(Working Title) Tying it Together: Integrating Personal and Professional Identities in an Online Crafting Community

Notes: We have added an author (Acute Zigzag) and also want to change the title from the original submission.

Abstract: In this paper, five academics and fiber crafters explore the evolution of a thriving academic community that has taken root in an unlikely context: as one of many discussion boards on a craft-oriented site (Ravelry). The paper explores some of the ways that technical affordances of this site combine with the characteristics of the members of a particular discussion board to create an unusual knowledge-sharing dynamic and space that helps its members span their professional and personal interests. The authors reflect on the role of the discussion board in helping them negotiate their personal and professional experiences, including the acceptance of a subfield, online community as a learning space, disability in the academy, and tacit knowledge of the academy.

Introduction

This paper explores the evolution of a thriving academic community that has taken root in an unlikely context: as one of many discussion boards on a craft-oriented site (Ravelry). We argue that the technical affordances of this site combine with the characteristics of the members of a particular discussion board to create an unusual knowledge-sharing dynamic that spans both professional and personal interests.

About the site and forum

Although the notion of handicraft evokes what Rosner and Ryokai (2009) call "romantic notions of handwork and artistry" among many in the industrialized world, crafters are increasingly embracing other dimensions of crafting, including community-building both online and offline. Ravelry (http://www. Ravelry.com) is one of the largest of these online craft communities, for fiber-related crafts. Among other things, it boasts over 5 million members who are fiber designers, spinners, knitters, crocheters, and weavers (Ravelry, 2015). Members share a common interest in time-intensive manual creation with fiber and engage with Ravelry to discuss their passions, share and purchase designs, tools, and patterns, and catalog their own projects and collections. The site includes extensive resources, but for many, the heart of the Ravelry

experience is participation in the forums: discussion groups created around shared interests. As Hellstrom (2013) notes, Ravelry occupies an unusual and possibly unique niche as "both a social network and a resource for manual production," uniting the material and immaterial.

As a social network, like many online sites and forums, Ravelry allows for the creation of affinity or topical groups. Seven were created by Ravelry staff while the remaining more than thirty thousand were created by Ravelry members. While approximately one-third of the groups are fiber oriented, focusing on, for instance, a particular designer, craft, brand, shop, technique, or even fiber, the majority are driven by other kinds of interests—groups have been created around particular television shows, books or authors, geographical locations, hobbies, or professions.

Reflections about the membership of one of these "other" groups provided the impetus for this paper—a Ravelry group entitled "Fabulous Fiber Sages" (henceforth FFS, and not the real name of the group for reasons of privacy). As the name suggests, the group consists of people who find some component of their personal or professional identity as members of the academy—faculty, staff, administrators, researchers, graduate students, and other individuals with occasional or former connections to the academic life. The group represents numerous academic disciplines as well as people with different fiber arts disciplines and interests, from dilettantes, to experienced crafters, to designers and writers, with some members having scholarly interests in fibercraft. In general, FFS members are a highly accomplished group of people from diverse disciplinary backgrounds who use this space to share academic (and other) advice and experience.

Goals of this paper

There have been prior explorations of Ravelry's role in crafting (Craig, Petersen, and Petersen, 2012; Rosner and Ryokai). Our goal is to explore some of the many ways in which the features of Ravelry facilitate the sharing of academic knowledge and expertise outside of traditional academic structures (hierarchies within departments, mentoring programs, conferences, and the like). That it happens at all, we would argue, would be best addressed as part of a larger conversation and bigger trends around insider/outsider status in the academy, tacit knowledge, and scholarly identities and practices. We use examples drawn from our own experiences and

those of our FFS compatriots to explore two interrelated themes: first, how do the technical affordances/features of Ravelry support the evolution of a community of (craft) practice, leading to a community of identity (where participants openly and explicitly acknowledge the intersection of professional and personal lives), and, second, how do knowledge production practices on FFS reflect and support academic work?

In this discussion, we draw on the literature from communities of practice research, activity theory, and feminist scholarship. Key concepts include a variety of perspectives on the performance and negotiation of multiple identities; how knowledge is counted as within-field (or valid); and when/whether that is related to the sex and culture of the knower. We also draw on our varied academic experiences, and our own observations and reflections on FFS interactions.

We discussed the ethical implications of the piece and how we would manage the challenges of discussing FFS in a publication. While many of the FFS members are quite open about their offline identities, others, while full participants in the online community, are far more anonymous and prefer to remain so. There are, as with any such online group, many lurkers. Other academic projects about and using Ravelry and other online groups and communities have, not surprisingly, raised lively discussion and generated an extensive literature on privacy and anonymity in online environments (Boellstorf, et al., 2012). To complicate the issue, the five authors are at four institutions (with the fifth an independent scholar) in three countries. This situation gave us pause with respect to the regulatory implications of our work—in short, how and whether to obtain Institutional Review Board (IRB) approval.

After consultation with an IRB representative at one of our universities, our ongoing conversations as a team, reading the literature, and observation of how similar projects were handled by other scholars studying aspects of Ravelry and other online groups, the authors of this piece have chosen to taken several approaches. First, we created a pseudonym for the group (FFS; our collective tongues are firmly in cheek with the deliberate choice of this pseudonym). One co-author formally obtained IRB permission to use incidents that could have been used to

identify FFS participants. In a few specific cases, we have included the names of individuals whose FFS/academic work is public, but with their permission to do so.

Author perspectives

As we noted earlier, we represent very different disciplines; for this reason, among others, we have chosen not to write this paper as a traditional empirical work. Instead, we take our cue from feminist studies of academic institutions and structures that emphasize the ways we negotiate our roles—as teachers, researchers, and institutional members, and moving among them—and paying attention to the uses we make of FFS to negotiate insider/outsider status in the academy.

We are aware that this is not a piece that would find a home in most STS venues, but hope that STS is open to scholarly reflection on identity, online space, and even personal/professional balance. We borrow from the authoethnographic tradition as the authors are community members who are in dialogue with each other and our community while engaged in reflexive and theoretical analysis (Anderson 2006; Spry 2001).

This choice is informed by our own academic realities. In the introduction to her 1997 edited volume *Knowing Feminisms*, Stanley writes that the traditional "tour guide" to the academic world assumes that knowledge production mechanisms are universal, rational, and all-powerful—products of the "masculine citizen." As a result, the "invisible work" of the lower level staff, cleaners, cooks, and others who make the university function is seldom included in the knowledge enterprise. Almost 20 years since, the position of women in the academy has new fault lines. For one, we could add other invisible classes of workers to the problem of the invisible female in the academy: "adjuncts," "occasional lecturers," "teaching fellows," "contract researchers," or other euphemisms that obscure the reality that (often) underpaid, temporary, at-will employees are responsible for more and more of the teaching and research mission of the academy and constitute new kinds of "invisible work" (Suchman 1995). And, while universities strive to be more inclusive of students with disabilities, non-student academics with disabilities remain a very small and understudied minority (Dale-Stone et al. 203; Vance 2007). We believe that our personal experiences and reflections can represent rich sources of anecdata.

Ultimately, this paper reflects the diverse perspectives and experiences of a group of people who have in common some participation in academic life and a love of working with yarn and fiber, and who see that these commonalities have intersected to create a vibrant knowledge space that is more than the sum of its parts.

Theoretical lenses

Communities of Practice

Wenger's work on Communities of Practice (1998), which addresses how communities develop around practices, suggests that shared enterprise provides one means for individuals to connect and learn from one another—and provides some entree into understanding FFS. In terms of its origin on Ravelry, FFS is rooted in the shared practice of fiber crafts. However, because FFS is specifically targeted at academics, higher education forms a second arena of shared practice for its members. Learning to be an academic (or anything else) requires negotiation as well as an understanding of norms and practices that each individual is expected to internalize. As Delamont and Atkinson write, transitioning from a doctoral student to a postdoctoral researcher and then through faculty ranks may be the expected trajectory, but each transition is marked by rituals (vivas, graduation ceremonies, committee membership) with attendant sets of expectations and their accompanying anxieties (Delamont and Atkinson 2001; Shankar 2009). Learning how to operate in academ[illegible] thus craft knowledge, or *practice*.

Members of a community initially engage through low-risk activities—what Lave and Wenger (1991) have called *legitimate peripheral participation*. Through both technical affordances and the sense of safety provided by online anonymity, both of which will be discussed in greater detail, FFS allows for low-ris[illegible]ntry into its community.

Activity Theory

FFS can also be understood through the lens of activity theory, also known as Cultural-Historical Activity Theory, which defines an *activity system* as an ensemble of technological and social

factors. The social factors include *individual* attitudes, experiences and actions as well as *community* practices, traditions, and values (Carroll 1977).

> Activity theory emphasizes that these ensembles are inherently contingent and changing, that human activities are mediated and transformed by human creations, such as technologies, and that people make themselves through their use of tools. Activity theory shifts attention from characterizing static and individual competencies toward characterizing how people can negotiate with the social and technological environment to solve problems and learn, which subsumes many of the issues of situated and distributed cognition (Carroll, p. 512).

