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Creative Transfer of Tradition and Next-generation Innovation Traditional Japanese Culture and Creativity

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ABSTRACT

Traditional industry can be likened to a treasure house of the precious cultural and natural assets of a given locale. Up until now, the transfer of such assets to future generations has been mostly carried out through apprenticeships, which involve future successors spending many years under a masters' tutelage, accumulating experience and acquiring knowledge and skills. As a result, traditional resources are barely passed on to future generations because of the long period of time spent in acquiring such expertise, making it nearly impossible to achieve the further development and new added value that are considered essential today.

In this paper, we will look for leads to the resolution of this problem through two main approaches. The first is based on the perspective of "The Form of Japanese Culture," which is one method employed in the transmission of Japanese culture. The second approach is to introduce a venue (a situational context) that makes effective use of the wisdom of traditional production ("*Monozukuri*") in modern production situations, through collaborative work incorporating information technologies. By examining specific examples of innovation and the handing down of aspects of traditional industry in Kyoto, we will undertake a systematic study of next-generation innovations and creative means of passing on traditions, and also identify issues for future studies.

Keywords: Sharing and passing on tacit knowledge, form and Japanese culture, technologies for passing on experiential knowledge

1. TRADITIONAL KNOWLEDGE AND INNOVATION

Advances in IT have resulted in a massive increase in the quantity of information exchanged, as well as an acceleration in the speed of information transmission. Consequently, new items of knowledge only remain valuable for an extremely short period; they quickly

become obsolete, ending up as mere commodities. The Internet and other media developments have greatly facilitated global-scale sharing of knowledge as shown in Figure 1, and as a result people around the entire world hold the same information in common. Social structure has been largely changing due to a vanishing sense of belonging and an ongoing loss of identity. When fear exists of this kind of breakdown of the continuity of society or the culture to which people belong, the concept of tradition may become more prevalent in people's minds. Tradition is a form of behavior which consciously and unconsciously supports a person in a historical and social context. It is something that gives a particular sense of purpose to people living in a certain social or cultural setting.

In this way local communities are expected to play an important role in focusing interpersonal communications and people's lives. Taking the recent trend of returning to traditional cultures as an example, creative utilization of IT in combination with local cultural and natural assets, such as digital archives compiling such assets as information resources, can greatly benefit the concerned local community and its residents, supporting their activities through utilization of distinctive features in the local culture or the area. For example, advertising local attractions via digital archives can promote tourism. Moreover, digital archives will faithfully reflect the original forms of intellectual works such as data, pictures, historical sources, natural history data, other cultural assets, and designs into digital images, and for the purpose of allowing the general public to use them, design and shift the local cultures and assets into new social forms in a sophisticated way. In this paper, we will discuss the transmission of tacit knowledge and the promotion of collaboration based on information technologies - for example, the use of these new information resources in digital form and other forms - in the context of production.

Since ancient times, as a country strongly rooted in traditional arts and crafts, Japan has demonstrated superb expertise in many areas. Experience and aesthetic senses manifested in such expertise may be called "traditional knowledge" as one form of this tacit knowledge. Then,

reviving this traditional knowledge may, if it is properly used, lead to profound reinterpretation of traditional cultures, incorporating historical contexts based on the reinforced holism in human existence, against the backdrop of an ongoing and excessive segmentation of knowledge. The growing interest in traditional objects, such as kimono and *machiya* (traditional townhouses) as shown in Figures 2 and 3, and their new applications can be viewed as examples of new interpretations of rich traditional resources in a greater historical context. In the face of the crisis of continuity being faced by their own society and culture, people must seek out some kind of reference point from the past, as well as a venue where they can experience traditional knowledge and culture for themselves, even if it is without a conscious awareness. If activities such as those aimed at seeking out the value of experiences and offering venues for vicarious experiences, or aimed at increasing the global popularity of Japanese animations and films can be seen as an effort to expand and develop the “DNA” that is embodied by the knowledge of traditional Japanese “*Monozukuri*”[1], then this restoration of traditional knowledge could very well bring about positive economic effects. The transfer of tradition, culture and art, as in these examples, has at its root the philosophical base of manufacturing and its pattern of learning corresponds to the SECI model of “tacit knowledge → formal knowledge,”[2] in which acquisition takes place through learning specific forms.

