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Forming and Transforming Weavers’ Agency: Agency in Sociotechnical Arrangements

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ABSTRACT

The Yuzuru party, a women weavers’ group, has fostered its agency for being responsible for sharing hand-weaving skills in producing traditional Matsusaka cotton with the next generation. Through the interactive activities with people and communities concerning Matsusaka cotton, Yuzuru members have reshaped their agency. Based on ethnographic research, this paper describes the process of collective formation of agency, shaped by the hybridization of Yuzuru group members and socio-technical arrangements. This research shows that diverse forms of human agency are only grasped within the dynamics of continuous reshaping brought by the development of activities together with the reconfiguration of socio-technical arrangements.

Introduction

A social network is composed of both people and artifacts that are connected by some shared interest. A social network is therefore categorized as either a sociomaterial or sociotechnical network (Ueno, 2011). In this article, Matsusaka cotton, as the shared interest of a sociotechnical network, is discussed. Matsusaka cotton is a traditional cotton textile made in the Matsusaka area located in Central Japan. It is woven by hand using indigo-dyed threads, and its vertically striped pattern on an indigo base is a distinctive feature. Matsusaka cotton has existed for more than 400 years, although production of the material stalled for over 100 years between the mid-19th and late 20th centuries. The introduction of spinning machinery and imports of raw cotton and cotton yarn from abroad effectively demolished the cultural and economic context of Japanese cotton textiles in the 1870s. As a result, Matsusaka cotton also lost its market value and production fell into decline (Kawatoko, 2012).

Over the past 35 years, however, new activities related to Matsusaka cotton production have been initiated among local citizens’ groups. A leading community in this sociotechnical network is the Yuzuru Party, a weavers group comprising women that was formed in 1981 with the objective of developing traditional hand-weaving skills and sharing Matsusaka cotton with the next generation. This article focuses on the activities of Yuzuru Party members and presents the process of the collective formation and transformation of types of agency shaped by hybridization between Yuzuru members and sociotechnical arrangements. Yuzuru members have formed different types of agency by interacting with sociotechnical arrangements of people, artifacts, and machinery.

Agency is a key concept for analyzing and describing how “communities of practice” are mutually involved with and connected to the artifacts they produce, and how these activities are developed. More specifically, the concept of agency requires an examination of how participants involved in a practice interact with one another in a variety of sociotechnical arrangements, as well as how they are able to collectively shape their particular form of agency over the course of their activities. Here,
human agency refers to volitional actions to pursue the possibility of doing something, obtaining something that is perceived to be missing, or enacting a plan in order to achieve goals.

Haapasaari, Engeström and Kerosuo (2014) conducted formative intervention research in work organizations and investigated how transformative agency emerges and evolves over time in order to develop participants’ joint activities. They explained that

within cultural-historical activity theory, agency is seen as a fundamental characteristic of human beings. However, agency is analyzed in terms of actions rather than traits, properties or capabilities. An individual’s transformative agency can be understood as breaking away from a given frame of action and taking of initiatives to transform it. ... Agency cannot be defined only as a primary characteristic of an individual, but it develops in collective interaction over time. (p. 4)

Against the individually focused psychological approach to agency, these authors emphasized that the formation of agency occurs collectively, and they examined the relationship between agency and the collective interactions over time. Their approach to agency is suggestive of the research on communities of practice. However, it should be noted that their use of the word “collective” refers only to groups of people interacting in previously arranged settings, such as in a Change Laboratory (CL). The authors examine the emergence of expressions of agency within CL settings that constitute fixed sociotechnical arrangements. In a staged setting such as a CL, both researchers as interventionists and study participants aim for the emergence of agency, thus the use of this research method might be limited to some institutionalized settings, such as schools and work organizations, where participants are ordinarily expected to improve their activities and develop their practices.

In contrast, in community-based activities, unlike those in CL settings, sociotechnical arrangements are formed in multiple ways and reflect the interactions of people, artifacts, and machinery within the activity space. Callon (2004), a founder of actor-network theory (ANT), emphasized that human agency is formed depending on the sociotechnical arrangement in which she or he is situated. In other words, human agency is diverse and complex, as it is shaped by the synergy of humans and sociotechnical arrangements that both contain variety and range.

In this article, I describe the emergence or transformation of agency in line with alterations of a sociotechnical arrangement or the reorganization of people, artifacts, and machinery within an activity process, following an extension of ANT with a situated approach (Callon, 2004; Ueno, Sawyer, & Moro, 2014). In defining the forms of sociotechnical arrangements that are central to this discussion, it is important to understand who is interacting within this space, how and why they interact as they do, what objectives and goals they share, and what types of artifacts or materials are involved in their activities. Sociotechnical arrangements also change as the activity develops. These changes can then lead to the formation of a new form of agency, or to the transformation of an existing form of agency. Therefore, agency emerges depending on a sociotechnical arrangement.