Activity theory is a descriptive meta-theory that includes multiple elements—technical, individual, and social—in an activity system. Within the system, these elements are seen as mutually influencing one another.

FFS can be viewed as an activity system; however, so can the non-digital contexts in which each member works. We will begin with a description of the FFS system, then explore how the differences between our online and offline contexts lead to reflection and learning.

Ravelry and FFS

There are a number of technological features of Ravelry that merit discussion because of their implications for community development on FFS. We will begin with those common to many online forums, then proceed to features unique to Ravelry.

General features, critical mass and content creation

Ravelry membership passed the 5 million mark in February 2015. The FFS forum has 1,646 members (also as of February 2015) around the globe. Though not all the members are active, there are enough active members that conversations move rapidly, an urgent question will likely be addressed quickly, and there is always new content even for a frequent visitor. That said, conversations don't move *too* rapidly most of the time, so being gone for a few days does not

mean one is left completely out of the community loop. Threads are separated but not nested; this helps users negotiate both the "small enough" and the "large enough" of content.

Coding and platform development: Ravelry is coded in Ruby on Rails, an open source development platform and framework. It has a welcoming user interface, but has conducted little formal usability testing although some new features and functions are tested with a group of users.

Persistent user names: Users have persistent usernames on Ravelry, most of which are pseudonyms. Most users upload *Ravatars*—images representing the user that can be changed at will. These Ravatars appear with an individual's posts or projects across Ravelry. Though Ravatars can be changed easily, it is common for a user to stick with one for an extended period. As a result, posts by regular members are visually identifiable at a glance. When a Ravatar changes suddenly, there are often comments such as "took me a minute to realize it was you—had to look at the username." This feature means that, while given full names need not be used, there is a persistent identity and a sense of recognizing individuals across conversations.

Private messaging: Users can be contacted via private messages as well as through general posts. This feature permits the exchange of information that users would rather not share on public forums, including personal details or other sensitive information.

Distraction-free interface: The structure of Ravelry provides its users with functionality that is conducive to extended conversation and persistence of concentration. The interface is very clean in general; for the forums in particular, the only advertisements are static horizontal banner ads placed at the bottom of each page, with content restricted to that pertinent to the fiber arts community at large (Ravelry, 2014). This allows for distraction-free and therefore focused reading, which mimics the academic experience of reading articles and books and makes Ravelry forums conducive to detailed and nuanced exchanges.

Internal referencing and earburning: Some features of the Ravelry interface are quite different from other Internet forums (see Figures 1–8). For example, internal referencing makes it easy to follow extended conversations. Every individual post has a direct link associated with it for easy

referencing; if a post is a reply to another post, there is a link at the start of the post naming the earlier poster and post number. Clicking on this link expands the earlier post within the reply post. If a post has been replied to, there is a link at the start of the post giving the number of replies, and clicking on this link produces a list of linked replying usernames/post-numbers/first-lines. At the same time, the bottom of the screen displays a small floating navigation palette. In addition, a user can choose to alert another user when citing hir in a forum post through an easy tagging process termed *earburning*. Earburning provides a way to both emphasize recognition of particular users' earlier contributions and draw others into a conversation. Aside from the efficiency these features provide, they are particularly helpful for the kinds of conversations many academics prefer because they provide some automatic citation and because they make it easier to follow a multifaceted and multipa rgument.

Figure 1. Ravelry posting thread interface, including a bottom-floating palette. Note the information given in various design elements.

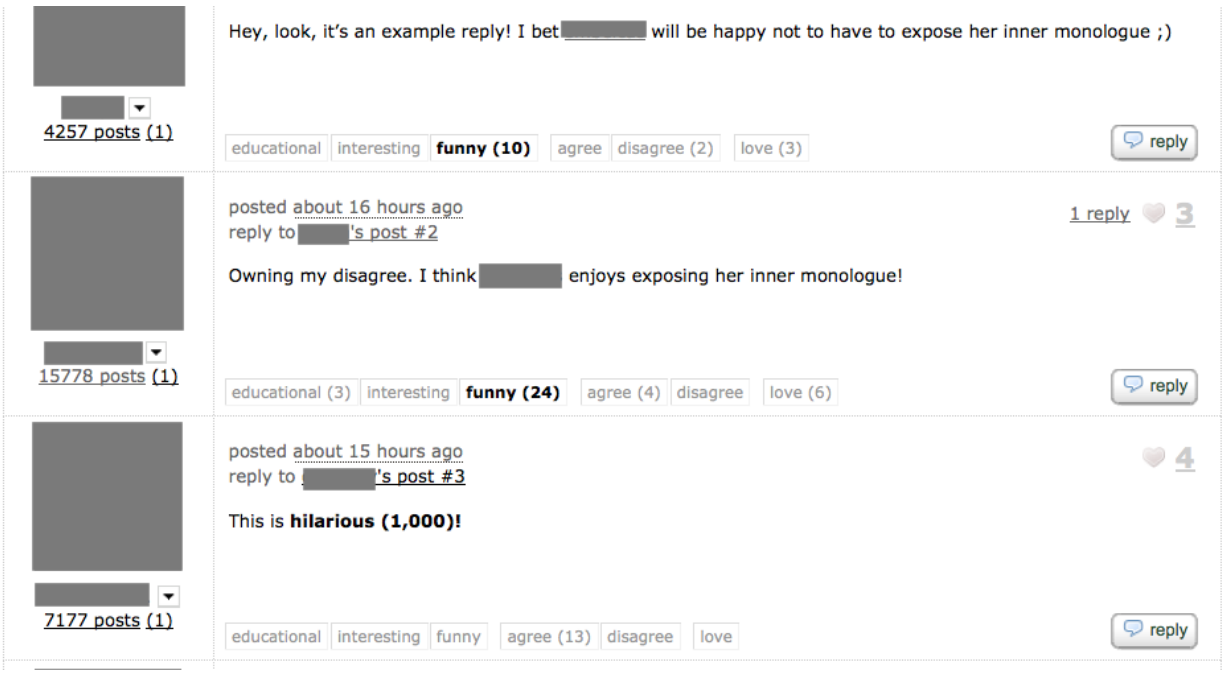

Figure 2. Forum posts showing reply links and button-use referencing.

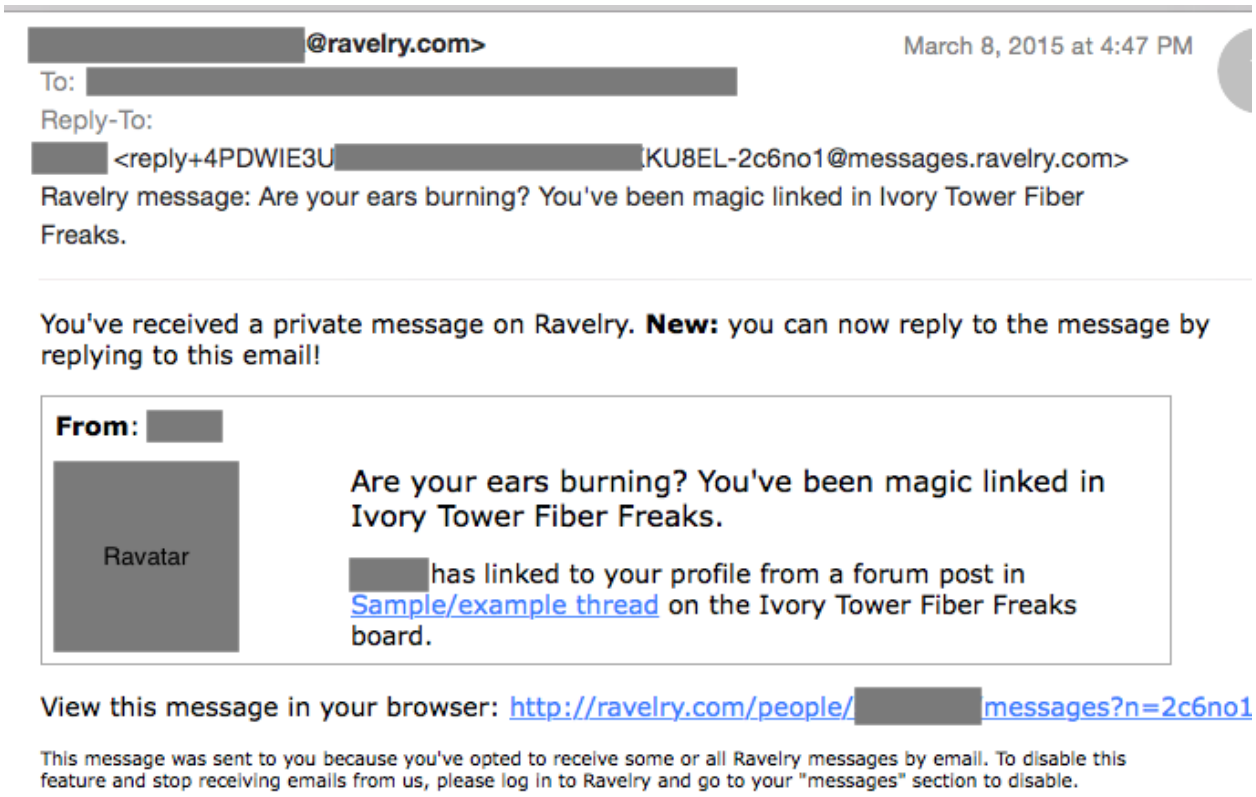

Figure 3. Email notification of an earburn in post 2 of the sample thread.