2. TRANSFER OF TRADITIONS, LEARNING PROCESSES AND CREATIVITY

Looking from the perspective of “The Form of Japanese Culture,” which is one method of passing on Japanese culture, we could say that “passing on Japanese culture” means transmitting tacit knowledge while using the “form” of “formal knowledge” as an indicator.

In the past, trainee craftsmen always worked together in a large atelier, where they learned by watching their master and imitating his movements, instead of being taught what to do and how to do it step by step. They were told to learn by “stealing” the master’s skills by carefully observing him. In other words, learning means thorough copying. This does not mean, however, that creativity was completely ignored. It was a learning method requiring thorough imitation, for silent transmission of typically tacit knowledge. Craftsmen acquire this “Form” through the passage of time.

In the world of traditional Japanese arts and cultures, this can be often expressed by describing the ideal learning process as “between the unchangeable and the changeable latest trend.” It is an expression cited from Kyoraisho by Basho for describing the skill learning method using a metaphor with things unchanged for ever and new winds or changes taking place in the era. This means that one must acquire the unchangeable as a foundation and must also adopt current trends to create something new.

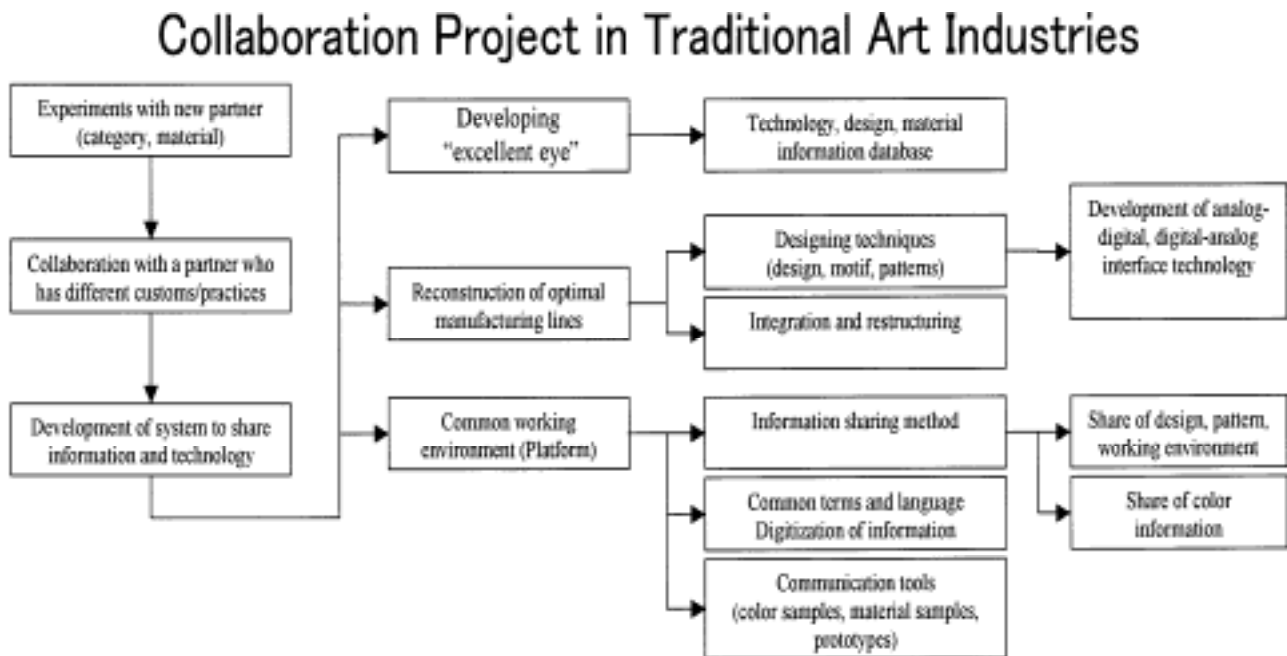


Fig. 1 Outline chart of knowledge sharing in traditional art industries



Fig. 2 A example of traditional Japanese culture



(a) An appearance of *Machiya*



(b) *Machiya Koubou* in Shijyokymachiya

Fig. 3 A example of traditional townhouses is *Machiya* in traditional Japanese objects

