of fine craftsmanship as well as a reminder of Darcy's connection with Japanese culture. She uses the garment to negotiate a sense of belonging in a world she has no longer much evidence of being connected to. Rather than add it to a collection of display artifacts, she intends to wear the remade kimono on her body to materialize and share this feature of her past.

Beyond Repair: the 'Giant Sweaters from Hell'

The structure of the different 'meetup' groups served to anchor a collective recognition of what mattered and what became beyond repair. A striking example came from a retiree named Joanne. Joanne had already presented several items to the group with minimal feedback, but when she revealed her fluffy sweaters, the rest of the room was hysterical with laughter.

"*I'm almost embarrassed about this*," she began, looking around the room. "*My husband thought I was 6 feet tall and 2 feet wide, apparently. He didn't think I was blonde, but he bought two of these for me, two different Christmases*!" As she held up the first sweater - a gray, fuzzy thing - the audience laughed, but when she revealed the second one, an even more obnoxious pink, fuzzy sweater, the rest of the group was tickled enough to exclaim: "*wow*," and "*oh my god*." Joanne nodded emphatically with her audience. "*These are the giant sweaters from hell! I mean, I look like a pink snowman*!"

Through the laughter, another woman recalled: "*I used to know a girl who wore sweaters like this all the time. We called her fur ball*!" Another asked, "*isn't there some kind of textile museum you can donate those to*?!"

Later on, someone asked Joanne when she received the sweaters and she replied, "*they're bomber jackets, so...80s?*" She then joked, "*but I was taller then, or whatever he thought I was! I wore each one...maybe twice*? *But it felt like...y'know…*" she trailed off.

Because the group found Joanne's sweaters so silly-looking, their collective interest in the sweaters' future seems somewhat odd. The sweaters frustrated Joanne, as she admitted to the group: "*I don't know what to do with the damned things, except keep putting them back in the tub*." However, when someone suggested donation, she held firm: "*I don't want to part with them is the problem*."

"*I thought you said they were too fluffy*," one audience member contended. Joanne shook her head, "*Well, I don't want all of it, just some of it*." She was determined to keep the sweaters - in some form - because they came from her deceased husband. Yet because they were gifts from her husband, it has taken her thirty years to be ready to modify them. Towards the end of the meeting, a woman piped in with "*you were a good wife*," and she agreed, "*I was a pretty good wife.*

Joanne's story connects questions of what makes something worth repairing with the group's collective activity. Even as the group continues to laugh and crack jokes, there is a seriousness to Joanne's actions: she has held onto these items for three decades, continually pondering what she might do with them next. Connected to this dedication is a concern for the role and responsibility of these women in their familial and marital relationships. That Joanne became "a good wife" by choosing to hold onto a silly-looking sweater suggests an idea of loyalty circulating within the group. This idea is premised on the expectation of marital commitment represented by a fabric item like this sweater. Joanne's reticence to give away or rework the sweater not only indicates sensitivity to the quality of the fabric but also reinforced certain expectations for her duties as a wife. The sweater is beyond repair, both literally and symbolically — embedded in years of marital diligence.

Next we detail some of the moments of resistance we encountered through people's activities at the workshops. We observed several participants refusing to follow our workshop activities, having other plans for their items, or demonstrating a focus on following and testing patterns. They were willing to participate as long as their existing forms of sewing and mending would remain intact.

FORGING RESISTANCE

When we began our series of workshops, we expected that experienced sewers, familiar with a variety of techniques in their craft, would be comfortable envisioning and jumping into the experimental projects we proposed for them. Across our series of workshops, however, we learned that for one who considers sewing a craft, the planning and construction process is much more complex than coming up with an idea and then carrying it out. The planning process can take years, inspiration cannot be forced in a workshop, and even with an abstract idea, the women looked to their peers and similar patterns to guide their steps. Very little was done impulsively or quickly.