Figure 4. A forum post with nested referenced replies.

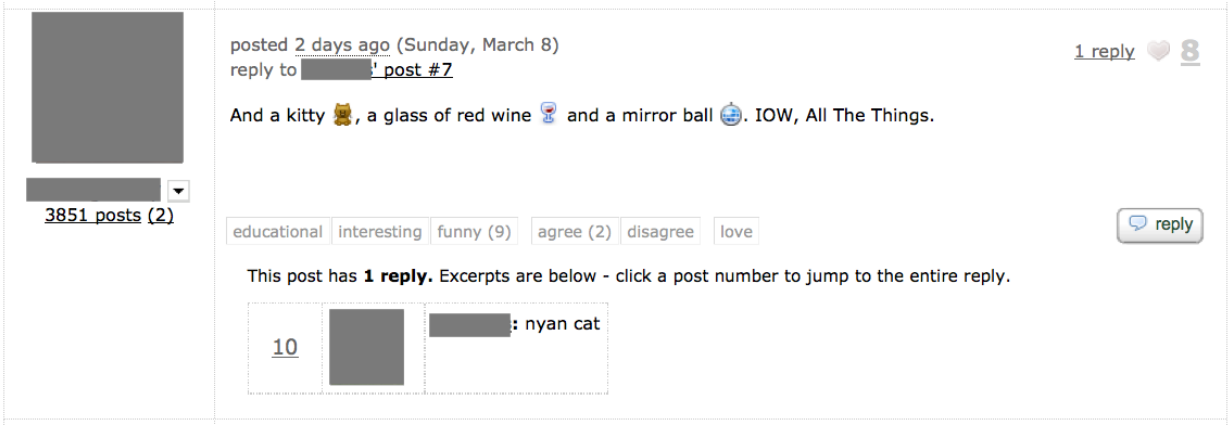

Figure 5. The same forum post as shown in Figure 4, but with reply-references shown instead.

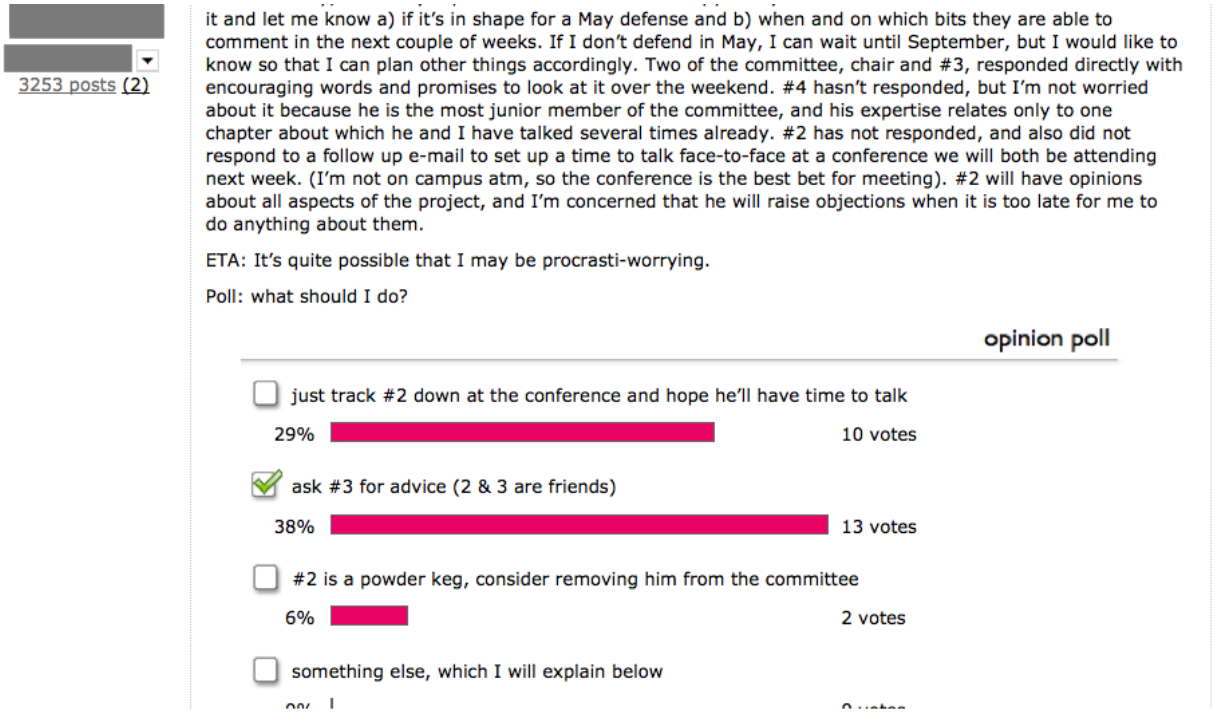

Figure 6. A poll seeking FFS advice is shown.

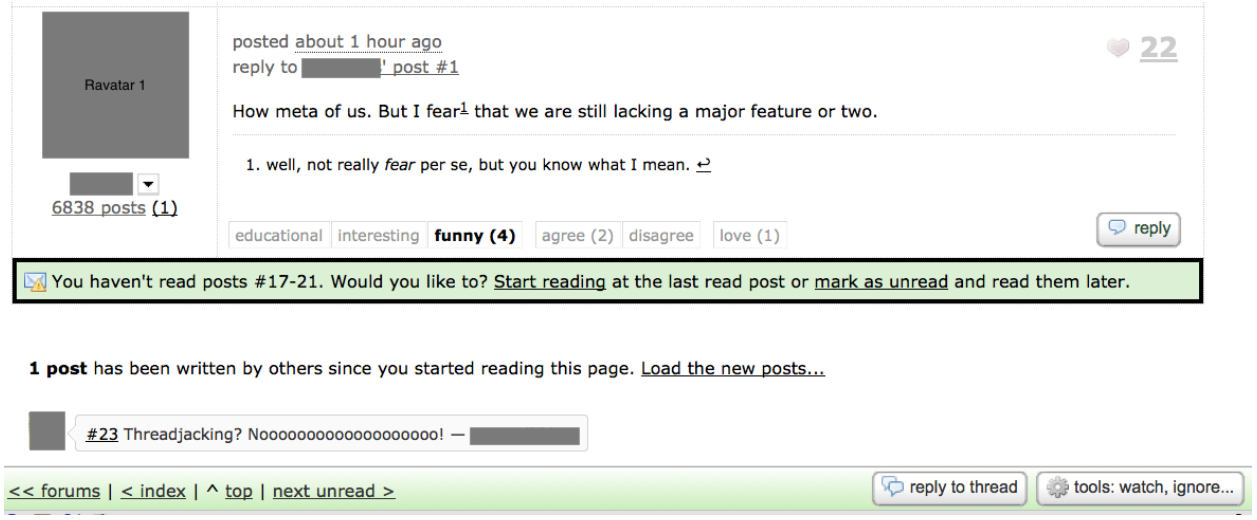

Figure 7. A post including a footnote; an alert to the reader (who clicked on a reply notification) that not all posts have been read; an alert that additional posts have been made.

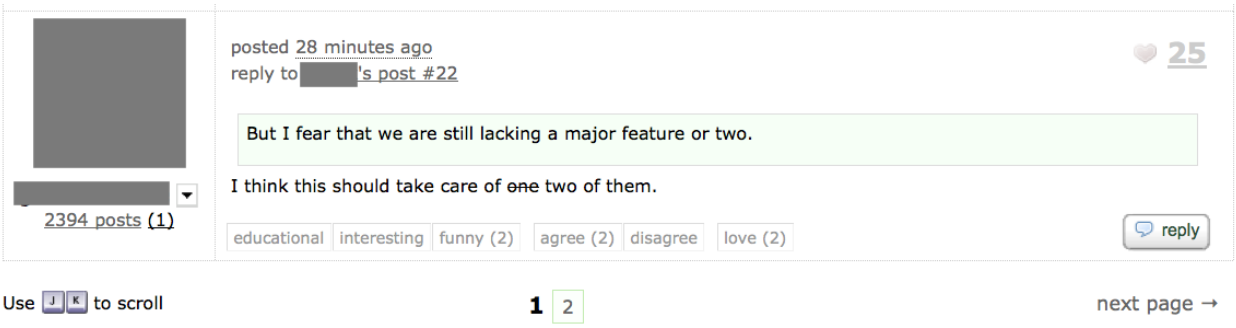

Figure 8. Quoting of prior text.

Response buttons: Finally, there is one feature that allows Ravelry forums to foster community in a way that appears to be unique to the Ravelry interface: each post comes equipped with a set of buttons (educational, interesting, funny, agree, disagree, love) and the number of unique user clicks is displayed per button.

