

Japanese paper in action!! : Conservation treatments using "Washi" (1)

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*This article is a translation of the article in Japanese
in NDL Monthly Bulletin No. 654 (October 2015).*

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● 1. Introduction

The craftsmanship of traditional Japanese hand-made paper, or *washi* (和紙), was inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity on November 27, 2014. The three kinds of *washi* which were inscribed are: *Sekishu-Banshi* (石州半紙) from Shimane Prefecture, *Hon-minoshi* (本美濃紙) from Gifu Prefecture, and *Hosokawa-shi* (細川紙) from Saitama Prefecture. This good news swept across Japan, and marked the point where the remarkable method handed down from more than 1000 years ago had attracted worldwide attention.

From old times in Japan, *washi* has been commonly used in various necessities of life. Besides being used to write words and draw pictures on, it has also been used for sliding doors and screens, fans to make a cool breeze, decorative *origami* paper, kites, lighting equipment like lanterns and lamps, umbrellas waterproofed by applying oil or persimmon juice, etc. Even today, *washi* is used in numerous fields. Surprisingly, pots made of *washi* (*kaminabe*, 紙鍋) are sometimes used in Japanese restaurants. The paper used there is not necessarily made by the traditional method, but this may be another way of using *washi*.

In a series of two articles, we would like to introduce how the versatile *washi* is essential to the National Diet Library (NDL).

● 2. Features of *washi*

Most of our readers may wonder, "What is *washi*? How is it different from ordinary paper?"

According to dictionaries, the term *washi* was coined in the Meiji Era, to distinguish it from western paper which was brought into Japan. It can be generally defined as paper made of *kozo* (楮, mulberry family), *mitsumata* (三椏, oriental paperbush, daphne family) and *gampi* (雁皮, daphne family). The majority of *washi* is made from *kozo*, and the ones

used in the NDL are mostly 100% kozo. Paper fibers in *washi* are longer than those in western paper. Kozo fibers are as long as one centimeter and are flexible, thin, and durable. Due to this durability, *washi* is used in conservation activities at the NDL, as well as other libraries or archives all over the world. The fact that there are some documents made of *washi* from the 8-11th century in the *Shoso-in* (正倉院, a repository built in the 8th century, which stores valuables related to Emperor Shomu and Empress Komyo) demonstrates *washi's* durability. If preserved with care in an adequate environment, *washi* could be handed down for more than a thousand years.

3. The NDL and *washi*

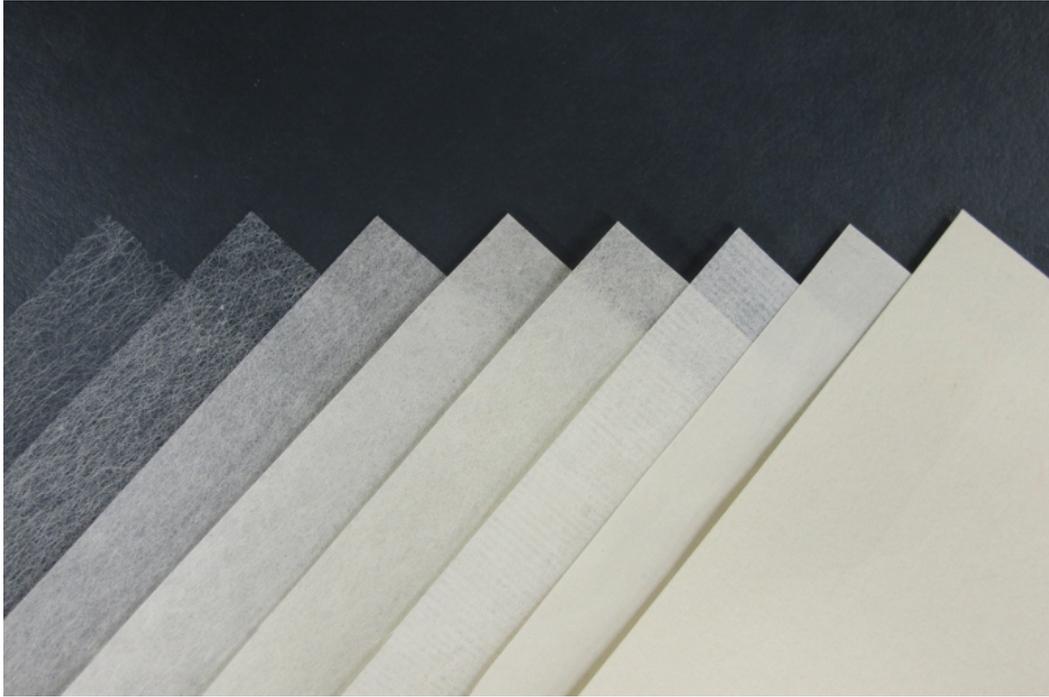
The Preservation Division of the NDL specializes in treatments to stabilize library materials. We take various measures to protect materials from deterioration and damage. But still, materials which are old or frequently used gradually wear out and need some treatments. *Washi* is necessary in repairing these paper materials. Here we will show how we make use of *washi* in our conservation work.