Resistance through Group Organization

While we expected our activities to ignite reinvention, we quickly found these ideas became embedded in larger organizational structures around sewing and repair. The group's agenda — preparing for 'November repurposing month' or exchanging fabrics — shaped and curtailed people's actions at the workshop. Chloe of the Costume Club illustrated this type of reaction in her engagements with other group members. As we discussed how to adapt our workshop for an odd number of participants, Chloe suggested playing two roles: *"I'm smart, I can work in two groups.*"

Chloe worked in one group with Amy and one with Blanche. She told Amy that Amy needed to replace the elastics of the sweatpants she brought because they lost the elasticity. Amy scratched her head and began silently attending to Chloe's instructions. Seconds later, Chloe shared an idea of shortening the t-shirt Amy obtained for the workshop to accompany the sweatpants. Amy seemed to have no opinion about anything Chloe proposed. After their discussion, Chloe turned to Blanche and Amy went fixing the elastics of the sweatpants. While Chloe was discussing with Amy, Blanche just stood there and waited for Chloe. Chloe started the conversation with Blanche by saying *"have you seen the youtube video about t-shirt weaving?"* Blanche shook her head and Chloe started sketching on a piece of paper showing what the t-shirt weaving looks like. Chloe then took the t-shirt and showed Blanche how to do the t-

shirt weaving. During their conversation, Chloe never asked whether Blanche had any thoughts, and also Chloe did not discuss with Blanche about the leggings that supposed to be combined with the t-shirt.

Chloe and her partners worked in the way that her partner simply followed her instructions. At the ideation stage for the combined item, for example, Chloe seemed unnerved. While discussing with her partner, Chloe turned to us to ask: *"do we have to physically combine?"* Getting a negative response from organizers (the combination does not need to remain physical), Chloe guided both the groups she participated in to create an outfit. One came up with a shortened purple t-shirt and a pair of sweatpants with fixed elastics. The other developed a woven navy t-shirt and a pair of leggings with a repaired rip (see Figure XXX). Interestingly, the third group in this workshop seemed to align with Chloe's interpretation and took the same approach of making an outfit. They came up with an outfit that consists a blue t-shirt without any modification and a white skirt modified from a t-shirt.

When [the second author] first asked the Costume Club members to share their work, a group leader resisted. "We think the actual making will take longer," [the second author] explained. Chloe looked up at the organizer and said, "*I think we are pretty much done*". And a moment later: *"almost done,"* as she continued to insert the elastic band into her trousers. When we asked again if we could share final ideas 15 minutes later, Chloe indifferently agreed: *"Sure,"* she noted without looking away from her work in hand.

We observed a similar commitment to the work of repair in people's eagerness to stay long hours after the workshop. A couple students at the first workshop, which ran from 10:00am to 11:00am, stayed until 1:00pm to finish their combined items, such as the t-shirt mask (Figure XXX). At the Seattle Sewing Guild meetup, all but one participant engaged in discussion around sewing activity from noon to 6pm.

While we aimed to support the existing organizational structures of the Costume Club — allowing time for regular meetings to progress — our presence seemed to undermine Chloe's role in the group. Beyond this workshop, our facilitation displaced existing structures, such as Margaret's introduction of the month's sewing theme at the North Seattle Neighborhood Group, shifting the dynamics of responsibility within the group. At times this prompted leaders to reinforce their guidance: using the terms of the workshop to establish new accountabilities and skills.

Resisting Object Interventions

A few participants enjoyed conceptualizing new forms but had no interest in executing their ideas. For instance, Darcy who brought her kimono to the Seattle Sewing Guild Meetup Group partnered with Chris, who brought a teddy bear she made for his son from the fabrics of a high school marching band uniform. Darcy and Chris paired up and came up with two combined ideas, a memory quilt and a tabard, using the uniform fabrics and the kimono. After the presentation of their ideas, Chris said, *"we were just imagining, okay. Because obviously I'm making more of this [referring to the teddy bear] and she [referring to Darcy] won't let me touch that [referring to the kimono]."* Both women assumed limits to their ability to meaningfully alter either item.

