

A Study of the Tacit Knowledge on the Design of Kimono Patterns from Japanese Painting

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Abstract. One of the most important characteristics of the *Nishijin obi* (a traditional Japanese textile product) has been to express unique aesthetics in Japanese paintings by making full use of weaving techniques for imparting a three-dimensional effect. However, weaving today tries to distinguish itself merely through colors and patterns, losing the true depth inherent in weaving. An obi can emphasize the beauty of a kimono through its simple design, and a kimono can bring out the personality of the person dressed in it. The types of weaving that enable such design are the three main weaving styles of *Nishijin*-weaving. We will present the basics of these techniques, and how they are applied in order to realize the obi design that expresses unique aesthetic in Japanese paintings.

Keywords: Kimono · Nishijin obi · Nishijin-weaving · Weaving structure · Three-dimensional effect · Japanese painting

1 Introduction

There are three major producing areas of Japanese kimono woven fabric production, Nishijin, Hakata and Kiryu. Among them, Nishijin produces around 80 % of all the fabrics produced. The trend recent years in Japanese clothing is to regard obi (a broad sash tied over a kimono) as secondary to kimono. This trend reflects the decline of tradition and skills in weaving that is closely tied to obi production.

In Nishijin obi-making tradition, the craftsmen create volume in pattern using their highly developed weaving skill, in order to express sense of “*Ma*” (Aesthetic of empty spaces between objects) or “*Iki*” (understated stylishness) developed by the *Rimpa*-school. The *Rimpa* refers to the art sect, craftsmen and their art works, originated in late Momoyama-period (late 16th century) and continued until modern time, who employed highly original visual styles. Established by Hon’ami Koetsu (1558–1637) and Tawaraya Sotatsu (early 17th century), It has influenced European Impressionists or contemporary Japanese painting and design, and there are many examples of obis and kimonos inspired by *Rimpa*. However, weaving today tries to distinguish itself merely through colors and patterns, losing the true depth inherent in weaving.

With this situation in mind, the authors of this study have been trying to pass on the weaving techniques to the next generation, as well as creating additional values more suitable to contemporary lifestyle [1, 2]. An obi can emphasize the beauty of a kimono through its simple design, and a kimono can bring out the personality of the person dressed in it. The obi design of Kano-ko Co., Ltd. is characterized by its creativity in expressing “Aesthetic of *Ma*” and “*Iki*” within the limited space of an obi, sometime getting its clue from Japanese painting. The types of weaving that enable such design are the three main weaving styles of Nishijin-weaving, namely (1) Plain weave, (2) Twill weave, and (3) Satin weave. In this paper, we will present the basics of these techniques, and how they are applied in order to realize *Kano-ko*’s obi designs.

2 Basics of Three Main Weaving Structures

2.1 Plain Weave (*Hira-ori* or *Aze-ori*)

The plain weave is the simplest structure in weaving, and its examples can be found all over the world. Its structure consists of the equal amount of warp and woof (warp and woof ratio = 1:1). It is not three-dimensional, and it can be seen as plain and simple fabric, but both its process and necessary machines are also simple, making it easier to produce. Most of plain weave products are for casual wear. It can only express relatively simple patterns, and its texture is rough, meaning it does not feel lush *Tsuzure* weave is advanced styles of plain weave. It is characterized by its invisible warp. It can said to be a luxurious version of plain weave (Fig. 1).

