Changing of Kudzu Textiles in the Japanese Culture

Tatsuhiko Murai
kuzufuinfo@kuzufu.com

Ryoko Murai

Follow this and additional works at: http://digitalcommons.unl.edu/tsaconf
Part of the Art and Design Commons, and the Art Practice Commons

http://digitalcommons.unl.edu/tsaconf/901

This Article is brought to you for free and open access by the Textile Society of America at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Textile Society of America Symposium Proceedings by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.
Changing of Kudzu Textiles in the Japanese Culture
Tatsuhiko and Ryoko Murai

Introduction

Fig. 1 shows a woman wearing kuzubakama. In Japan it is common for graduates to dress in such classical manner at the university graduation ceremony. However, the hakama shown in fig. 1 has specific historical value, because it is made of special fabric called kudzu-fu. Kudzu-fu has a long history and is made of bast fiber taken from the kudzu plant for weft and woven by hand. Kudzu-fu has been dyed with natural materials historically, because there were no chemical dyestuffs in former times. This hakama’s crimson red is also dyed with natural material, the inner bark of phellodendron amurense and insect humor called lac dye.

In this paper we will describe what is kudzu-fu, how to make kudzu-fu, what the history of kudzu-fu, and how we have directed the future of kudzu-fu.

Fig. 1. Woman wearing crimson hakama made of kudzu-fu  photo by Ryoko Murai 2011

1 Hakama: one type of traditional Japanese clothing. Hakama are a type of trousers or skirt worn over kimono, tied with four strings at the waist and falling approximately to the ankles.
2 Phellodendron amurense: a species of tree, commonly called the Amur cork tree. It grows over 15 height; its trunk is grayish brown color, divided into cork layer and yellow inner bark layer. The yellow pigment in the inner bark layer has beriberin, which is bitter and has an antibacterial effect.
3 Lac dye: There are parasitic insects which colonize the branches of the host trees. This insect sucks the sap and secretes a resinous pigment. The host trees are Flame of the Forest (species of tree) which grow through India and Myanmar, Indian Jujibe which grows in Ganges River Basin in India, Woman’s Tongue tree which grows in Africa, India, Nepal, Bhutan, Myanmar and Malaysia. This secretion is divided into pigment, resin, and impurities. It is yellowish brown, but a beautiful red pigment and a yellowish white shellac resin are gained after purification. The red pigment is called Lac dye.
What is Kudzu

Kudzu, perennial plant belonging to the leguminous family, is a plant flourishing along the forest edges, on the river bank, and slopes of a highway. It prefers sunny deserted fields and florishes from spring to autumn. Its crimson red flowers bloom in autumn. The dried kudzu flower has the miraculous power to cure hangovers. In winter, its foliage withers, but its roots still remain alive under the ground ready to sprout new shoots in the spring.

As kudzu plant contain high quality starch in its roots, many farmers used to planted kudzu plants around their homes in case of famine in the Edo period (1603–1868). Also kudzu roots, called kakkonto in Japanese, have an antifebrile effect for cold.

Actually, the kudzu plant was first carried by the Japanese into the United States when the Centennial Exposition in Philadelphia was held in 1876. Since then it seems that kudzu vines have been spreading in the southern U.S., people have been in trouble with kudzu, “the vine that ate the South”.

Making of Kudzu-fu

---

4 See “Sei-katsu-roku,” Nagatsune Ookura agronomist in the late Edo period wrote in 1840. Tsu city library 4316
(1) Mowing
Kudzu vines are mowed during summer (June to August.) The vines which grows straightly to the thickness of little finger and hairs grows thickly on it’s surface is desirable for mowing (Fig4).

(2) Boiling
After getting rid of leaves. kudzu vines are bundled like a lease.(Fig.5) Then boil it into hot water for 60~90 minutes. After that soon put the boiled kudzu bundle in water enable to cool it.(Fig.6)

(3) Fermentation
Mow silver grass leaves and lay them on the ground. Set the boiled kudzu on the silver grass leaves and lay more silver grass leaves over the boiled kudzu vine. Bacillus subtilis that usually exist on silver grass begin to ferment. Temperature and humidity must be controlled everyday.