Joy from the first workshop similarly brought a used towel she intended to make into a toy doll prior to the workshop. Paired with Nicole, who obtained an apron from us, she explained her plans, noting, *"yours [referring to Nicole's apron] can be the clothes of the doll."* Although they brainstormed an idea to make an oven glove, Joy ultimately chose to execute her initial idea. Chloe also brought a pair of sweatpants that she planned to replace that elastics on. While sharing her story about the sweatpants, she also shared her plan. Rather than invent a new form, several women used the workshop as an opportunity to execute her original plans.

Emphasis on process

Margaret, an experienced sewer who leads others in repurposing workshops, explained to us that because of her interest in repurposing, she goes out of her way to look for patterns that have a lot of small pieces of fabric "*because when you reuse a sweater, you don't get big pieces of fabric, you get a lot of small pieces*." At our West Seattle workshop, she was presenting an in-progress garment that she had begun through this process:

> *I went to the fabric store and saw this garment made up of bits of cloth and I thought 'that's kind of nice'…so I'm just gonna buy it instead of a muslin or something and hope for the best. So I went to the fabric store looking for a different type of fabric and found [this fabric] and thought 'that might be nice in the pattern I already know fits me.' And that's one aspect of sewing we haven't talked about here at all, is the whole 'fit' concept, and knowing I could approach this and fit would not be my challenge, that maybe my challenge would just be…working with the fabric itself.*

In the same workshop, Margaret donated a number of garments she does not want to the group, describing them as "*totally up for grabs, if you want to play and take them home and experiment with what you can do with a sweater*." Another woman, Marianne, described her "adventurous" sewing project to us as well - she was trying out a "t-shirt makeover" pattern and using an old, stained shirt that clearly had little value for her. The underlying message was that low-quality items were for use in "prototypes" and experiments, which could then be replicated if the sewer liked the outcome.

As each workshop unfolded, we heard similar tales and saw many women come forward with in-progress garments and

accompanying step-by-step patterns, asking the group for advice on where to place a pocket, what kind of stitching to use on a seam, whether with this particular fabric, it might be better to fold one side over or move a button, or a variety of other seemingly small matters.

To these women, these seemingly small matter are of paramount importance because, as Margaret told us, "I don't want something that looks like I made it." Other women, such as Lola, from North Seattle, described a successful project to us as something that looked so nice that "when I went into work, I was quite proud, because some of my coworkers who I know are into fashion came by and complimented [the item] and asked me where I got it!"

In order to produce a garment that they can be proud to wear, these women are very methodical in the process. They look for pre-made patterns, input from their peers, and prototype with essentially every idea they are interested in producing. Even with a tried-and-true pattern, switching from one fabric to another can change the garment enough to proceed with caution.

While women drew their inspiration for projects from a variety of sources, every item brought in for personal projects had a story that made it valuable to deliberate on. Whether they had to be careful because it was a prototype - as with the t-shirt makeover - or because the item was of historical value - as with Darcy and her kimono - there was never a time when it was "okay," in these women's eyes, to jump right in and "see what happens." Therefore, when we asked them to do just that in our workshop, it was shocking - not only were we asking them to spend valuable time on valueless objects, but the idea of working that way went against everything they had traditionally done in their craft.

THE BOUNDARY WORK OF CREATIVE ACTIVITY

Prior to the workshops, we aimed to use the concept of repair as part of an examination of how people fashion torn, ignored or discarded as new forms of value and engagement, bringing those items back to life. We expected to see various reinventions emerge in the combination of the two items; and, to some degree, such reinvention did occur: a pincushion flower wristband, a shirt turned into a mask (see Figure XXX).