In three sections, this article begins with further discussion of agency in the interactions between human and artifacts. The second section describes a case study investigating how the sociotechnical arrangements of the Yuzuru Party were formed, how members shaped and reshaped various forms of their agency over time, and how sociotechnical arrangements affected this process in the course of their activities. This perspective also reveals how the agency that is developed by members could be categorized by “multiplicity” because the diverse agency of various people and communities involved in Matsusaka cotton activities was interrelated and took numerous forms. Third, this article discusses the fact that human agency can be understood only within the dynamics of processes that continuously reshape it, such as the development of activities and the formation and transformation of sociotechnical arrangements.

**Agency in human/artifact interactions**

Within the discipline of social science and technology studies, there have been many discussions about agency and its attributes, particularly regarding the recognition of nonhuman agency
Actor-Network theorist Pickering (1993) criticized traditional accounts of the distribution of agency that allocated the capacity as solely belonging to human beings without acknowledging those instances of material things that also display agency. He argued that these are insufficient accounts for explaining agency, because material agency and human agency are constitutively enmeshed with each other. In response to Pickering’s formulation, activity theorists Kaptelinin and Nardi (2006) considered material agency as being intelligible only when viewed alongside and within human practice. They challenged the notion of the perfect symmetry that is advocated by ANT, which states that humans and nonhumans act equitably within a network.

ANT, however, has little interest in the arguments of symmetry or asymmetry between humans and nonhumans within a network. Rather, it emphasizes that human agency is shaped by the hybridization of humans and nonhumans, as they are inseparably related to each other. ANT originates from the removal of the division or dichotomy between humans and nonhumans, the subject and object, and the individual and social. Callon and Law (1997) deplored the fact that most social studies have spent much time working out how to bridge the division between individual and collective, as well as how to move beyond those boundaries. They proposed that these dichotomies have been diminished within ANT.

Suchman (1998) studied interactive machines, and in reflecting on her work undertaken in the 1980s, stated, “I have struggled with questions of how to preserve the sense of human-machine asymmetry that I developed in my analysis” (p. 9). She concluded, I now understand that what we need is [to], in Latour’s words, “direct our attention to the work of hybridization” (ibid, p. 11), to develop a discourse that recognizes the deep mutual constitution of humans and artifacts without losing their particularities. (p. 9)

Recognition of the interrelations between humans and artifacts does not discount the distinctions that may be found between them, as Suchman (1998) pointed out. The symbolic notion of ANT and the proposition that humans and nonhumans act symmetrically can be recognized only as a theoretical assumption that is put forward in order to break through the unproductive “diversions” of traditional social studies. Suchman (1998) noted that Goodwin’s (1994) work on scientific practice is the most compelling illustration of the basic irreducibility of human and artifact interrelations.

It is important to clarify how ANT conceptualizes human agency. Callon (2004) defined human agency as

the agency of any human being, his ability to conceive of actions, to plan them and to accomplish them by following the plan; the ability to have ideas and to associate them; the ability to be moved or gripped by compassion, the capacity to define his expectations and needs, all that depends on arrangements, the socio-technical niches in which she or he is situated. (p. 7)

During the configuration of a network, the agents, their dimensions, and what they are and do all depend on the evolution of the relations that encompass them. Further, what humans want, think, or feel, in terms of human agency, depends on the configuration of the sociotechnical environment within which they exist. For Suchman (1998), agency is defined as

a relational effect that is generated in different configurations of human and non-human materials. … In other words, agency exists only relationally, in and through networks of action in which both humans and non-humans participate. (p. 9)

Building from the perspectives of Callon (2004), Suchman (1998), and Goodwin (1994), and based on empirical investigations of situated practices (Kawatoko, 1999, 2000; Kawatoko & Ueno, 2003; Ueno & Kawatoko, 2003), this study viewed human agency as emerging in and through activities in a sociotechnical arrangement in which humans and nonhumans participate.

An example from Kawatoko (1993, 2007) is illustrative example of the development of this perspective. In Thimi, a suburban village of Kathmandu, vegetable farmers grow many kinds of
vegetables in limited cultivated land and are able to supply this produce to the metropolitan area throughout the year, despite this involving small family labor practices. The farmers plow an area of land into ridges and make narrow plots that are called “Pa”; the short sides of the rectangular shape measure 150–180 cm in length. In each Pa, various kinds of vegetables are gradually grown. Conditions such as water supply, market demand, and the availability of family labor have invented how a piece of land is divided. When similar types of vegetables are oversupplied and their price drops in the market, farmers quickly respond by changing the vegetables they grow and their planting times in order to minimize the loss of profits. Family labor and small pieces of land make the process of growing and shipping fresh vegetables manageable for the farmer. Younger generation vegetable farmers are interested in growing new varieties of vegetables that sell at a good price. The young farmers initially attempt to experimentally cultivate new vegetables in a Pa or “Ki” (a piece of land that is half the size of a Pa). Through the close observation of the process of growing those vegetables from new seedlings, these farmers are able to learn about the nature of the vegetables and suitable ways of growing them. Growing vegetables in a narrow plot of land has the merit of minimizing damage, even if they are less successful in experimental vegetable harvesting.