(4) Washing
After 4~5days from the day kudzu vines were laid in silver grass leaves, take out the kudzu vines from the silver grass leaves bed and wash the kudzu vine in the river. Wash kudzu epithelium away, take it’s core away and take out bast fiber from kudzu vines.

(5) Drying
Dry kudzu bast fiber out side. (Fig.7)
(6) Preparing wefts
Split bast fiber in 1mm width then tie them up in order to make a long thread. (Fig.8). It is going to be the weft of kudzu-fu. Then the long thread is wound around a stick. (Fig.9) Do not twist kudzu threads. We call it “Tsuguri.”(Fig.10)

(7) Warping and Weaving
Cotton or silk are used for the warp. Figure 11 shows winding the warp around the beam (bar attached to the rear of the loom in order to wind up the warp). Wet tsuguri in boat-shaped shuttle (it has bottom) is used for the weft. In this way, the weft can be taken out without twisted. Kudzu-fu ia always woven in plane weave. After weaving, a beautiful shine appears on the surface of kudzu-fu when it is exposed in light, because untwisted kudzu thread readily reflects light.

(8) Dyeing
Kudzu-fu is dyed with natural pigments which are taken from natural materials such as vegetables, insects, and minerals. For example, red color is dyed with lac, cochineal, or safflower; blue color is dyed with indigo, log wood (hematin), and gardenia; yellow color is dyed with the inner bark of Phellodendron amurense and the outer bark of Myrica rubra (mountain peach tree). All these natural materials can make people healthy. Furthermore, lac color and safflower are able to give smooth blood circulation for women. Back when people wore kimono on a daily basis, many women wore deep red underwear which was dyed with safflower. Also, indigo is known to ward off harmful insects and bacterium. Samurai wore underwear dyed of indigo under their armor when they went to the battlefield to fight. This underwear was useful to prevent and heal bleeding and injury.
In other words, they put not only colors but also medicine into thread and fabric. So it is considered that dyeing is a kind of medical practice.

(9) Finishing

![Fig.13. left, kinuta-uchi](image1)  photo by Tatsuhiko Murai
![Fig.14. right, dyeing](image2)  photo by Tatsuhiko Murai

Lastly we cut off the fuzz on the surface of kudzu-fu with scissors then add kinuta-uchi to kudzu-fu (Fig.13). After kinuta-uchi, kudzu-fu becomes softer than before and on the surface of kudzu-fu we can see the brilliant luster.

The History of Kudzu-fu

(1) Kudzu-fu in China

According to Chinese myth in ancient times there was the saint called Ge-tian-shi in the region now called He-nan-sheng, and he taught people how to make shoes and clothes with twisted kudzu threads. He spread the sewing skill of how to make clothes with kudzu-fu.

In 1972, three scraps of kudzu-fu were unearthed at a six thousand-year-old habitation site on Mount Cao Xie in Wuxian country, Jiangsu China. The Research Institute of Textile Science of Shanghai has reconstructed that cloth.\(^7\)

Confucius (BC.552~BC.479) describes in the “Analects” as follows:

Gentleman … wear unlined kudzu-fu (chi-geki, <chi means fine kudzu-fu, geki means coarse kudzu-fu>) in the middle of summer, wear outerwear over kudzu-fu when going out. (xiang dang pian)

Mozi (BC.450~BC.390?) described in “Mozi” as follows:

kudzu-fu (chi-geki) is light and cool to wear in summer (chi guo di 6)

Moreover, in “Han shu\(^8\) di 62 Shi Ma Qian chuan\(^9\) di 32” the statement can be seen as follows:

---

\(^6\) Kinuta-uchi: fabric is set on a stone called a kinuta, whose surface is flat like a mirror, and then beaten with a mallet.