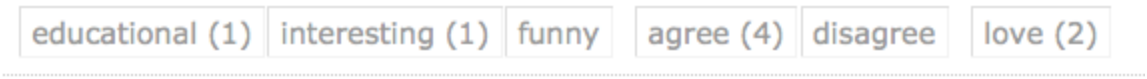

Figure 9. An arbitrary post's button histogram.

The presence of these buttons has multiple implications for interaction. First, it welcomes input from those who do not feel comfortable posting; second, the existence of multiple buttons welcomes a range of input; and third, the button counts provide feedback to the poster and to others as to how the readership feels about a post. These features support legitimate peripheral participation: the button set allows a hesitant lurker to read the sense of the community and contribute to it, which in turn makes lurkers more comfortable posting. The buttons play a role in creating community by providing a low-risk and low-effort means of response that, in the aggregate, serves as a way to gauge the response of the group. This set of counters is significant in its range of utility—the button counts can provide a quick check on the clarity of an academic argument, but can also show emotional support *even while expressing disagreement*. Furthermore, they promote discussion by allowing people to respond without a string of

repetitive “Me too” or “Agree” posts that interfere with the flow of interaction and potentially discourage participation.

Figure 10. Buttons showing that the community is supportive of the poster or post content while not unified in opinion of the post content.

Users have extended the built-in button feature to engage further. For example, a post might mimic the visual format of a button count to create a new button, such as “horrified (1)” (see Figure 2). Subsequent posters can then click “agree” on that post, so that it serves the same function as an additional button. In addition, a poster may feel that a response button click requires further explanation, so that a new post might begin “Owning my ‘disagree’ because…” (see Figure 2).

FFS Characteristics

FFS membership is predominantly female, as are the majority of Ravelry users. While male members are of course not excluded, there are only a few. The men who do participate are on Ravelry because they have chosen to engage in a craft that in contemporary western culture is perceived as associated with women: thus, they tend to be comfortable in female-dominated contexts. Since women are still marginalized in many working environments, FFS provides a space in which women can express themselves more openly than in male-dominated contexts. Like other marginalized groups, women academics seem to find the opportunity to engage without having to feel “on guard” both restorative and affirming (Tatum, 2003).

Clearly, FFS has characteristics of a Community of Practice, as described by Lave and Wenger (1991) and Wenger (1998), but it goes beyond that. Communities of Practice are focused on practice—skills, capacities, professional growth, and other aspects of work or craft. In an era where academia continues to lose funding and respect, and it can be difficult to create academic community within one’s face-to-face context (for lack of space or a limited time on campus due

to the nature of one's position, among others), the connections afforded by FFS can be invaluable in creating an online community. However, FFS extends beyond practice to include a level of personal caring, support, and friendship. FFS community norms go beyond the expectations of civility that are part of Ravelry at large (Ravelry's main board Forum Rules include one titled "Don't be a Jerk" (Ravelry, 2009)). On FFS, there is a shared history expressed through memes, in-jokes, and common experiences—and for some members of the group, this permits an organic space in which the idea of work-life balance is taken seriously. Trust and caring are evident: a spontaneous thread titled "This is what FFS means to me" (a pseudonymic title) resonates with testimonials to the extent to which the connections created within this space are valued on multiple levels. Another spontaneously created thread titled "FFS Asks: Seriously, what are you feeling right now?" (another pseudonymic title) has allowed members to discuss mental health issues, ranging from feelings of being overwhelmed with responsibilities to family dynamics to disabilities in the workplace, in a welcoming space in which other members regularly provide support. We celebrate or commiserate with one another; a thread that suddenly has a very large number of posts may mean that someone has a new job or a family crisis.

The personal connections fostered through FFS also find expression in shared activities outside of Ravelry, such as in cookie or craft swaps and in-person meet-ups at conferences, when traveling, and at other events. For example, one of the authors participated in a meditative dance session at the invitation of another FFS member. This paper is the result of a collaboration that would not have occurred without the connections made through FFS.

Obviously, some aspects of Ravelry forums are shared with other Internet forums. The asynchronous nature of forum postings means no question is too small; a post is left up until someone has the time or interest to address it. The shared interest that initiated membership in the site gives a measure of safety; there is at least one commonality among all members. Pseudonymous (or partially pseudonymous) posting and response insulates conversation from serious professional attack or even critique, as the authority structure differs from offline or even real-name email list or small-scale email conversations.

FFS and Privacy

From the very beginning of our collaboration on this paper, we found that we fell into intense discussions around the ethics of using an online forum as "data." These discussions reflect tensions and perspectives around privacy on the forum, and thus require specific attention.

FFS members vary widely with respect to the extent to which they share information about themselves. They can also retroactively edit their posts in a way that other Internet forums and social media platforms do not easily allow. Some individuals are zealous about guarding their privacy; others are very open and easy to track down. The sense of a safe community is in tension with with the recognition that we are posting on a public site, technically open to anyone, and we all negotiate that balance. Work-related posts generally do not include specific details that might be traceable. For example, the neutral-gender terms "ze" and "hir" are frequently used—FFS is one of the few places where we have seen this convention followed in non-academic writing. (However, a case may be made that FFS posts are often partially academic, both in content and writing style, and tend to be more grammatical than those seen in most forums.) At the same time, intensely personal life details are revealed and discussed, with only the thin veneer of "security through obscurity" to protect the poster. At times, a user deletes a post that ze feels provides too much information for comfort. At least one member has deleted multiple posts when a person ze knew in real life joined Ravelry and located hir username.

While the five authors of this article all contribute to FFS frequently, each one of us addresses the balance between privacy and openness differently. The following reflections on our own practices serve to illuminate the range of perspectives around this complex issue.

Kalpana

My Ravelry name, which is also the username I've used on various online forums, has been around since my participation in Usenet in the mid-to-late 1980s. On Ravelry, I make no attempt to be anonymous; my profession, areas of academic interest, and geographical location are quite

easily discerned both from my comments and my participation in geographically oriented Ravelry groups. I am not particularly interested in keeping up my profile, so my projects, self-description, and other interests tend to be out of date. I make little to no effort to find out anything about individuals on Ravelry, except in rare circumstances. If someone posts in a forum in which I am a regular but I do not recognize their user name, I might look up their profile.

sarah-marie

My username is persistent across the internet and has been since the advent of the Internet; I have had a personal/professional webpage essentially since there has been a World Wide Web. Ravelry is the only social media in which I participate; I have no Facebook account and only occasionally read things on Google Plus. In the late 1980s, I participated in some Usenet newsgroups, and presumably everything I said there is still findable—though it is no longer true that searching "opinionated bitch from hell" turns up my posts. Certainly I became aware quite early on that anything I wrote that was recorded (meaning on a newsgroup as opposed to IRC) would be available to the public, and so I have always kept this in mind when posting on Ravelry. At the same time, I've never had much of a need for privacy and thus post fairly openly.

My feelings about the (partial) anonymity of others are somewhat fraught. Academics live in an epistemic culture of referencing and of external validation of truth. Most of my FFS colleagues speak with authority, but from pseudonyms; I regularly search out their real-world identities in order to validate their credibility for myself. Additionally, as we know from feminist and other kinds of reflexive scholarship, our backgrounds bring unconscious biases to our work, speech, and other acts. That type of context is useful in evaluating statements, and so the more of it I have the better. Knowing that someone works at a community college or is a graduate student in the humanities helps me contextualize their comments; knowing their exact field of study and additional expertises is even more helpful for me.

Linda

I've been online since the days of Usenet, and have always had the sense that "the internet is forever." As a result, I tend to keep my personal and professional life relatively separate. I use Facebook to keep in touch with family and friends, but generally do not "friend" colleagues and keep my privacy settings high. For professional contacts, I use LinkedIn or email. I do have work colleagues that I consider friends, but those friendships developed after our professional relationships were solidly in place and a level of trust had been established. I preserve this kind of separation because professional standing can sometimes be affected by factors that are not relevant to work.

The distinction between professional and personal is both maintained and blurred on FFS, since topics address both aspects of life. There is a certain balancing act to my participation: I feel that I belong to a community on FFS, but I am also aware that the Ravelry forums are public. I avoid easily-identifiable details that could lead to a casual reader finding me in person, such as the name of my institution or home town. At the same time, behind the cloak of my user name, I share quite intimate details about my life mixed with strong perspectives on the academy. In private messages to individuals, I often identify myself fully. The members of FFS have become my online friends and colleagues, but I am conscious that we are interacting in a public space.

I tend to "know" other members from the internal consistency in their posts over time. Based on the details they provide, I evaluate their expertise in different areas. For example, I know that Person A is a high-level administrator, and I respect A's advice on negotiating bureaucracy and political systems in part because of that knowledge and in part because Person A has a history of good advice. Person B's expertise in teaching is revealed in stories of the classroom and in strategies shared. Person C, a novice in the classroom, asks for advice and the responses remind us of the tacit knowledge so many of us have. I primarily use these internal markers of expertise despite the fact that, in Ravelry, each post has a link to the profile of the user who posted. I very rarely *post-stalk* an individual (find all the prior posts they've made, which is easily done through a link on their profile) and on the occasions that I have, feel as if I am invading someone's privacy.