In the case of growing vegetables in Thimi, the Pa or Ki can be regarded as artifacts. Those artifacts not only are connected to the distribution of vegetables in the market but also shape farmers’ working methods. These artifacts additionally allow the farmers to foster feelings of hope, desire, and need in growing new vegetables or experimenting with new types of seeds on their land. The narrow plots of land as artifacts participate fully in constructing the farmers’ actions, cognition, and agency, “as partners of humans rather than instruments in their hands” (Callon, 2004, p. 4). This case study shows that what humans want, think, or feel in terms of their agency is shaped by the hybridization of humans and artifacts. Second, it shows that conceiving new artifacts allows for new forms of human agency to emerge, which consequently constructs new types of collective life.

In the case of young farmers in Thimi, agency is formed relationally within and through contexts of activity that is mutually constitutive for humans and nonhumans alike. It is therefore impossible to reduce human and artifact interrelations to either of the two. As Suchman (1998) argued, agency resides neither in us nor in our artifacts, but in our intra-actions, in the interactions between humans and artifacts.

The case of Matsusaka striped cotton

Ethnographic research through participatory observation and interviews in the field was undertaken to explore the formation and transformation of the agency of members of the Yuzuru Party in relation to changing sociotechnical arrangements. Most of the data were collected through participatory observation of the regular monthly meetings that all Yuzuru members attended, as well as through the interviews held with each member. The participatory observation and interviews were conducted by the author and were video-recorded for accuracy with the permission and consent of the Yuzuru members, with analysis of the data undertaken once collection had concluded.

Reconstructing Matsusaka striped cotton as a social object

Historically, the Matsusaka area was a famous cotton field following the introduction of cotton to Japan in the 16th century. By the early 17th century, cotton had become a popular cloth for ordinary Japanese people. Cotton as a commodity brought significant changes to Japanese people’s lives and their socioeconomic activities. It was comfortable to wear and easy to dye and weave, and so cotton enriched people’s lives and cultures. In addition, cotton brought about revolutionary changes in the broader Japanese socioeconomic system. This period was marked by the development of specialized cotton cultivation, spinning, and fabric manufacturing, as well as the emergence of various kinds of industry, such as shipping, indigo dyeing, and dried sardine fertilizer that was used in cotton cultivation (Nagahara, 1990).
Cotton also precipitated dramatic changes in the lives of female farmers. Women living in the cotton growing area of Matsusaka were involved in cotton weaving, and through this, many became the wage earners in their households. The quality of Matsusaka cotton was superior to many other types of the textile, perhaps due to the tradition of weaving and possession of dyeing technologies that the Matsusaka region has had for centuries. A shrine for the founder of the cloth, as well as a traditional indigo dyeing factory, has been preserved at this site and remains there even today. As previously mentioned, the most characteristic feature of the Matsusaka cotton textile is a vertically striped pattern on an indigo base. In the 16th century, a Matsusaka merchant introduced the striped pattern that had originated in Vietnam. The weavers in Matsusaka aimed to produce and refine various patterns, and it is commonly known that each weaver collected cuttings of their efforts in order to make a scrapbook of the striped patterns. As demonstrated by a document from an old merchant family, cotton merchants in Edo (known today as Tokyo) used to negotiate with weavers in Matsusaka for them to produce the striped pattern design (Tabata, 2006).

Edo was the historical residence of political and economic power, and although the Matsusaka District was located a far distance from Edo, the cotton textiles made in Matsusaka were broadly appealing to customers in Edo. Many wealthy merchants from the Matsusaka area set up shops in the central part of Edo towards the end of the 17th century (Okita, 2005). These merchants were entrepreneurial in determining how to sell Matsusaka cotton, and their ideas included presenting noninflated prices, selling cloths by the piece, sales through tailoring services, and storefront sales and discount sales. This approach was novel at the time. As discussed in the Matsusaka City History and Folklore Museum account of Matsusaka cotton (Tabata, 1988), the merchants’ groundbreaking business approaches encouraged a new, growing customer base to buy Matsusaka cotton. Matsusaka cotton and textiles, therefore, gained popularity in Edo.

Mr. Tabata became a curator at the Matsusaka City History and Folklore Museum in the late 1970s, and the first project that the museum undertook under his management was a permanent exhibition of Matsusaka cotton. Mr. Tabata and a group of local history enthusiasts began studying the development of cotton industries in the Matsusaka area from the early 16th century onward. In the process of conducting their research, they collected old documents and literature on clothing and artifacts, such as traditional weaving instruments and the scrapbooks of striped patterns that had been made by the weavers. They also studied the history of a particular shade of indigo that is found in Matsusaka cotton and lent their support to the only remaining indigo dyeing factory in that area. This group intensively studied the history of the legendary “merchants of Matsusaka” and discovered how those merchants were actively involved in bringing Matsusaka cotton to the masses, as well as their role in the textile gaining popularity in the Edo.

Through these activities, the Matsusaka City History and Folklore Museum was able to show that Matsusaka cotton, the contributions of female farmer-weavers, and the legendary merchants during the Edo period all constituted some of the most valuable living history for the citizens of Matsusaka and deserved to be shared with the next generation. In designing a permanent exhibition of Matsusaka cotton, the Matsusaka City History and Folklore Museum and the participants involved were able to shape a new form of agency in this process. Therefore, Matsusaka striped cotton as a historical artifact was reconstructed and imbued with agency within a sociotechnical and historical arrangement of humans and nonhumans. This exhibition is composed of people, artifacts, and activities of the past and present and includes displays of traditional cotton weaving and indigo-dyeing techniques, the scrapbooks of striped patterns, images and descriptions of the legendary merchants and the growing customers in Edo, as well as the female farmer-weavers.