\(^7\) See “History of textile technology of ancient China” Cheng Weiji 1992. science press NEW YORK , LTD

\(^8\) Han shu: the collective name for the Chinese history known as the Han, from the 206 BC to AD 220

\(^9\) Shi Ma Qian chuan: Biography of Shi Ma Qian, a Chinese historian, philosopher, and poet from the Han dynasty.
Wear kudzu-fu in summer while wear deer skin in winter.
From these quotes it is quite evident that kudzu-fu is the best cloth for summer and people wore kudzu-fu willingly in the Zhou period (BC.1046~BC.256).\(^\text{10}\)

(2) Kudzu-fu in Japan in Ancient Times

The oldest kudzu-fu in Japan was excavated at number one mound of Shobugaura in Dazaifu city. The cloth was attached to the mirror with geometric patterns that was unearthed at the same mound. Until a few decades ago the kudzu-fu that is similar to the excavated kudzu-fu had been woven in Sashi of Karatsu city of Saga prefecture and Koba Hatazu-cho in Imari City Saga prefecture.\(^\text{11}\)

In a document of Heian period called Engishiki, the term of kudzu-fu can be found and the dyeing method of kudzu-fu was described as the following:

- **Deep purple**: a bolt of kudzu-fu  pucoon 13.8kg  vinegar 360cc  ash 30.6l  firewood 36kg
- **Light purple**: a bolt of kudzu-fu  pucoon 4.2kg  vinegar 1080cc  ash 27l  firewood 36kg
- **Deep scarlet**: a bolt of kudzu-fu  madder large 4.2kg  pucoon 4.2kg  rice 1.44l  ash 72l  firewood 54kg
- **Light scarlet**: a bolt of kudzu-fu  madder large 6kg  rice 1.8l  ash 72l  firewood 54kg

According to the text stated above, it is thought that in Heian period the clothing made of kudzu-fu was worn by the aristocracy in summer at imperial palace.

(3) Kudzu-fu from Medieval to the end of Edo period (ca. 1467~1868)

Clothing made of kudzu-fu in Medieval to the end of Edo period is still remaining until now. For example the Tokyo National Museum has the armor which was worn by Enshu Kobori\(^\text{12}\) at Osaka Natsu-no-jin\(^\text{13}\) (the siege of Osaka in summer). According to my observation, the under wear of Enshu Kobori’s armor seems to be made of kudzu-fu.

---

Fig.15. left  Hitatare (costume for samurai)  photo and owned by Tatsuhiko Murai
Fig.16. right  Kaji-haori (fire coat) in the Edo period  photo and owned by Tatsuhiko Murai

---

\(^{8}\) Han shu: history book of Qian Han that was compiled when Zhang di was an emperor in the Hou Han (AD.25~220) era.

\(^{9}\) Shi Ma Qian: BC.145~AD.86? a historian in Qian Han period China, the author of “Shi Ji.”

\(^{10}\) Excerpt from “Kinu no tōden” Junro Nunome 1999.

\(^{11}\) See “Kinu no touden” Junro Nunome 1999

\(^{12}\) Kobori Enshū (1579~1647) was a daimyō, master of the tea ceremony, architect, and garden designer who lived from the Azuchi-Momoyama era to the first half of the Edo period.

\(^{13}\) Osaka natsu-no-jin was the battle in which the Edo Shogunate destroyed the head family of Toyotomi in 1615.
Figure 15 shows an outer garment of the warrior class called Hitatare\(^{14}\) that is considered to have been made in the late Edo period. The warp are cotton and the weft are kudzu. Several phoenixes with gold and silver leaves are dancing in this garment. Unfortunately, the leaves were entirely exfoliated and only the marks of paste still remain. This garment is one of picturesque beauty with flying gorgeous phoenixes on deep purple ground with deep scarlet braided cord.

In the Edo period, the samurai class did not have to make war, rather they competed in beauty and bravery by wearing the gorgeous costume called Kaji-baori. Kajibaori and breastplate (the lower right in Fig.16) was a pair. Also the garment shown in Figure 16 is made of kudzu for weft, cotton for warp.

The jinbaori (war jacket) owned by a senior retainer of Kuroda clan\(^ {15}\) is stored in Fukuoka City Museum in Kyushu. An examination of this jinbaori done by Tatsuhiko Murai shows that warp of this garment seems to be hemp and the weft seems to be untwisted kudzu thread.

**(4) Kudzu-fu after Meiji Restoration**

![Sample books of kudzu-fu for export by Shizuoka wallpaper MFG. Co., LTD photo by Tatsuhiko Murai](image)

After the Meiji Restoration, the demand of kudzu-fu decreased dramatically due to the end of the samurai class. Also, the aristocracy changed their fashion from traditional clothing to Western clothing. Since the change of society toward Westernization, the kudzu-fu productions had to make other products instead of clothing. They successfully began to produce wallpaper made of kudzu-fu and exported them to overseas. It was not long before kudzu-fu business developed into a large industry and many exporters of kudzu-fu were established in Enshū\(^{16}\) area.