However, as we saw across the workshop sites, most people participating in the workshops did not stray far from their original forms. In fact, they worked hard to maintain existing ties to the item: reinforcing their own interpretations (e.g., "repurposing," "combination"), temporal rhythms (e.g., Chloe's "15 minutes"), and relationships (e.g., "good wife," Japanese connections). These elements loomed large in how participants engaged our activities. Rather than change, they opted for preservation and mimesis.

Foreshadowing this emphasis on sameness, our fieldwork highlighted the surprising way our own ideas of repair undermined appeals to repair as a mode of recognition. In repair work, people highlighted crucial aspects of the items themselves and the relationships they embodied: histories of use, cultural identifications, and infrastructures of construction. In our workshop design, repair entailed quick thinking, brief encouters, and inventive appropriation. Highlighting similar dimensions of creativity activity, the DIY 'ethos' of amateur tinkering, lightweight engagements and inventive labor faces a new set of questions: What should count as an appropriate form of repair (return of function, reproduction of infrastructure building, reaffirming relationships with the item)?; What type of change would be considered 'appropriate' for any given item (rethinking the form, fabric or use)?; and, crucially, who decides how these changes unfold (the individuals involved, the community collective, the guild association)? The answer to these questions lies in a consideration of the benefits and risks of repair, both at a garment-level as it is here and at the level of deign firms and their standards. Here, the concept of 'boundary work' [9,20] offers a few useful lessons.

These differing appeals to mending knowledge recall Gieryn's [9] reference to the sociology of professions and the demarcation of distinct fields of knowledge production — a process of boundary work. Taking a feminist approach, sociologist Christina Nippert-Eng [20] expands this definition in *Home and Work* to examine how phenomena designated "for work" and those "for home" get negotiated. "Through boundary work we create a more or less continuous sense for who we are in each realm [of home and work]," she writes. "In this light, *boundary work is the process of creating and maintaining more or less distinct 'territories of the self'"* [emphasis added]. For Nippert-Eng, territories of self are ideas about one's identity that get reinforced and maintained through the body and the tangible things with which one interacts. Those participating in our workshops took up and extended the boundary work elaborated by Nippert-Eng to forge alternate divisions between members' participation in our workshop and the various social and organizational structures they felt they belonged,.

For the women we worked with, sustaining and transcending the distinct spheres of craft knowledge they encountered had little to do with the objects and tools available them. Instead, it depended on experiences of rushing that materialized across all five workshops. The women participating in these events demonstrated this in three distinct ways. Firstly, they contrasted our combination exercises with plans for their items that evidenced the sheer amount of effort they spent deciding what to do. Contrary to narratives of spontaneous reinvention promoted by advocates of the 'maker movement' [3,27], these women's ideas for a project hinged on long stretches of deliberation and analysis. Recall the months Darcy spent months figuring out what to do with her kimono, or the three decades since Joanne received her fluffy sweaters from her husband. While ideation lasted a matter of minutes in our workshops, each group's existing organization promoted a different pace. Secondly, we saw people adhere to particular rhythms while executing

their work. Chloe refused to stop her projects to allow for a timely workshop conclusion, and most people participating in the Seattle Sewing Guild meetup stayed well after the workshop concluded. The women felt rushed by the duration of workshop itself. Lastly, we observe long stretches of time and periods reflection necessary for people to shift, mend, or complete their relationship to the item and what it represented. This entailed letting an object go or committing to converting it into something new. The structure of our workshop again resisted this type of deliberation.

Drawing boundaries enabled the women participating in our workshops to shape and legitimate their rhythms of creative practice, prompting new questions for research on creativity and HCI. What is the role of workshops in design research? How might we use workshops' duration, pace and organization as a tool for social inquiry? In closing, we use this concept of boundary work to highlight the unique temporal frames emerging in their community centers and meetup spaces. This work not only troubles our workshops format but also our concerns for engendering abstracted notions of creative practice. We found that belonging in a community of sewing practice was an act of resistance — in Nippert-Eng's words, "reflect[ing] and reinforce[ing our perceptions of what does and does not belong together" [20:28].

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