Redeveloping networks of Matsusaka striped cotton communities

The exhibition of Matsusaka cotton attracted much attention both within and outside of the Matsusaka region. The exhibition triggered an emergence of new communities of practice that also constituted new sociotechnical arrangements. In other words, the Matsusaka City History and
Folklore Museum accelerated the progress of the attempts to redevelop the network of present communities of practice who work with Matsusaka striped cotton as a social object.

The Yuzuru Party is a women weavers group and is one of the current communities of practice. The main objectives of its activities are to redevelop traditional hand-weaving skills in producing Matsusaka cotton and to share these practices with the next generation. Two additional important communities of practice have been reconstructed in this time. Cotton-Life LLC runs the Mstsusaka Cotton Center shop. This group aims to preserve Matsusaka cotton by creating a renewed market for the textile. The other community involved in the preservation efforts related to the cloth is the Miito Textile Factory, which has continued to produce cotton textiles using old weaving machinery and hand-dyeing the indigo pattern since the 1870s. Local government constitutes yet another important community that supports striped cotton in Matsusaka, as it would like to develop Matsusaka City as a tourism site and has therefore begun to take an interest in and approach these communities of practice in order to support their activities.

These communities are connected through their shared interest in Matsusaka cotton, and each plays a role in influencing the environment of others. Having noted this interconnectedness, it is important to recognize that the agency of Matsusaka cotton in each community is diverse. Agency is displayed within Cotton-Life LLC through the action of reintroducing Matsusaka cotton back to the market so it can be preserved as a tradition, whereas the Yuzuru Party displays agency in mastering hand-weaving skills that can be passed down to the next generation. The Miito Textile Factory develops its agency through the preservation of traditional indigo-dyeing techniques and in continuing to keep the supply of cotton textiles that are woven with indigo-dyed threads on mechanical looms strong in this setting. The city government also shapes the agency imbued in Matsusaka cotton by expecting the textile to become a centerpiece for tourism in the region.

Agency is diverse in its manifestations, as evidenced by the aforementioned communities’ experience in relation to Matsusaka cotton, and it is subject to evolution and reconfiguration in line with developments in sociotechnical arrangements. Using the activities of the Yuzuru Party as a focal point, I show that the members have shaped and reshaped agency, and this is dependent on the conditions of the sociotechnical arrangements that emerge in the development of their activities.

**Initial arrangements for agency among Yuzuru members**

The Yuzuru Party was established as an association in 1981. Mr. Tabata, the aforementioned curator of the Matsusaka City History and Folklore Museum, participated in the establishment of the Yuzuru Party. In 1979, the museum held a lecture on hand-weaving of Matsusaka cotton, and many women living nearby regions participated in the lecture. The next year, a 6-month training program for weaving Matsusaka cotton was initiated. The trainees included 17 of the women who had participated in the previous year’s lecture, and upon completion of the training course, they formed their own association with the aim of redeveloping traditional hand-weaving skills and sharing those skills with the next generation. These are the origins of the Yuzuru Party, whose name derives from a famous Japanese folktale involving a female crane that returned a favor by weaving clothes using her own feathers. The Yuzuru Party currently has 22 members who took part in the first eight training programs and who are between 20 and 80 years of age. Irrespective of the differences in their ages and experience levels, all Yuzuru Party members collaboratively weave the Matsusaka cotton textile and concurrently encourage the sharing of the knowledge about traditional Matsusaka cotton with the public.

The Yuzuru Party has continued to offer training courses that include practical training in traditional hand-weaving skills, growing cotton and indigo in the field through participating in weeding and harvesting, and lectures on the history of Matsusaka cotton. The Yuzuru Party last recruited new members 6 years ago. Although 32 applicants attended an introductory training course, only 11 people subsequently continued with the rest of the course. This group was known as trainees of the eighth graduating class, and they were between 28 and 55 years old. There were
four remarkable features of this 6-month training program (Kawatoko, 2012). First, the 11 trainees were divided into three to four groups, and senior members gave instruction to each group. Second, training in weaving methods was conducted for all the processes, from designing a striped pattern to calculating the warp and woof along the pattern, as well as setting up a loom and weaving material to complete textiles to be used in making a kimono. The training followed this structure regardless of whether each trainee was able to follow the instructions given. Third, this training process was repeated three times until each trainee was able to weave a roll of kimono cloth without assistance. Fourth, in the intervals between practical training sessions, lectures were given on the history of Matsusaka cotton and covered topics such as the scrapbooks of striped patterns that were made by the farmer-weavers in the Edo period, as well as the deep relationships that formed between Matsusaka merchants and Matsusaka cotton. As well as weaving techniques, the program also offered teachings about the practice of spinning, indigo dyeing, and growing cotton and indigo in the field. The program was designed to provide a deep understanding of Matsusaka cotton (see Kawatoko, 2012).