Carrie

I arranged my Ravelry profile to be semi-anonymous. I use my first name, but not my last; I keep my city of residence updated, but I do not state what institution employs me, nor do I post a personal picture in my profile. This gives me the (possibly delusional) feeling that I am not identifiable at a casual glance. However, anyone who wanted to take the trouble to put together the pieces could probably relate my professional life to my Ravelry profile with little trouble. For instance, most academics would correctly guess my institution by knowing only my city of residence. I have mentioned my research interests in the forum, my gender is clear, my career stage is fairly obvious, and I've mentioned some of the large national conferences I attend. There is also a group of FFS members that know my offline identity either because I knew them before I joined Ravelry or because we have connected in various ways outside of the FFS forum (e.g., working on this paper).

I almost never look for someone's "real" identity. My attitude is that whatever ze wants to be publicly known is in hir site profile; beyond that, if ze wants to share more information, ze will tell the community or tell me personally. Whether it is a lack of curiosity or a misguided respect for boundaries that aren't really there, I am very unlikely to spend any effort trying to figure out what person lies behind an online profile. I assume the same lack of curiosity in others which, I recognize, is a mistake in many cases.

Zigzag

I have had a web presence since the mid-1990s. Though my regular email addresses are variations on my name, when I participate in non-professional online forums, I use a different username for each one. My Ravelry username comes from the fact that I happened to be working on a project with zigzags in it when I joined. Although I joined as a crocheter, I learned how to knit in the past two years and I've now started writing knitting patterns. I keep my projects up to date because I like the positive feedback I receive.

Ravelry is the only social media platform I use other than LinkedIn, and, unlike on LinkedIn, my Ravelry profile is quite minimal. Over time I have included enough details in my posts that anyone dead set on finding out my true identity would be able to do so. I have also revealed my identity to other Ravelers when using personal messages to correspond about topics about which I have expertise when I wanted to demonstrate that expertise. On occasion, I post-stalk other members, but only members whose postings I am curious about and whom I would like to know better; I more frequently look through other users' projects. I know that others can do the same to me. I am still debating whether to go through my old postings and delete the ones that I wouldn't say out loud in public. Like other FFSers, I am concerned about "dirty laundry," but, primarily,I am concerned because I have a disability. I am using a pseudonym in this article in order to feel more comfortable sharing my experiences as an academic with a disability—I want others to see that people like me exist and that we experience certain kinds of struggles that may otherwise remain invisible. Even so, I have avoided posting what I consider my most sensitive disability-related thoughts to Ravelry: most of my contributions are either on point in intellectual discussions or humorous in nature. While FFS feels like a safe space in many respects, it is also public, and I remain wary.

These author perspectives on privacy demonstrate some of the complexity of the issue. When we shared a draft of this paper with the members of FFS, privacy emerged as an important topic to them as well. One member commented that ze was not concerned about hir real name being tracked *from* FFS as much as reluctant to have a casual Google search of hir name lead *to* FFS posts. As a result of those conversations, we have taken pains to preserve the existing levels of anonymity for the board as a whole, changing the board's name and thread titles, and even removing references to a term used frequently on FFS that could be used to find the real FFS on Ravelry.

Ravelry as mediator between the professional and personal: four perspectives

The features of Ravelry detailed above facilitate the sharing of academic knowledge and expertise outside of traditional academic structures. FFSers exploit these features not only to communicate about fibercraft and everyday lives, but also to reflexively explore the insider/outsider status in the academy, tacit knowledge, and scholarly identities and practices. In the next sections, four of the authors explore these topics more fully. sarah-marie discusses how Ravelry contributed to the ongoing growth and acceptance of fiber arts as a subfield of mathematics. Linda explores the role of FFS as a site of learning about what makes a successful online community, and its adaptations over time. Carrie focuses on the role of FFS in negotiating expertise and bridging academic silos and hierarchies, drawing on her position as an expert fiber crafter but novice academic. Lastly, Zigzag discusses her own career as an interdisciplinary academic marginalized by disability and precarious employment. She has found FFS to be a place where she is accepted and respected for her varied expertise, and where she is welcome despite her unpredictable absences.

sarah-marie: Ravelry's role in the development of an academic subfield

Ravelry has played a part in the introduction, growth, and acceptance of mathematics and fiber arts as a subfield of mathematical research. The following text describes the barriers to interdisciplinary math/craft work being seen as valid, how the first collection of publications necessitated a presence on Ravelry, and how Ravelry (and FFS in particular) has enhanced sessions, exhibits, and networking meetings at national mathematics conferences.

For much of my academic life I have pursued multidisciplinary interests (including aspects of STS); my Ph.D. and much of my research and teaching work are in pure mathematics, but my study of mathematics together with knitting began in graduate school. My graduate-school compatriot Carolyn Yackel informed me some years after we finished—about a decade ago, now—that the study of mathematics and crafts such as knitting and crocheting should be a recognized area of research and that we were going to make it so.

This was not going to be an easy task, given the professional environment. Mathematics has always been dominated by men; the current high rate of women achieving Ph.Ds. has been close to 30% for more than a decade (Becerra and Barnes, 2012), and, accordingly, mathematics' cultural values have aligned with the larger masculinist culture. Women entering the field have often presented themselves as culturally un-feminine in order to be taken seriously. Knitting, as an activity often identified as feminine, could be seen as unprofessional. At the time of Carolyn's declaration, we had already hosted some instances of an annual knitting networking event at the Joint Mathematics Meetings (JMM, the largest mathematics conference), at which participants crafted and discussed the mathematics involved. I had received a phone call from a friendly male colleague at the National Science Foundation warning me that there were female colleagues muttering that these networking sessions were giving women in mathematics a bad reputation. Thus, we knew that mathematicians (both male and female) collectively would not take work related to fiber arts seriously. Feminist STS raised the question of how knowledge is counted as within-field or valid and when or whether that epistemic status is related to the sex and culture of the knower (Namenwirth, 1986; Longino, 1994; among others). And here we were, involved in work that was clearly mathematical, but not completely traditional pure mathematics, and also associated with women; therefore, a natural question arose as to whether the presumed rejection of the work was based on content or based on social or contextual factors.

As Carolyn and I planned an attempt at creating this research subfield, our enterprise involved a great deal of strategizing about presentation—for example, about how word choices (e.g. art vs. craft) would impact the way fellow mathematicians viewed our work. We sought out like-minded mathematicians encountered through our JMM networking sessions and organized a session and accompanying exhibit under the auspices of the American Mathematical Society (AMS, the U.S. research-oriented professional organization) at the 2005 JMM (AMS, 2005; belcastro, 2005). Talks in the session were praised, but also talks in the session were dismissed by outsiders on the grounds of not really being mathematics and by insiders on the grounds that the mathematics was obvious from a crafting perspective.

At the JMM, we were approached by two publishers to create a book from the talks presented. The existence of a book was important to us because at the time, there did not exist a research journal that we thought might consider any of the work presented, and because we wanted to make the mathematical ideas presented in the work accessible to non-mathematicians. We had long been aware that some fiber-arts practitioners were incorporating mathematics in their work but were not connected to the mathematics community, and we wanted to help create this connection. A book could be marketed outside the mathematics community, and, unlike a research venue, could contain non-technical expositions in addition to research. (Our publisher choice was easy: only one of them was interested in using color in images throughout the text.) After the usual mountain of effort, the co-edited book was published (belcastro and Yackel, 2007).

And then Ravelry happened. Another knitting friend and colleague, Elizabeth Wilmer, told me that I should make an account because it was important for knitting authors to be there. I agreed with Carolyn that I would monitor the site for discussion of mathematics, and that I would make sure our book and its associated patterns became part of the database. We felt (and feel) that if mathematical questions arise on Ravelry, someone knowledgeable should be there to answer them and to alert the questioners to the existence of relevant websites and books. We also wanted to involve more mathematicians, amateur or professional, in the community we were building, and Ravelry in particular functions to connect people because of the way it is designed and coded, in contrast to, for instance, Facebook or LinkedIn (see discussion near end of paper). Additionally, we wanted to have new avenues to become aware of any new mathematical fiber arts work, ranging from projects to papers.

Before Ravelry, one had to rely on blogs and linking and web searches to find fiber-arts work of interest to the research mathematics community. Because Ravelry has a searchable database of patterns and of individual projects, it is relatively easy to locate mathematical work—one can, for example, search on tags such as “math,” “maths,” “topology,” and so on. When Carolyn and I co-organized a second AMS Special Session in Mathematics and Mathematics Education in

Fiber Arts, we used Ravelry as a mode for soliciting talks and exhibit items. In fact, about one third of the chosen exhibit items were either submitted through or solicited through Ravelry. The creators of the solicited items were flattered that their work was of interest for inclusion in an academic conference. In effect, Ravelry created opportunities to involve people outside the academic hierarchy in work validated by the usual structures. As a bonus, because of Ravelry posts, non-mathematician crafters have attended networking sessions (and sometimes talks!) at the JMM.