The forerunner company of Ooigawa kudzu-fu was also one of these exporters. The forerunner company of Ooigawa kudzu-fu was “Shizuoka Kappu” established in 1950. It had the opportunity to supply kufzu-fu wallpaper to White House through the Morgen Thaler company San Marino in Los Angeles. Mrs. Jacqueline Kennedy seemed to like kudzu-fu and adopted kudzu-fu wallpaper for her private room.

---

\(^{14}\) Hitatare: man’s costume mostly worn in samurai society.

\(^{15}\) Kuroda clan: one of the feudal clans in the Edo period. The Kuroda clan governed around Fukuoka in Kyushu.

\(^{16}\) Enshū: a feudal domain in the area of Japan that is today western Shizuoka Prefecture.
Most of the kudzu-fu traders began to depend on Korean raw materials in order to meet the numerous requirements. However, after a while the Korean president halted the export of kudzu-fu raw material to Japan. This means that Korea began to produce kudzu-fu in their country. In 1962, Shizuoka-kappu changed its name to Shizuoka wallpaper MFG.Co., LTD. In 1995, the Ooigawa kudzu-fu brand was established aiming at producing for the new era. Ooigawa kudzu-fu admires the ancient people and their techniques and consider them important in evolving from this era to the next. Also Ooigawa kudzu-fu offers workshops several times in a year in which participants can learn the knowledge and techniques of ancient people and view the developments towards the future. The tour to visit bast fiber cloth producing areas is conducted by Ooigawa kudzu-fu in order to glimpse this harmonious world.

(5) Recent activities

Recent products by Ooigawa kudzu-fu are shown in (Fig.18 Fig.19). Especially the body wash towel is very interesting article to use. Kudzu-fu body wash towel has been gained a lot of good reputation from its users since the fiber has the quality of water-resistance and include a substance called allantoin that can make human skin healthy and beautiful.
The Future Direction of Ooigawa kudzu-fu

Though there are many plants from which wearable fiber can be taken, those fiber plants that still remain to be utilized are very few. We think the fiber that has been utilized until now must have been carefully chosen by our ancestors through repetition of trial and error over the years. There must have been plants harmful for our skin, while there were other plants that were suitable for our skin. The fiber that has been chosen in that way must be able to protect and guide us in the evolution of clothing, because it is the most valuable gift to modern people from our ancestors.

There are words such as “Big medicine,” “Moderate medicine,” and “Small medicine” in Chinese in the oldest manuscript Shu Jing. Big medicine means food and clothing in daily life, moderate medicine means acupuncture and moxibustion, and small medicine means oral medication such as root of plant and bark of tree. Even today the clothes people wear every day exert considerable influence on people’s mind and body. We are approaching the time when people should be interested in the materials of clothing—what kind of fiber the clothes are made of, what kind of materials are used when they were dyed.

Human skin is covered densely with resident flora, and the two balance each other, and this harmony of resident flora is very important for people’s health. It can be considered that bast fiber cloth might have some miraculous power to cultivate resident flora in harmony. If human skin is likened to the earth, then clothing can be likened to a forest covering the human skin. Needless to say, the fiber which can adjust the condition of skin in a natural way is the most desirable fiber.

Speaking from another aspect, the act of weaving and dyeing has the great power to make people’s heart be in peace. Through the act of weaving and dyeing, similar to meditation, people discard their sadness, suffering, hatred, and all bad feelings and finally they reach the Pure Land as if they were wearing the celestial robe. We have seen a number of people, women in particular, who had some sorrow in their mind and were cured and surrounded with delightful atmosphere through weaving and dyeing. Weaving and dyeing bring great happiness and peace to people. The world will be able to gain the true richness when people weave even just one cloth in their life.

We of Ooigawa kudzu-fu hope to devote our knowledge and skills, which were inherited from our ancestors, to create a new and exciting world which no one has yet seen.

Acknowledgement
Many thanks for giving us the opportunity to present our works and activities.

17 Shu Jing: book of documents or classic of history; one of the Five Classics of ancient Chinese literature.