Of the 11 trainees who signed up for the course, two dropped out; nine continued on, completed the training course, and were given official approval to be members of the Yuzuru Party. New members described how difficult the training was, especially for the ordinary housewives who had casually signed up. Mrs. Tagami, who was 38 years old, described how during the first manufacturing process, I was totally fumbling about in confusion. But, seniors were all the way through the work without consideration of our confusion! The training was so hard that I was deeply moved by myself when I finally completed to weave one roll of kimono cloth. One of the senior members, Mrs. Anzai, who was a trainee of the fourth graduate class stated, The training program was definitely hard for the trainees, I’m afraid. We got training in the same way, too. So, we didn’t know another way. Well, any training for a craft-person is something like this, isn’t it?

In light of this, it is important to explore what then enabled the trainees to persevere through the hard work and to become a guardian of the tradition of hand-weaving Matsusaka cotton. An essential factor of their perseverance could have been the rich history of Matsusaka cotton, and this included the historical artifacts that Mr. Tabata occasionally discussed with the trainees. His perspective was passed through folklore from old members to new ones. Mrs. Moriya, one of the senior members of the Party, commented that “the late Mr. Tabata talked about the history of Matsusaka cotton as often as he could. Sometimes I got tired of it … but now, I understand that his talks gave us some conviction in weaving Matsusaka striped cotton.” Mrs. Kamei, another senior member of the group, explained, “When I lose my enthusiasm to weave, I look over a scrapbook of striped patterns made by farmer-weavers in the 17th century. Then, I feel motivated to weave again” (Kawatoko, 2012, p. 195). Yuzuru Party members shaped the initial agency needed for mastering the hand-weaving skills required in producing Matsusaka cotton and sharing those skills with the next generation. This occurred through their participation in the training program, when members received historical talks given by Mr. Tabata, and they were able to consult the old farmer-weavers’ scrapbooks, as well as gain the experience of weaving one roll of kimono cloth without assistance.

Additional factors allowed members to shape and develop agency initially in their collaborative activities. The Yuzuru Party held a general meeting once a year and a regular meeting once a month in which all the members participated. Every 5 years, the group held a memorial event at which the works of the members were exhibited. After staging many events and having raised the skill level of the weavers considerably, the members then put the conventions for producing Matsusaka striped cotton textiles for kimonos into a statutory form. As Yuzuru members improved their weaving skills, their interest in different ways of weaving textiles that were not Matsusaka cotton also grew, such as using various colored threads instead of the traditional indigo pattern. Still, there were concerns expressed by Yuzuru members about how Matsusaka cotton could remain distinct from textiles of other regions as traditional cotton textiles existed throughout the country, and conservation
movements for those textiles had developed in various parts of the country. These topics were frequently and seriously discussed at the meetings. During the discussions, many members referred to the “category” of Matsusaka cotton, namely, a textile that is based on a striped pattern, woven with natural indigo-dyed, rather than chemically dyed, fibers. Members also spoke about the “code” that they should all follow in weaving textile, using a ratio of seven indigo threads to three colored ones, when creating textiles including colored threads in them. Eventually, this code and the categories developed as conventions that dictate how Matsusaka cotton textile should be produced for kimonos.

In the Yuzuru studio, five weaving looms were set up, and three of these were used by members to create pieces for the Party’s 30th anniversary celebrations. After a regular meeting held in April 2012, the members gathered around each loom and separated into two groups, according to the style of kimono dress that was being displayed. They then examined the striped design found in the textiles that were used for kimonos. The members criticized one another’s trial piece by commenting on the color of threads used, the stripes formed, and their weaving skills, and they said things such as, “This is no good! This is chemical dyeing, isn’t it?”; “Yeah, this is no more than a rehash of chemical dyes”; “It’s ridiculous to use so many colored weeds! This is no longer our textile, because the basic element of Matsusaka striped cotton is a shade of indigo” (Kawatoko, 2012, pp. 197–198). As just presented, Yuzuru members referred to the “code” in recalling their own methods of weaving and identified inconsistencies in the technique of others. Yuzuru members talked about “categories”—such as Matsusaka cotton, natural indigo, and chemical dyed threads—as not solely related to the label of the textile as Matsusaka cotton, but rather as allowing for those Yuzuru members who, in their practice, wove cotton textiles using natural indigo-dyed threads to distinguish themselves from those who wove textiles with chemically dyed threads. Through these discussions the boundary is created and maintained. As Ueno (1999) argued, participation in a community is realized through the process of making the community visible to the participants. Participants create boundaries between communities and make them visible each time they discuss codes or categories, and in doing so they are able to constitute their own participation in the community.

In applying this approach to the case of the Yuzuru Party, it can be observed that the Party was not a preexisting community that the nine trainees joined upon completion of the training course. Rather, both new and senior members of the group were able to constitute the Yuzuru Party community of practice collaboratively through their participation. By taking part in Yuzuru practice and interacting with various factors in the sociotechnical arrangement that surrounded the practice, new or senior members collaboratively acquired the “literacy of Matsusaka cotton,” which meant that they became aware of the significance and value of weaving traditional Matsusaka cotton and sharing these skills and various historical artifacts with others (Kawatoko, 2012, p. 196). This kind of literacy allowed Yuzuru members to shape agency in gaining hand-weaving skills to produce Matsusaka cotton and to share those skills with the next generation.