As time went on, my relationship to the Ravelry community changed. While I checked in daily to monitor the boards on which people were likely to post about mathematics as related to fiber arts, I also read FFS with general academic interest. (The knitting content on this board is low, so oddly this was a move from monitoring the social for professional reasons to monitoring the professional for social/personal reasons.) I noted mathematicians participating whom I did not know—and after many years of hosting the publicly advertised Knitting Circle at the JMM, I thought I knew most of the active U.S. mathematicians who knit—so I made sure to post notices of JMM knitting circles on FFS. In some ways this use of Ravelry has helped create allies in moving invalid/outside-of-field knowledge to a status of within-field/valid.

At the same time, on Ravelry there have been regular instances of the same inside/outside dismissiveness as we experienced after the first JMM session, but generally from non-experts. This continued offline as well: *Making Mathematics with Needlework* was mentioned in the Association for Women in Mathematics (AWM) newsletter (AWM, 2009) as part of a list of recent books; this prompted a letter to the editor (Silverstein, 2009) decrying the inappropriateness of the book for the AWM readership. A few months later a glowing review of the book appeared in the same periodical (Hsu, 2010).

In any case, one day—Tuesday, March 30, 2010 to be precise—Berit Givens of Cal Poly Pomona posted on FFS about a student query regarding real-life applications of the Chinese Remainder Theorem, and about her response that included “a full explanation of knitting

terminology and the desire to find a number of stitches that will work for several different stitch patterns." I responded with a hope that Berit would contribute to the next AMS Special Session on Mathematics and Mathematics Education in Fiber Arts and, perhaps, book. She was tentative on the grounds that she "always figured it's one of those things that 'everybody' knows," but agreed to keep a contribution in mind. (Berit and I knew each other's identities at this point—meaning that each of us knew the real name associated with the other's Ravelry username—but had not interacted in person.)

Approximately three years later, the third AMS Special Session in Mathematics and Mathematics Education in Fiber Arts was approved, and Berit submitted an abstract based on this work. The resulting talk was quite well received and after the conference, Berit posted "I never would have thought to try to think about that question without your encouragement either, so thank you. I have a couple of undergrads developing the idea some more this summer. There are some interesting things going on with the solutions." In summary, a casual conversation on FFS led to original interdisciplinary research!

It may be just coincidental with the growth of Ravelry, but by the time the third AMS Special Session was in the works, there was no question as to whether it would exist—only when—and, in general, reactions to mentions of the session in mathematical circles were just like reactions to mentions of other sessions. That is, mathematics-and-fiber-arts is now more or less accepted as a part of mathematics as well as a part of fiber arts. For a comprehensive listing of mathematics literature concerning fiber arts, see (belcastro, 2015). Ravelry in general, and FFS in particular, helps us to pull and push work across the boundaries set by the pre-digital mathematical culture on what work and what knowledge is considered valid or acceptable.

Linda: On FFS and Learning

This section addresses the role of FFS in learning. This topic is of interest to me: my background is in instructional technology, and I have a long-term interest in both usability and in learning communities. I've been a member of other forums and discussion groups, some of which were

highly successful and some of which were complete failures. In my work in education, I've seen multiple online community structures built for teachers or other intended audiences that were never populated, and eventually were abandoned. For these reasons, from the time I joined Ravelry, I've been interested in the aspects that make it work in terms of community. As I've become involved in FFS, I've come to regard it as an important source of learning for me and for other members, and am equally interested in the factors that contribute to this dynamic.

In activity theory, contradictions between activity systems or breakdowns within an individual activity system serve as opportunities for transformation and learning (Bødker, 1996; Kuutti, 1996). Though all the members of FFS share that particular online activity system, we also are involved in multiple activity systems outside the forum. Thus, contradictions naturally occur that encourage growth, challenging us to re-examine our unconscious assumptions and tacit knowledge.

I recognize these learning opportunities in terms of my own personal and professional growth and see them influence others as well. The fact that FFS membership is both international and interdisciplinary has expanded my understanding of how education is "done" by highlighting contradictions between and among systems. To pick just one example, though I knew, of course, that there were differences in the United States and European approaches to graduate education, specific details that emerge in discussion make such differences more apparent. The same is true of different types of institutions within the U.S. Disciplinary practices can be just as diverse: a general discussion on determining shared authorship highlights that a standard approach in one area is totally foreign to another.

Similarly, though the membership is composed of people affiliated with academia, that affiliation takes multiple forms. The variety of roles—graduate students, faculty ranging from adjuncts to professors at all career stages, administrators, and others—also fosters an array of viewpoints in any discussion. Being exposed to alternate ways of approaching similar tasks promotes learning, as does becoming more aware of one's own context. Over time, I've noticed an increasing

sensitivity to the different contexts that inform our perspectives. As a simple example, our global membership is now reflected in the current "What are you knitting?" thread: instead of being labeled "Winter 2015," the title uses shorthand to identify the timespan as winter in the Northern Hemisphere and summer in the Southern.

The intertwined nature of personal and professional on FFS also provides unique opportunities for learning. An interaction in which I and other authors participated illustrates this point. I posted several times about an issue with my son's education: a bright middle-school student, he was beginning to voice a growing dislike of his math class. He had previously excelled at math, and was still doing well on the MathCounts team (a competitive math activity), but seemed bored by his actual class. Interactions with his teacher had become increasingly negative, and I expressed my concern that this class would undermine my son's interest in math. In response, I got a range of advice from FFS members. Some of it addressed ways to interact with the teacher and school. However, sarah-marie (among others) offered math-specific advice, including a range of websites that were math-focused. Armed with these resources, I met with the teacher and principal and was able to negotiate access to them for my son after his class worksheets were done. I saw this as interaction as support for a family issue—a personal matter. For sarah-marie, however, providing discipline-specific resources was a professional interaction. It is not uncommon for personal inquiries on FFS to be met with professional expertise, resources, and advice beyond what could be expected from the general populace. Often enriching professional discussions spin off from an initial personal question.

This blend of personal and professional is important, because it opens topics that might not be addressed otherwise. Equally important is the sense that FFS permits intellectual engagement without regard for institutional politics, status, age, power, or other barriers to communication: within FFS, members can ask questions or hold discussions that would be difficult or unlikely in other contexts. These include questions about how the academy works that may be too professionally risky to ask in person, or are assumed to be tacit knowledge even though rarely discussed openly.

Thus, FFS serves as a rich source of mentoring for members at all level of the academy, addressing detailed questions about navigating academic and personal life. This online mentoring configuration surpasses most offline efforts at mentoring in multiple ways. First, most mentoring programs assign one-to-one mentor-mentee relationships, which limit the resources available to the mentee. If the pair doesn't click, or if the mentor is too busy, not sufficiently knowledgeable, or unwilling to share knowledge, then the mentee is out of luck. Even the most helpful mentors can only provide a single perspective on a situation. In contrast, on FFS the relationships are many-to-one. Essentially, questions can be crowdsourced to a knowledgeable audience, and multiple perspectives can be shared. Second, each question is answered by those best able to answer it; in most mentoring situations, the mentor answers all questions, even those for which expertise may be limited. Third, the questioner usually gets a rapid response, instead of having to wait until an appointment can be made with the assigned mentor. This means that more of the advice is received in time to be useful: indeed, members are often coached through situations as they unfold. For example, an individual FFS participant may rehearse a difficult conversation ze needs to have with a student or colleague or advisor, solicit feedback on the wording of an email, or ask for advice on how to dress for a job interview. Responses could range from the selection from a set of pre-determined options that the questioner proposed using Ravelry's polling function (see Figure 6) to wordsmithing a document, to providing links to images or shops for appropriate clothing or accessories and a friendly critique of photos of outfits. Overall, the combination of membership expertise and the nature of online interaction results in just-in-time, open-source mentoring that is more powerful than in-person single-source mentoring can hope to be.

Carrie: FFS as a source of career support

My experience of FFS is intensely personal. Like the other authors, I am a member and a participant in the community. At the same time, I am curious about how and why it works so well. I joined Ravelry in 2007, when I was a couple of years into my doctoral program. I joined

FFS a year or so later. In the time that I've been a member of FFS, I have been a graduate student, teaching assistant, and a part-time research assistant. FFS saw me through the writing of my dissertation and several rounds of job search agony. In the following I first describe my own experience, and then reflect on which parts of this might be more general.