There is another old Japanese expression describing a learning process, *Shu-ha-ri* [3], or obedience - breakdown - breakaway. In other words, one must faithfully obey traditional forms at first, then break down the old and the traditional, and finally break away from the tradition to establish one's own creativity and create new forms. This type of method was passed on in the world of traditional arts, but now, because skills have been industrialized and fractionalized by the presence of groups of specialists, it is becoming increasingly difficult to adapt this method to "contextual knowledge" (Context Marketing), and so it is difficult to maintain creativity that is compatible with the times. To find a way out of this impasse, it is necessary to return to the traditional knowledge and refer to the intrinsic sphere of profound meanings. For instance, Zeami wrote about 'practices' in his book 'Fushikaden' and according to him, a practice should essentially start with thinking about ancient matters and by correctly learning how things were and how they ought to be [3]. For the purpose of acquiring a skill, a person is required to carry out a variety of actions to comprehensively understand how he/she ought to be, based on the contextual knowledge. In other words, if a person is going to 'acquire some skill,' he or she should enter an existing training system. Then, he/she should discover an original form and continue to build it up. In this process such a form should be considered as a kind of formal knowledge.

Within this process, this mould enables people to grasp meaning in terms of formal knowledge, and to rediscover their ideal form on a very high level, aiming to achieve this ideal form while always maintaining an awareness of their current situation. Perhaps the compilation of the "ideal forms" of the performing arts that Zeami talked about in *Fushikaden* is represented by the word "flower," which appears in that text; in other words, the allure of the flower, and the creativity that blooms from the physical location secured through many hardships. This "flower" could also be seen as the condition achieved for an instant through the process of learning in the performing arts, and also embodies the power to create a time and a meaningful space that people find alluring. We could use the term "flower" to refer to the dimension at which physical knowledge is acquired in the physical arts, or the form achieved in that instant of the "ideal form," and to refer to the process of attaining that condition and that creativity. In the learning process in the performing arts, "*keiko*" (training in the performing arts) is an ongoing transition between the "past" form and the "ideal" form, and the "flower" is embodied in the instant when the perfect form is attained in each performance. Just as a flower repeats a pattern of blooming, then withering with the change of the seasons, and blooming again when that season returns, so too does learning in the performing arts have a "flower" - a form that is attained at each dimension of learning, and the blooming

of that flower is the creativity expressed in each performance. The “ideal form” when a certain level is attained in the performing arts could be likened to a ship constantly steering toward the horizon - toward the next level or dimension. Even when a student of the arts attains a certain goal, the next goal appears on the horizon, in a lifelong process of constant learning and growth. In this sense, the arts are a form of discipline that incorporates a type of religious element.