**Enhancing awareness of the need to improve weaving skills**

Sociotechnical arrangements change as activities develop further. Changes to sociotechnical arrangements concurrently lead to the shaping of new forms of agency, or to the reshaping of existing forms of agency. There are differences in the opinions of Yuzuru members that are currently visible, for example, regarding the guiding principles that Yuzuru members should follow. The Yuzuru Party has been requested by elementary schools and community centers to demonstrate their traditional hand-weaving skills—such as spinning thread out of cotton and indigo dyeing—for school children and community members. The frequency of these requests has gradually increased, and as a result, a major activity of the Yuzuru Party has become the promotion of traditional Matsusaka cotton. The Party welcomes such requests because Yuzuru members are involved in actively sharing the value of and skills related to Matsusaka striped cotton. However, due to the increase in these requests, members have
subsequently not had sufficient time to further polish their weaving skills. In light of this, some Yuzuru members seem to have found themselves in a somewhat embarrassing situation.

These issues are discussed seriously whenever the members meet. As talking is part of their practice, it is useful to analyze some of the discussions held by Yuzuru members at the New Year’s meeting, where detailing a plan of action for the year was the main agenda.

Mrs. Kaminishi: If I may express my wishes, this year I wish to put our leading activity on weaving!
Mrs. Ito: Yes, I agree! More practice makes us better at weaving, doesn’t it?
Mrs. Kaminishi: The number of nonweaving activities is increasing these days. I guess that most of us wish to concentrate more on weaving!
Mrs. Mukai: I wonder if we need to have the courage not to accept requests for nonweaving activities?
Mrs. Ito: Now I remember last year’s happening. We initially refused one request from the library, but against our will, we had to accept it finally!
Mrs. Suzuki: Yeah, I know. But, it’s difficult for us to refuse the requests from elementary schools, isn’t it?
Mrs. Tagami: Yes, it is! I’ve heard that the reading on the threading out of cotton has appeared in schoolbooks, and most of the schoolchildren have read it.

Above all, I like to read descriptions of what schoolchildren feel about our demonstration.

Mrs. Wakita: I agree. In addition, some of the schools help us grow Chinese indigo!
Mrs. Suzuki: I think we should accept the requests from schools. You see, schoolchildren always welcome us joyfully!
Mrs. Bann: Then, don’t you think it would be wiser not to accept the requests from the community center and the library?
Mrs. Tagami: Come now, you don’t have to be so formal. Well, I think every time there are some members who can go and perform, we should accept the request.
Mrs. Kaminishi: Well, well, well… we always leave this issue as it was! (Kawatoko, 2015, pp. 63–64)

The Yuzuru members discussed the same issues in the following monthly meeting.

Mrs. Kaminishi: The other day, we set the year’s target of weaving at least one roll of cotton cloth every half year. But I can’t see it included in this year’s activity plan. I wonder why?
Mrs. Ito: Yes, I feel like that, too! We intensively talked about how it was necessary for us to concentrate our attention on weaving, and to improve our skill in weaving. And yet, what we talked about is not reflected in the plan!
Mrs. Mukai: This plan goes to the opposite direction, doesn’t it? Too much non-weaving activities are put in this plan!
Mrs. Kamei: The number of nonweaving activities is just possibly increasing more than last year! (Kawatoko, 2015, pp. 64–65)

In first reflecting upon these conversations, the members seem to be divided in their opinions of whether internal, weaving-centered activities should be prioritized over externally focused nonweaving activities as the primary activities of the Party. This, however, was not the case. Rather than an outbreak of opposition between the two opinions, the members’ awareness of the need to improve their weaving skills had been enhanced more than ever. This is evidenced in members’ remarks such as, “More practice makes us better at weaving” and “Most of us wish to concentrate more on weaving” (p. 64).

The concerns about the increase in externally focused nonweaving activity requests for Yuzuru members had to be taken in the context of a growing awareness of the need to improve their weaving
skills. It then becomes pertinent to question why the members’ awareness of the quality of their weaving had been recently enhanced. A substantial reason for this increase in awareness resided in the fact that the sociotechnical arrangements that surrounded the Yuzuru Party, together with the practices that used Matsusaka cotton, were being drastically reconfigured.

**Reconfiguration of sociotechnical arrangements of the Yuzuru party**

Changes being made to the sociotechnical arrangements that surrounded the Yuzuru Party have appeared over the last 2 years. First, the Matsusaka City Office developed a plan to promote the restoration of the built-up area by revamping it as a recognizable destination for tourists. The City Office planned to combine abundant historical heritage in the Matsusaka area with tourism. The City Office approached communities of practice concerning Matsusaka cotton to work collaboratively with them on the city plan. In response to the city’s request, Cotton-Life LLC, the Yuzuru Party, and the Miito Textile Factory came together and discussed suitable steps that would allow them to cooperate and participate in the project. The groups then decided to collaborate in setting up an association for the promotion of Matsusaka cotton named the Matsusaka Cotton Promotion Association (MCPA).