Without FFS, I never would have completed my Ph.D. Graduate school was difficult for me in many ways. Because I'd worked in the "real world" for almost a decade before starting my degree, I had a different set of experiences than most of my student colleagues. My graduate studies were in a discipline with which I had little previous experience, so not only was I dealing with the usual issues of lots of reading, lots of writing, and balancing school and part-time work, I was also trying to figure out the foundational assumptions of a field that was new to me. I quickly realized that the most challenging aspects of graduate school were not scholastic, but political. Here I use "political" in the broad sense to refer to relationships between people in a hierarchical structure where personal affiliations and alliances can have a profound impact on daily happiness and ultimate success. Tensions can arise whenever a group of people work closely together—this is true of offices everywhere, not just in academia, though the intellectual pressure and constant possibility of failure add a particular flavor to such conflicts during graduate school. FFS was a lifeline, providing advice, perspective, and encouragement I didn't get offline.[1]

I study ancient textiles. My interest is prompted in part by my lifelong experience making things with fiber. I am a weaver, spinner, knitter, and dressmaker. I occasionally do patchwork and embroidery, and I crochet. My experiments with yarn and fabric began as soon as I could hold a blunt needle and poke it through canvas. Most of my fiber expertise is self-taught: learned through reading, experimentation, and repetition. There are few constructions I can't figure out,

[1] This is not to suggest that any of the individuals I encountered during graduate school were unkind or unhelpful. The atmosphere was generally collegial rather than competitive. The institution and the department care about their students and are in no way responsible for the challenges I encountered.

given time and the opportunity to examine. Decades of experience with cloth and yarn in my hands has given me confidence in the world of making things with these materials.

By contrast, my day-to-day life in graduate school was filled with doubts. While trying to understand a new discipline, I wondered where I fit in and what I could contribute. I always felt out of place. Everyone else seemed to have implicit knowledge about concepts and topics that I didn't understand. Everyone else seemed to have direction and purpose I lacked. Theoretically, I knew that some other students probably suffered the same feelings of inferiority I did. In practice, we all tried to preserve the illusion that we knew what we were doing. There was a sense that showing weakness or ignorance of how things were done could be dangerous.

On FFS, I was able to ask all the questions I couldn't ask of the people around me. I found people going through the same things I was going through, people who had dealt with them before, people struggling to find jobs, and long-term tenured faculty who were generous with their perspectives. The anonymity of FFS is tenuous; if anyone cared to, ze could probably find out who I was and where I was in school, so it wasn't entirely the idea of being anonymous that let me feel safe sharing my difficulties. There were several things that made socializing on FFS much easier than interacting with my graduate school peers: (a) a sense of belonging, (b) the feeling that I might be able to give back, and (c) an accumulation of trust. I don't suggest that every participant in FFS feels this way; I am describing my personal experience, which is colored by the assumptions I bring to the screen. On the other hand, comments by other FFS members suggest that my feelings, if not universal, are not uncommon.

Belonging: On Ravelry, I found masses of people who were enthusiastic about the same things I am, people who shared a passion for making things and a common vocabulary of yarn and gauge and stitches. I didn't doubt my right to be there. I had as much experience as some and more experience than many. My knowledge was valuable: I could offer advice and answer questions. The only requirement for participating in FFS is that one self-identify as a more or less

permanent member of academia. As a grad student, I was facing the real possibility that my permanency in the ivory tower would be "less" rather than "more," but that was enough.

Contributing: As I spent time in the forum I began to feel more comfortable sharing my personal non-fiber experiences. Over months and years, I found that I had perspectives to contribute. As I progressed through my Ph.D. program, I encountered things that gave me points of common experience with other FFS members. I faced my first teaching assignments, my first grade challenges from students, and the last desperate months of writing a dissertation. When other members were going through these things, I had perspectives to share.

The ways in which contributions are received is an important part of how FFS functions. Members are not hesitant to contradict something they feel is incorrect, but conflicting points of view are likely to be presented as "what I've observed is…" or "in my experience…" Disagreement is frequent; disdain, if felt, is rarely expressed. FFS members generally act as if other FFS members deserve their professional and personal respect. If someone asked for perspective on a situation, I felt I could give my opinion without risking ridicule.

Trust: In my observation, participants build up trust by accumulating positive interactions. FFS is usually self-moderated. Members are not shy about directly addressing behavior that doesn't meet the group's guidelines. Those who participate in good faith are generally accepted as members of the community. I came to trust individual members because of the thoughtfulness of their advice or their expressions of support. Over time, I came to trust the community as a whole. I observed the self-regulation and the communal expressions of support and felt that FFS was a place where I did not need to fear rejection.

Reflections: There are numerous problems with this description. To name only a few: the safety of anonymity is an illusion. Many Ravelers could be identified by piecing together clues of location, first name, discipline, research interests, career stage, and so on. It is generally assumed that only those with a close interest in academia are present in the conversations. This may well

be an erroneous assumption, since anyone can join Ravelry, and anyone on Ravelry can join the group. It would be entirely possible to participate in FFS under a false identity with no experience of academia at all. Or, less drastically, one could easily misrepresent one's expertise or career stage. Irrational as it seems, I was predisposed to trust other FFS members because of their interest in making things. I presumed that I would have at least two things in common with members of an academic group on Ravelry: academia and creating things with fiber. Although I don't often spend a lot of time looking at project pictures on Ravelry, the fact that they are there is significant. If I want to, I can look at a member's project page to gauge hir interests. Project pictures convey how devoted a Raveler is to creating or learning to create (this is distinct from level of expertise). Project pictures convey that a Raveler is working on hir craft. The number of different views of an object and the information in associated notes convey how willing a Raveler is to participate in the community by sharing hir experience. Ravelers who show no project pictures are sometimes regarded with skepticism—are they really fiber people? Do they truly know what they are talking about? If they are self-declared experts, are they here only to use Ravelry resources, and not to share their knowledge? Uploading pictures of one's work is a way of showing that one is participating in good faith.

Project pictures can also give one a sense of the maker's crafting style. Does ze like to make sweaters or shawls or socks? Baby clothes or jewelry? Is ze particularly fond of cables, lace, or colorwork? Does ze produce finely crafted garments in un-ornamented knitting and show the garments being worn? Or does hir project page reflect the ambitions of multiple complicated not-yet-completed projects? There are undoubtedly elements of taste at play here. A quick glance through FFS projects indicates that, to generalize wildly, crafters in the group appreciate natural fiber yarns. They have an interest in different knitting traditions (Fair Isle, Aran, Shetland) and the interpretation of these techniques by contemporary independent designers. They appreciate classic forms and lasting quality in both yarn and finished object. This description is not by any means unique, but it is also easy to find groups that have a different project profile.

Why am I—are we—inclined to trust other yarn makers? Part of it is the sharing of a common interest: the knowledge that we have a starting point for conversation, and at least some activities in common. This is enhanced by self-selection. Only those who care enough about fibercraft to join Ravelry participate. It is more, however, than simply producing things with yarn. It takes knowledge to create a blanket or a sweater or a skein of handspun. In the process of making, knowledge is utilized and embedded in the object, but making also *creates* knowledge. This knowledge is not necessarily new to the making community, though it can be. Anyone who has studied so-called "traditional crafts" of an indigenous population knows that it is entirely possible for knowledge of making things to disappear. Using that knowledge—in the case of Ravelry, putting hands to fiber and producing yarn or fabric—at once confirms and sustains that knowledge. For an individual crafter, each project, or even each stitch, may increase personal knowledge. Not every project increases the community's knowledge, but even those objects that have been made thousands of times before help maintain community knowledge each time they are executed. The pattern for Elizabeth Zimmermann's *Baby Surprise Jacket* has 22,940 projects recorded on Ravelry as of March 12, 2015. The tens of thousands of photos of items made from this pattern, along with the thousands of forum discussions and links to outside blog posts, illustrate how the repeated creation of one item by many different hands creates a body of documentation that supports community expertise.

I should note quickly that when I say something is produced, I do not necessarily mean that the project is successful. Often individual knowledge is increased as much by mistakes and experiments as it is by flawless execution. Similarly, community knowledge is enhanced by those who chose to experiment with what is known and take it into the unknown (or once known, but lost).

For people who work with fiber, one of the comforting things about being among other fiber people, even virtually, is that there is an entire repertoire of experience that does not need to be explained. Many of these things are in fact extremely difficult to put into words: how a knitter knows when the tension of the yarn is right, or how a spinner knows when the twist is enough.

The community of makers shares a body of tacit knowledge. There are innumerable books, articles, and online video tutorials that attempt to verbalize and illustrate parts of this knowledge and help newcomers navigate it, but nothing can replace the actual hands-on experience of *doing*. The experience of doing under the tutelage of a good teacher can be even better.

This knowledge of making is, in my mind, parallel to the tacit knowledge of academia shared by many FFS members. I share some of this knowledge, but, being relatively inexperienced, there is much I have yet to learn. The fact that more experienced FFS members are willing to try to put their tacit knowledge into words in order to help others is a great part of the inestimable value of the community. Just as making an object confirms knowledge of a technique, discussion of an academic situation can confirm the way things work and the way to navigate academia's challenges. Academia can be mysterious to outsiders. Many people have the experience of being a student, but far fewer have the experience of going to graduate school or of working in higher-education faculty or administrative positions. FFS members create knowledge through their hands, in their research, in their service to their institutions, and through their personal experiences of a system with a very high bar for participation. It may be that the knowledge that one already shares a body of creative knowledge with the community makes it easier to trust the tacit knowledge of academia expressed by other members.

The forums on FFS are similar to the records of fiber projects created by members in that they are an evolving repository of experience and knowledge. Each discussion validates some aspect of the academic life. It is FFS's continuing efforts to express the inexpressible that make it such a valuable resource.