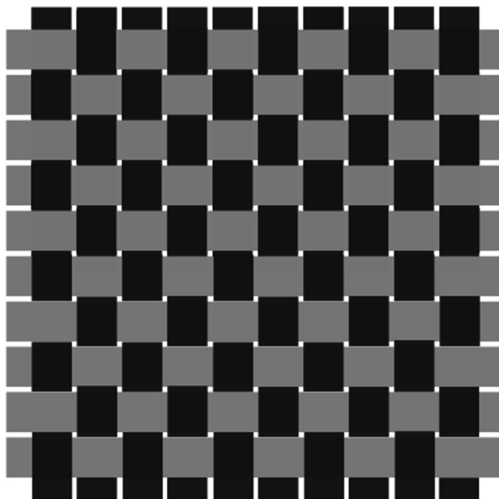


Fig. 1. Structure of Hira-ori

2.2 Twill Weave (*Shamon-ori*)

It is commonly called *Nishiki-ori* among producers. Its structure's warp and woof ratio is 2:1. In Nishijin, as well as others, luxurious products such as hand-woven fabrics are usually twill weave, though it is getting increasingly rare. Known for its glossy and tasteful appearance, this luxurious fabric is often used for formal wear. Especially for the *Hikibaku* technique used in Nishijin for a long time (technique that applies lacquer on the paper made from Oriental paperbush, pasting gold or silver sheet, cut them into filaments and then weave them with the weft into fabric), twill weave is more suitable than plain weave. By making fabric with double layer and then pressing down the surface layer with gold leaf, the *Hikibaku* can be more directly expressed. In formal obi, the volume which is the characteristic of *Hikibaku* method can be fully utilized by using this technique. There are many variations in twill weave. There are three different ways in just how to bind *Hikibaku* method (Fig. 2).

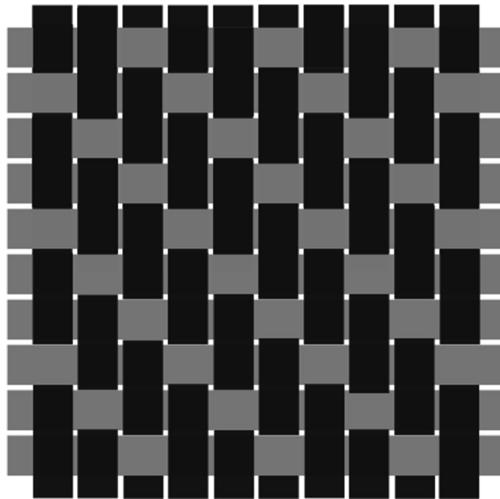


Fig. 2. Structure of Shamon-ori

2.3 Satin Weave (*Shusu-ori*)

Shusu (satin), *Donsu* (brocade) or *Tsuzure* Satin. Most of them are known as *Gomai Shushi* (5-harness satin) of which structure consists of warp and woof in the ratio of 5:1. It is extremely glossy and smooth, and has strong presence even when in plain color. Many satin used in Nishijin fabric is this *Gomai Shushi*, and used in special occasions such as obi for *Furisode* kimonos (Long-sleeved kimono for women, worn in ceremonial occasions). Satin produced by Kano-ko is 8-harness satin and there is 8 times more warp than woof. The fabric used for making *Mawashi* (a type of loincloth worn by a sumo wrestler) in Sumo is 32-harness satin which has far more warp than this 8-harness satin, but 8-harness is the limit for weaving patterns (Fig. 3).

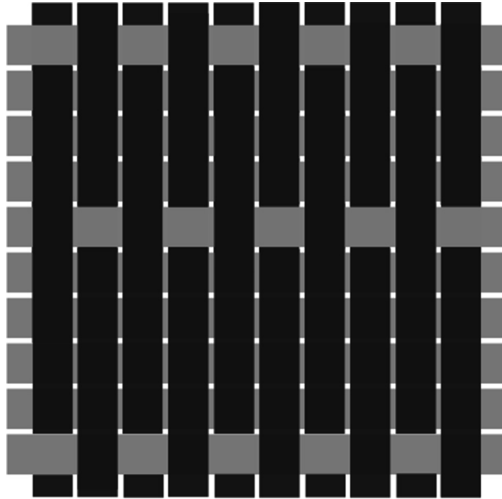


Fig. 3. Structure of Shushi-ori

3 Applications of Weaving Structures and Results

3.1 Applications of Plain Weave (*Hikibaku*)

There are equal amount of warp and woof in plain weave, meaning there are many tome (binding: binding edge with a thread) for weaving in *Hikibaku* paper filaments. Therefore, *Hikibaku* method in plain weave is almost like sinking the filaments into the structure of fabric.

Shiyu: Represents rain with threads in order to express dainty and fragility by intentionally sink in *Hikibaku* and emphasize the weave of threads. The selection of which weave and technique to realize the desired pattern and color is an essential aspect of obi making (Fig. 4).