The MCPA has been successful in performing its function, and the straightforward proposal put to the Yuzuru Party has made a great impact on Yuzuru members’ awareness of their weaving skills and the quality of their products. One of the proposals suggested that the emblem of Matsusaka striped cotton should be unified in order to enhance the textile as a marketable good. Another proposal outlined the need for inspectors to verify the quality of the textiles before they were shipped. These proposals aimed to generate a system that could guarantee the quality of the cotton as a marketable good.

The Yuzuru Party interpreted these proposals as an indication that each member must present her textiles for inspection and that she should be able to pass the inspection in order for the textiles to bear the formal emblem of Matsusaka striped cotton and to be shipped to the market. If inspectors found defects in the textiles, they asked the weavers to mend those defects. After being rechecked, the textiles that met the acceptable quality level were given the emblem, and rejected items were returned to the weavers. At a regular meeting, an individual from the MCPA who was responsible for quality management explained those proposals to the Yuzuru members. There was tension in the meeting because the person from the MCPA expressed dissatisfaction with the quality of the textiles that the members had woven.

**Rep. Sakanashi:** There were few textiles that could pass an inspection without defects at the special exhibition held in the H-department store. To be frank, most of your textiles are not good in quality, I’m afraid.

**Rep. Sakanashi:** There are two reasons why we need to inspect your textiles. One is that these days Matsusaka cotton has been watched more than ever. And, as you know, there are a number of creators who weave Matsusaka cotton without participating in the Yuzuru Party. So, the second reason is that it is necessary to inspect all the textiles including nonmembers’ ones in order to keep a certain quality as Matsusaka cotton. We look forward to giving the same emblem to all the textiles that reach the level someday.

**Mrs. Tagami:** What is this emblem? Is that the one you attached onto goods at that special exhibition?

**Rep. Sakanashi:** Yes, it is. It was decided when we sent pieces to the exhibition at H-department store.

**Mrs. Wakita:** At any time, they decide things without consulting us at all, don’t they? [There were members whisperings for a time]

**Rep. Sakanashi:** Now, let’s go back to the topic of inspection! The textiles in need of mending have not been fixed correctly. Sometimes, rough textures are left untouched without mending! We just want you to set about your work very seriously.
Mrs. Ito: But, we cannot mend when it has too tight of a weave.
Mrs. Kamei: Yeah, that’s right. In the case of 30 (weave), we can mend, but 40, we cannot!
Rep. Sakanashi: Well, well, well. Suppose that the selling price hugely differs depending on just one or two defects. If you want your textile to be marketable, you could spend one hour to fix one weave! This may sound like an exaggeration, but we really ask you to do your best for mending. (Kawatoko, 2015, p. 66)

At the following month’s meeting, the MCPA representative presented an inspection agreement that specified details such as the inspection procedure, fees, and standards. In the agreement, it was noted that some failures that were closely related to weaving skills, such as warped loops, uneven weaving, and looseness of threads, provided the basis for determining whether the textiles were acceptable. The inspection was conducted on textiles that were meant for sale at the markets. Those textiles that were for personal use or for souvenirs were not included in the inspection. Textiles produced by members were inspected by the Party itself when the textiles were displayed at an exhibition of members’ work that took place every 5 years. The circumstances surrounding the inspection were different in this event, however, as the Yuzuru Party members’ weaving skills were evaluated through an inspection of textiles that led to the Matsusaka cotton emblem being externally granted for the items. This meant that the each member’s weaving skills were evaluated on the basis of whether or not their textiles were marketable.

Reshaping agency through the reconfiguration of sociotechnical arrangements

As previously noted, during the New Year’s meeting of the Yuzuru Party members, all participants spoke of the need to spend more time weaving and the desire to focus on enhancing the quality of their weaving. These discussions were indicative of the shifting agency of the members, as they asserted their desire to weave high-quality textiles. The members formed this type of agency in the course of reconfigurations in the sociotechnical arrangements that surrounded the Yuzuru Party.

Further, Yuzuru members became involved in global affairs through the new sociotechnical arrangements of the Yuzuru Party, including the development of restoration projects in the built-up areas of Matsusaka, the restructuring of communities concerned with Matsusaka cotton, and the establishment of a new association that raises awareness of the industry. Other elements that formed the new sociotechnical arrangements of the Yuzuru Party included the appearance of rules and restrictions upheld by the association; the emergence of the concept of “marketability”; and the acceptance of new artifacts such as the unification of the emblem, the standardization of the textiles, and an inspection system.

The discontent felt by some Yuzuru members in terms of the direction of the Party’s activities was expressed in discussions. For example, one member said, “We have talked about how it is necessary for us to concentrate on weaving and improving our weaving skill. And yet, too many nonweaving activities are put in a plan for the year.” Caution must be exercised in interpreting this, as discontent that was felt by Yuzuru members. It should be understood that the initial form of agency that the Yuzuru members fostered through their collective activities over the past 35 years was an ongoing reshaping process, and this was due to the changes in the priorities of activities and the reconfiguration of sociotechnical arrangements. The weavers reshaped agency, expressed through their mastering of the skills needed to weave marketable textiles and in being the confident guardians and source of traditional hand-weaving skills.