Zigzag: FFS as a buffer against isolation for academics on the margins

I have an eclectic academic background: I worked in labs in three distinctly different fields as a science undergraduate, and got a Ph.D. in the humanities. Since then, I have worked both in industry and as a postdoctoral fellow in two unrelated fields that combine social sciences, medicine and engineering. I am currently working a variety of contract research jobs for faculty

members in multiple departments. Although I have always had many different interests, my career history has been shaped far less by what I wanted to do than by the fact that I have Crohn's disease. The cost of the medication I'm on—around $40,000 USD per year—and the complexity of my condition make it impossible for me to engage in the international moves that would be required to remain in one field of research long enough to pursue a tenure-track position. Working as a sessional instructor was also very difficult for me because of the need to be "on" for hours in a row in front of the class and to arrange all of the marking around the times I was scheduled to receive medical treatment, a process that interferes for several days a time with my ability to concentrate. Instead, I've mostly stayed in one place, focused on research, and changed fields repeatedly in order to maintain enough flexibility in my work hours to stay employed. Interdisciplinary scholars often feel peripheral to traditional academic departments (Zalanga 2009, Gonzales and Rincones 2012), but the interdisciplinary membership of FFS helps me to feel at home. Knowing that other FFS members all share a common interest in academia, regardless of whether they have yet graduated, are currently employed by an institution of higher learning, are on sick leave, have tenure, or are retired, etc., also makes it a friendly space for me and for other Ravelers who are not on traditional academic career paths.

Everyone I've worked with since my master's degree is aware that I have Crohn's because (a) I almost died before I was diagnosed and my skeletal looks at the time were impossible to miss, and (b) it continues to have a significant impact on my working life, most notably in the form of frequent absences due to fatigue, illness, and medical appointments. If I didn't explain my medical situation to my colleagues, they would probably assume that my absences were for other, less forgivable reasons. I am still concerned about being out about the severity of my illness to potential employers; while some past employers have been sympathetic and helpful, others were dismissive of my concerns and punished me for even raising the question of accommodations. I'm still waffling about how much to "own" the Crohn's because it should not be shameful to have such a condition, but the more out I am about it and all that it entails both personally and professionally, the more I worry about the damage I may be doing to my future ability to be self-sufficient financially.

The ability to engage in different levels of anonymity using Ravelry, as discussed earlier, has enabled FFS participants to discuss sensitive personal topics without tying those discussions directly to their professional personas. This, plus the generally supportive nature of the comments on FFS, has permitted several members of FFS to be "out" about disabilities in a way that I have never seen on any other online forum or in any other professional or semi-professional context. There are fellow members with visible or obvious disabilities (mobility impairments, auditory impairments), as well as more invisible medical conditions (e.g. debilitating migraines, severe allergies, undiagnosed illnesses). On FFS, many of us talk openly about how we cope with our disabilities in our everyday lives, and we share information about negotiating accommodations at work, arranging sick leave, as well as other issues, such as dealing with unsupportive friends or family members. The ability to present ourselves as having lived experience with disabilities also enriches discussions of how to best accommodate students with disabilities—as individuals, we may have different types of disabilities than the students in question, but many of the bureaucratic hurdles are similar across disabilities and across institutions. Even if it is the case that the majority of FFS members with disabilities do not post about these issues, the fact that many of us do is refreshing and interesting to others, to judge by the number of "educational" clicks that posts on disability-specific topics often accrue.

I also like that my fellow FFS participants associate my username not just with these posts but also the posts I've made about research techniques, dating, politics and what have you; my online persona on Ravelry is of a relatively whole person who has multiple engagements with the world, and who is more than just a dysfunctional body or a disembodied mind. It is also refreshing to be able at times to discuss my own disability and how it intersects with my work and my personal research interests without having to emphasize that I am not up-to-date in disability studies, in the same way that being a woman in academia does not and should not imply that my field of research is gender studies (see Kerschbaum 2014 for more on this). I can also discuss my disability in technical terms and know that the FFS audience will understand it; by contrast, when I associate either in person or online with other people with Crohn's, I often

feel like I have more in common with the doctors than my fellow patients because of my intellectual understanding of the disease and how it fits into current medical systems. By providing a forum in which a number of academics with disabilities feel comfortable sharing their experiences with others, FFS allows this highly heterogeneous, highly marginalized group of people (Dale-Stone et al. 2013; Vance 2007) to both speak and have their voices heard, to both be and have role models among our intellectual peers.

Finally, one reason why Ravelry may be particularly of interest to many people with disabilities is that fiber arts generally can be picked up and put down at will, unlike some hobbies that cannot be interrupted mid-session by a sudden need to run to the washroom, or projects that would deteriorate if neglected for a few hours, weeks or years. Knitting and crocheting are also excellent ways to pass the time in waiting rooms, between freelance assignments, when fuzzy-headed from medications, cooped up at home with a contagious illness, or stuck in one place with a mobility problem. I certainly spend enough time in those states that I value the ability to continue to develop my skills in something creative and that others can appreciate even when I'm otherwise incapacitated—and I'm not alone in this assessment (see Riley et al. 2013). When fellow Ravelers comment favourably on my fiber projects, they give me support in my moments of need even without me needing to disclose that I'm feeling sick on a given day, giving me a bit of a break from the "impostor syndrome" I feel—not about my competency as a researcher, because I am confident about the quality of my work—but at being a "normal" person.

Concluding Thoughts

How do the practices of creating with one's hands feed the practices of creating with one's mind? How does craft beget community? In this paper, five scholars and fiber crafters/artists who met in an online forum discussed the structure of that technical system (Ravelry) and its evolution into an online academic community (FFS), and reflected on its contribution to their professional and personal lives.

Throughout this paper, the authors have made some claims about the uniqueness of FFS that is built both upon the the technical structures of Ravelry (as distinct from other social networking platforms) and the social practices of the active members of FFS as fiber crafters and academics. We suggest that the features of Ravelry's interface that have proven successful for facilitating communication about fibercraft seem to have been pre-adapted in many ways to a type of academic discourse that cuts across barriers of rank, institution, discipline, etc. that often hinder frank discussions of interpersonal issues among academics. Ravelry is built to have an easily navigated and usable front end with generally structurally stable but dynamically updating databases behind it. Changes to terms of service or major policy changes are announced in multiple places on the site. Unlike on Facebook, to give a popular example, one is not going to receive an unpleasant surprise in terms of what information is released or made public. Users can order and reorder and search data, yet a narrative structure persists. In contrast, regular users of Facebook cannot be sure that returning after a day or even a minute will result in seeing the same threads of conversation. Facebook and even LinkedIn do not help *connect* people who are not already meaningfully connected, because adding context is almost impossible (Joinson, 2008; Ellison, Steinfeld, and Lampe, 2007); even if it were possible, the extra context that might provide a valuable connection among people might run the risk of being seen as broadly unprofessional (e.g. making sweaters for cats) or undesirable (having a disability or being the main carer for an unwell family member).

The range of academic experience and contexts in FFS are almost impossible to find elsewhere. On a large or small campus, in North America or elsewhere, local knowledge and academic experience do not allow for same kind of breadth and depth that FFS represents. In "real life," even well-intentioned initiatives to break down academic silos within institutions offer very narrow ranges of ways in which to engage. The behavioral norms of FFS are reinforced by a high level of participation by a large number of members who have shared experience in academia and who derive their norms of interaction from their academic experience—including close reading, standards of professional behaviour, substantiation of ideas, and a fixation on the correct

attribution of ideas to their sources. The iterative effect of seeing people revealing vulnerabilities and then receiving support, succeeding in their ventures, feeling freer to reveal vulnerabilities, and also giving back entices others to do the same and creates a welcome space that includes beginners (in crafting as well as academia) as well as those who are marginalized by formal academic structures.

Perhaps this article—much as one of the authors experienced—can lead to not only a greater appreciation for the fiber arts within academia, but also for academics as whole people who benefit from thoughtful and attentive interactions regardless of how those interactions are delivered. Each of the authors' experiences with FFS changed and continues to change over time. What we find most meaningful at one time may also change, and the FFS community changes as well, but what stays the same is that FFS is a space where we can share a refreshing blend of topics and approaches that keep us engaged both intellectually and emotionally, and that we have not found intertwined to the same degree anywhere else. One can express professional and/or personal vulnerability if one wishes, show solidarity with other members, and integrate one's identities with a robust yet highly flexible range of interface options. It is a rare offline institution or environment where such conversations are possible, but FFS treats information and knowledge as public, not private goods, which Wasko and Faraj argue is part of maintaining an online community (2000).

STS, with its attention to organizational structures, power relationships, and the political economy of knowledge, has engaged many dimensions of academic life. Many of the themes discussed in this article therefore resonate with current topics of interest in the constitutive disciplines of STS. However, we in STS could do still more—through more discussion of how these academic interests co-construct our personal and professional identities, through greater engagement with differences and power in the academic enterprise, and through further exploration of the roles that information technologies play in maintaining and overcoming barriers and boundaries.

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