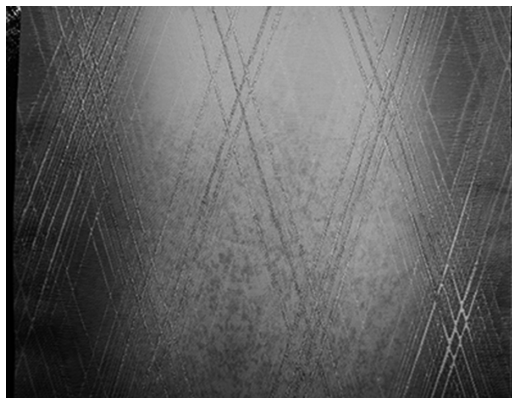


Fig. 4. Shi-u: application of Hira-ori

3.2 Applications of Twill Weave (*Hikibaku*)

In case of twill weave, weaving in *Haku* (paper filaments) gives it more sensual appearance than plain weave. This is because by binding *Hikibaku* with *Karami-ito* separate from the weaving structure, the paper filaments are more exposed, resulting in the emphasis of the filaments shiny surfaces.

Rimpa Utai-hon (Songbook of the *Rimpa* school): These are obis that employed patterns from book covers by Tawaraya Sotatsu for songbooks (in this case *Noh* theatre text) by Hon'ami Koetsu. Even though its design has large plain parts, giving it simple and calm presence, it is a fabric that maximally utilizes the *Hikibaku* method in twill weave in order for it to function as an obi for formal occasions. This obi is favored even by the imperial household, proving its elegance, splendor and perfection as a fabric (Fig. 5).



Fig. 5. Rinpa-utai-hon: application of Shamon-ori

3.3 Application of Satin Weave (8-Harness Satin)

Satin is commonly woven in what is called 5-harness satin, with warp and woof in ratio of 5 to 1. *Kano-ko* however, developed its original 8-harness satin in order to realize satin that is thinner and more lustrous. Production of 8-harness satin requires usage of more and thinner threads than usual. Therefore, we started with carefully selecting highest-quality threads with no damage. Using thinner and more warp means more time-consuming process. Moreover, because a lot more warp is visible, even the smallest damage in threads will be obvious, making it a faulty product. It is an extremely delicate fabric. It demands high concentration from both the producer and craftsmen, especially the weaver. However, the quality and yield ratio are increasing after many years of production, and we are currently developing more diverse colors and patterns.

Ryusui-kanoko (Deer hide pattern arranged like running water): The completed 8-harness satin shows formal beauty through the luster seen only in the highest quality fabrics. At the same time, it is thinner and lighter than usual satin, making it suitable

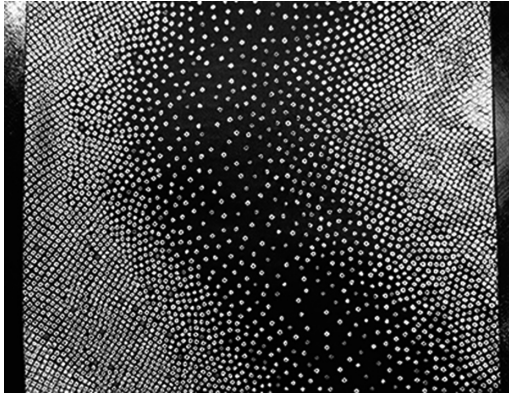


Fig. 6. Ryusui - kanoko: application of Shushi-ori

also for casual wear. This is a new horizon for kimono fabric. This product was presented as a good example of highest grade Nishijin satin kimono fabric to Ms. Margarida Barroso, wife of then the President of the European Commission Mr. José Manuel Barroso, who was present at G8 Hokkaido Toyako Summit (Fig. 6).

4 Systematization of Weaving Methods

Because in weaving, elements such as the pattern one wants to create, color or material are complexly interconnected, it is not realistic to strictly systematize it in relation to the weaving method and desired products. However, the direction of how and what to produce can be more or less decided when considering the characteristics of the three main weaving methods.

In plain weave, its structure is primitive and simple. In addition, its structure consists of equal number of warp and woof. Meaning its merit is its strength. Consequently, plain weave is used to produce thin fabric for summer obi.