Discussion

Since the inception of the Yuzuru Party, the agency of the members has been enacted through their roles as the guardians of traditional hand-weaving skills required to produce Matsusaka cotton. This form of agency emerged from the members’ collective activities undertaken in a sociotechnical
arrangement that was organized by the Matsusaka City History and Folklore Museum. The trend of promoting the development of tourism in the Matsusaka region has reached a peak in recent years. The communities of practice regarding Matsusaka cotton, such as Cotton-Life LLC and the Miito Textile Factory, displayed agency in promoting the marketability of Matsusaka cotton, and in the links made between the industry and the city’s tourism project. The Yuzuru Party has cooperated with those communities of practice by establishing a new association. Through those cooperative activities, a new sociotechnical arrangement that was based on the knowledge, skills, and technology that surrounds weaving practice and textile marketing has been formed within the Yuzuru Party. As a result, Yuzuru members have shaped a new form of agency in the assertion that they need to improve their weaving skills in order to make their textiles more marketable.

The Yuzuru members have shaped different forms of agency under the formation and transformation of a sociotechnical arrangement. This agency is characterized by multiplicity, as there are various people and communities that are involved in the Matsusaka cotton industry; they intersect and interact with one another in diverse ways. As discussed, the Matsusaka City History and Folklore Museum has shaped the agency in spreading the idea that the history of Matsusaka cotton, including women farmer-weavers and the legendary Matsusaka merchants of the Edo period, is significant and valuable for the present citizens of Matsusaka and it should be shared with the next generation. Cotton-Life LLC displayed agency in its ability to return Matsusaka cotton to the market as means of preserving the textile and associated industry. The Miito Textile Factory expressed agency in preserving traditional indigo-dyeing techniques and in their continued practice of supplying Matsusaka cotton textiles that are woven with indigo-dyed threads on mechanical looms. Finally, the city government has agency in expecting Matsusaka cotton to be used as a centerpiece of tourism. Through these sociotechnical arrangements, Yuzuru members have also been able to shape particular expressions of agency of their own. They have collectively shaped new forms of agency through the interactive activities that are embedded within each type of sociotechnical arrangement.

In first participating in the training course, Yuzuru members were able to shape their agency by learning hand-weaving skills that allowed them to produce Matsusaka striped cotton and in being able to possibly share those skills with the next generation. In completing the general course on weaving Matsusaka cotton, and in developing “literacy of Matsusaka cotton,” members were able to garner a strong sense of being the guardians of traditional Matsusaka cotton. By having general weaving skills, Yuzuru members were able to actively go to schools and community centers in order to promote public awareness of traditional Matsusaka cotton. With the recent changes in sociotechnical arrangements, members have been able to shape a new form of agency, namely, the agency to improve their weaving skills as they become professionals in the industry. The process of shaping, expanding, and reshaping agency for Yuzuru members demonstrates the process of learning. Each form of agency introduces the evolution of actions and the development of collective activities. Therefore, within the dynamism of a mutually organized formation and transformation of sociotechnical arrangements and agency, Yuzuru members have shaped agencies characterized by multiplicity that allows them to constitute new manifestations of collective life.

By describing processes of shaping and reshaping agency as seen through the example of Yuzuru members’ experiences, it becomes apparent that further examination of sociotechnical arrangements and rearrangements within a certain time span is required. Considering the long-term development of the Yuzuru Party’s activities, it is impossible to evaluate whether their participation in the establishment of the MCPA was appropriate. It is difficult to predict the effects of certain aspects of this phenomenon, such as the skill needed to produce handwoven Matsusaka cotton, as well as the need to maintain a clear identity as a community and a brand (Matsusaka striped cotton), while working with the MCPA, who emphasize marketability. Further aspects that complicate this vision include the ability of the Yuzuru Party to undertake as the role of being confident guardians of the traditional Matsusaka cotton, whereas other individuals who are skilled creators of Matsusaka cotton and do not belong to the Party also receive the Matsusaka cotton emblem for their products by the
MCPA. These individuals are able to develop their own commercial activities, which could result in competition for the Yuzuru Party. In summary, the consequences of participating in the MCPA project are not yet known.

It is clear, however, that the new sociotechnical arrangement, including the MCPA project, has promoted Yuzuru members to shape a new form of agency that encouraged them to enhance their weaving skills. Therefore, in the near future, this new type of agency may combine with the need to train professional weavers, or to create a new sociotechnical arrangement that incorporates a course for the cultivation of weavers’ abilities as a branch of the MCPA. In this way, describing sociotechnical arrangements involves examining the formation and transformation of sociotechnical arrangements that are then followed by the emergence of new collective activities and new forms of agency. Various activities emerge in sociotechnical arrangements and types of agency that interact to create a developmental cycle within a specific time span. The descriptive framework of a sociotechnical arrangement can be regarded as a predetermined outcome, and it can therefore be applied to each case study; however, this might lead to “agency” being described as a static concept. Diverse and complex human agency can be best understood within the dynamics of the continuous reshaping process brought on by the development of various activities, together with the formation and transformation of sociotechnical arrangements.

References