Here, we have been discussing the learning of skills in artistic fields, but these learning processes have been passed on in various industries by craftsmen with skills refined through the practice of traditional industry. Experiential knowledge as passed on by master craftsmen is originally formed through long years of training. The presence of such a master craftsman acting as a kind of “coach” in the learning process is essential to the acquisition of experiential knowledge. This knowledge is acquired in an environment where “work” and “life” are unified, and where the student is immersed in the world of the craftsman, working, eating, and sleeping under the same roof. The student experiences the sensations of this environment as fully as possible, learning not only physical skills such as how to use and maintain tools and how to identify materials, but at the same time comes to imitate and absorb “situational knowledge,” including cultural and historical context, and the relationships among people and things in that environment. It is therefore said that the number of years the student will spend in acquiring these skills will be equal to the number of years that the teacher spent in his own training process. As noted earlier, given the increasingly rapid pace of our information society, experiential knowledge that cannot be acquired easily is extremely valuable, but those carrying on traditional industries are often required to respond immediately to changes in the environment; for example, the development of new products suited to the market in a given era, or changes in marketing and distribution practices. It is therefore necessary to make improvements in terms of the time it takes to pass on these traditional skills. These skills often involve highly personal relationships and tacit knowledge, such as experiential or “physical” knowledge, and despite the organic relationships in the skills of the various ateliers, the processes are becoming increasingly fractionalized because the tasks themselves are so extremely intricate. It is therefore necessary to see the venue of “*monozukuri*” at each atelier as a “cluster,” with each cluster being independent, but not closed. We must then enable collaborations and sharing of information even among clusters in remote locations as shown in Figure 1. The diagram below shows a reconstruction model aimed at a sharing of information within the production line, rather than the publication of know-how or free public access to a library of such knowledge (for example, through the

creation of a digital version of sensory resources that would enable users to reference past design materials and the outstanding skills of past craftsmen, and to communicate with others in a virtual, but highly realistic, modern “production space.”)

Works of traditional craftsmanship are generally made from natural materials, and express the original ideas of the craftsman; they embody wisdom, a masterful sense of the materials, and an environmental awareness in keeping with the seasons. That is, they contain a kind of “indigenous knowledge.” There is much to be learned with regard to materials as well, and numerous venture companies have been established in Kyoto since the end of the 2nd World War in the materials field. Gold fittings used in mobile phones and other electronic components made from ceramics are examples of the results of knowledge and understanding of materials handed down by past masters - knowledge that has led to great leaps forward in creativity and industry. This is made possible by a combination of human wisdom, knowledge of nature, and indigenous knowledge.

In the traditional entertainment districts of Kyoto, such as Gion and Ponto-cho, the relationships among the *geiko* (a young *geisha*), the *maiko* (a *geisha* in training), and the teahouses effectively utilize these differences between the eras to create a unique space/time for entertaining guests. In these traditional teahouses, as in the workplaces of the master craftsmen, the proprietress acts as a “knowledge coordinator.” She receives the requests from the customers, sends out for the desired meals, designates the *geiko*, and arranges other details, including the colors of the *geiko*’s kimono to match the season, in order to create a perfect venue of hospitality for the guest. Every detail of this venue is adapted to the needs of the guests visiting on any given day, down to the ornaments in the room and the scroll hanging in the *tokonoma*. New and inexperienced *geisha* (called “*maiko*”) receive on-the-job training in conversation with guests by accompanying more experienced *geiko*, who are referred to as “*O-nê-san*.” Until they are able to join in conversations with guests, these young *maiko* respond whenever spoken to with a single word: “*Ôki-ni*” [“Thank you very much”]. Gradually, they are able to acquire smooth communication skills as they come to understand the human interrelationships that take place in this unique and vivid environment, absorbing the rich experience of their “*O-nê-san*” and the teahouse’s proprietress. From the day that the young apprentice is first assigned to accompany her “*O-nê-san*” to entertain a client, that pair becomes inseparable. The young *maiko* calls the older *geiko*, as well as all the other more experienced *geisha*, using the term “*O-nê-san*,” which means “older sister,” and calls the teahouse proprietress

“*O-kâ-san*,” or “Mother,” so the people she works with become, in a way, her family. When a new *maiko* is given her professional name (similar to an actress’s stage name), one of the Chinese characters in that name is taken from the name of her designated *O-nê-san*. This way, although the two are not related by blood, their close relationship is clearly apparent to others.