In case of plain or twill woven fabric, the fabric color can easily be changed with the color of woof thread. In case of twill weave, it is difficult to make *Hikibaku* visible due to its dense woof threads, though there is a technique that leave only the section with *Hikibaku* unbound in order to keep it exposed. This however is only possible when weaving with handloom. Thus, it is necessary to pursue different techniques with material and type of loom following the application of each weaving method.

Because twill weave can create fine texture, through techniques such as combining it with *Ukiori*, it is suitable for the basis of formal obi. The technique that uses twill weave's *Karami-ito* is the best for fully utilizing the power of *Hikibaku*.

We know that since satin is a fabric that makes good use of warp threads, it becomes particularly beautiful when expressing a pattern that flows vertically. A pattern with ample empty space is more desirable as it shows the quality of the fabric. It is indeed an expensive and delicate fabric, with many difficulties during the production process, but this gives it the direct beauty of the fabric itself, which is the unique quality of satin fabric.



Fig. 7. Sou-tatsu-Tsuta-Fumi (Color figure online)

5 Analysis of Obi Design Examples

5.1 Sotatsu Tsuta-mon (Ivy Pattern Sotatsu Style)

Figure 7 shows a pattern based on “Ivy Lane folding screen” by Tawaraya Sotatsu. The original painting is of course a two-dimensional picture on a folding screen. Hence turning it in to a voluminous weaving requires more than merely copying the original, but also good sense, experience and technical innovation. In addition to what is called *Kara-ori* (Chinese-style weaving) which let threads float in order to create volume in pattern, it uses a technique called *Somikomi* (staining) which creates the appearance of mixing colors by layering many thick threads. In Japanese painting, there is a technique called *Tarashikomi* which intentionally make paint to blot in order to create a blur. This *Somikomi* technique is employed in order to create similarly delicate blur on the fabric. Moreover, there is very subtle gold leaf around the leaves which create slightly blurry shade around them, making individual leaf to stand out. The ivy pattern does not cover the entire obi, but placed with ample space, or “*Ma*” between them. This usage of empty space in design is akin to the style of Japanese painting tradition exemplified in the works of *Rimpa* as well as the understanding of space in Japanese tea ceremony. In this way, the products of Kano-ko deeply invoke Japanese tradition and history despite their modern sense of color. As a result, this obi not only reproduced the greatness of the ivy picture by Sotatsu, but it revived it as contemporary version of Sotatsu-ivy through accomplished craftsmanship.



Fig. 8. Dynasty file (Color figure online)

5.2 Dynasty Lace

This obi (Fig. 8) is an example of recreating the appearance of lace in weaving. It appears as though the lace is glued on the fabric even though it is a woven pattern. The design is developed from the research on French lace from the time of Louis the 14th, the Sun King. Anyone who sees this fabric for the first time is astonished by its beauty, opulence and the three-dimensionality of its pattern that could have been made by embroidery. However, it soon becomes clear that this obi too employs the mastery placement of empty spaces around the lace pattern that bring it out. If the lace pattern is simply turned into woven fabric, even the most beautiful pattern becomes flat and lacks the sense of luxury. The glossy part around the lace with golden halo is black *Hikibaku*. The filament that is woven into the fabric as though they are melting into it emits the sense of depth unachievable in simple monochrome fabric. These *Hikibaku* are bound just before the lace, making the edge of lace to appear matt compared to the glossiness of *Hikibaku* around it, creating the effect of shading around the lace, making the lace to have the appearance of volume. Its thinness, softness, lightness as well as the glossiness, volume and opulence that can only be seen in the highest quality fabric are the results of the traditional skill developed in Nishijin throughout the years. It is also the fruition of the union between beautiful design and the highest standard of weaving skill. Figure 9 shows the magnified view of the lace. The golden and slightly coarser parts are *Hikibaku*. You can see that by not putting *Hikibaku* on the edge of the lace, it creates shadow-like visual effect.



Fig. 9. Magnified view (Color figure online)

6 Conclusion

We believe that the traditional weaving skill passed on in Nishijin for hundreds of years will be carried on for a long time, and each generation will discover its own innovative applications. It is important to protect people, works, knowledge and craftsmanship in order to preserve the wonderfully diverse weaving method, rather than only leaving cheap and easy products behind.

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