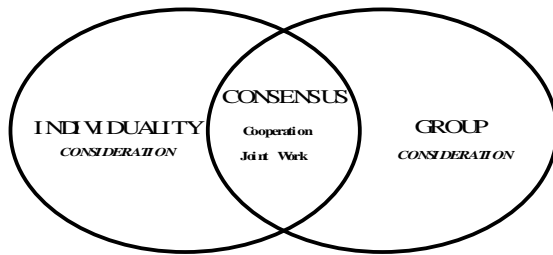


Fig. 4 Conceptual diagram of *Monozukuri*

Once the younger *maiko* has developed her skills sufficiently, if the *O-nê-san* must leave the table – for example, if she is responsible for entertaining more than one group of guests – then the *maiko* fills in the space until her “teammate” returns. It could be said that the close human relationships developed in this time/space can be maintained because of a unique system for managing client information in strict conformance with the context of those relationships – one in which many traditional teahouses will refuse service to new clients unless they have an introduction. *Geiko* are not simply hostesses who pour drinks and chat with guests; they must hone their artistic skills as well. The roots of the movements and carriage of the *maiko* and the *geiko* in this small, beautiful space can be found in the traditional training (*keiko*) of the Japanese arts, such as Japanese dance, the tea ceremony, and ikebana. *Maiko* begin their on-the-job training in all these arts from around the age of 15. (Traditionally, craftsmen began their in-house training at an early age, to best acquire the necessary physical skills.) These small face-to-face relationships are in fact extremely deep and creative, and the formation of these creative venues is very important to the innovations that will lead to a revitalization of traditional industry.

These venues are first defined as a “shared context”; that is, relationships born from a physical, virtual, or mental location that acts as a foundation for the creation and utilization of knowledge, and for the recording in memory of knowledge assets. “Venues” mean places where people gather to create knowledge; for example, connections, circumstances, specific situations, and

systems that must be experienced first-hand to be truly understood. It is said that venues for exchanges of information are essential to creativity and the sharing of knowledge. This requires new and original means of grasping situational knowledge that will enable creativity in fractionalized processes (e.g., where all parties share the same common knowledge), and a sense of “first-hand presence” in each *monozukuri* venue as shown in Figure 4, even if those venues are in remote locations.

3. FROM FORMS TO CREATIVITY

In this paper we will discuss the creative processes and the “creation of wisdom” required to integrate knowledge and skills (experiential knowledge) and give birth to products. Creativity in industry [4] can be realized with the ability to organize oneself according to contextual knowledge. Industrial creativity is essential for organizations to adapt to the rapid changes in the business environment of recent years. It has long been said that one characteristic of Japanese traditional culture is to “begin with Form, and adopt a constitution that establishes creativity.” It is essential to make use of the experiences, sensitivity, and raw materials that have been cultivated by traditional culture, and to reconstruct knowledge required to create venues for the production of original products (i.e., not only to carry on past knowledge and resources, but also to prevent them from becoming obsolete). Strategies for integrating the fractionalized skills through collaboration with IT and other methods are required for a new development. It is necessary to establish new venues for production by making use of rich sensitivity through collaboration and reunification. Digital archives are one of the methods that enable the sharing of information. Japanese artisans, who used to work together in a large atelier, had a business system to share information within the working unit. However, since a system enabling us to share information with the people in the whole world has recently been established, it is necessary to reconstruct such an environment with agility to correspond to the system, as in the United States, which introduced into business the information and communication technologies to expand the area of sharing information to the entire globe. An environment where players can independently share visions and create forms of knowledge for collaboration, while esteeming each other’s respective characters and initiatives, will facilitate the establishment of social creativity capable of promoting social innovations and eventually activating the communities concerned.

In order to establish a design for knowledge creation, it

will be necessary to revitalize the knowledge community without allowing the knowledge to become separated from the “knowledge ecosystem” (i.e., the situational context). Innovations are also promoted by the cultural maturation and the richness of the urban culture, which form the backbone for the creation of communities. In terms of the transmission of traditions as well, it is important to constantly encourage the internal vitalization of communities, and to have a vision for increasing creative value by not simply maintaining a status quo, but rather by maintaining a progressive spirit that accepts new and different ideas. The key to creative innovation is traditional knowledge in the hands of people who demonstrate cultural maturity, and who make use of rich sensory experiences.

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