<<Image 1: Storage area for *washi*>>

Many kinds of *washi* are produced in different areas of Japan. Each has its long-cultivated features, such as the raw materials and manufacturing method. Shown in Image 1 is the storage area for the various kinds of paper at the Preservation Division's office. The cabinet at the left came from the former Imperial Library (1897-1947), one of the roots of the NDL. Stocked in here are kinds of *washi* used in our preservation work: *Sekishu-Banshi*, *Hon-minoshi* and *Hosokawa-shi* which are now Intangible Cultural Heritage of Humanity, *Echizen-Hoshoshi* (越前奉書紙) from Fukui Prefecture, *Uda-Gami* (宇陀紙) and *Misu-Gami* (美栖紙) from Nara Prefecture, *Gokayama-Gami* (五箇山紙) from Toyama Prefecture, *Yame-Gami* (八女紙) from Fukuoka Prefecture, *Tosa-Tengujoshi* (土佐典具帖紙) from Kochi Prefecture, dyed *washi* in numerous colors, and so forth. Although these are only some kinds of the *washi* produced in Japan, we stock what is needed for our

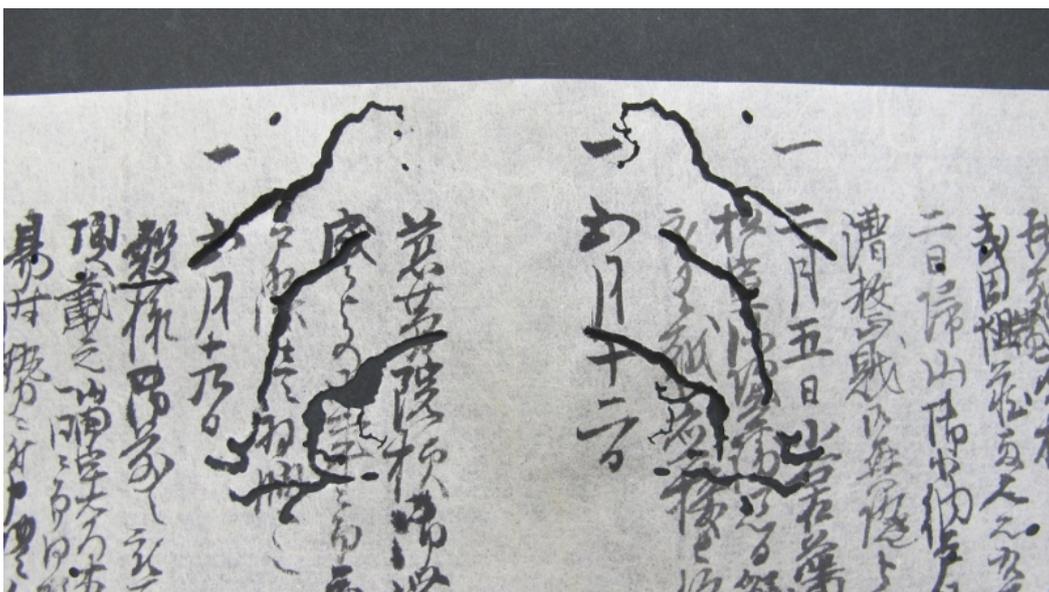
conservation work.



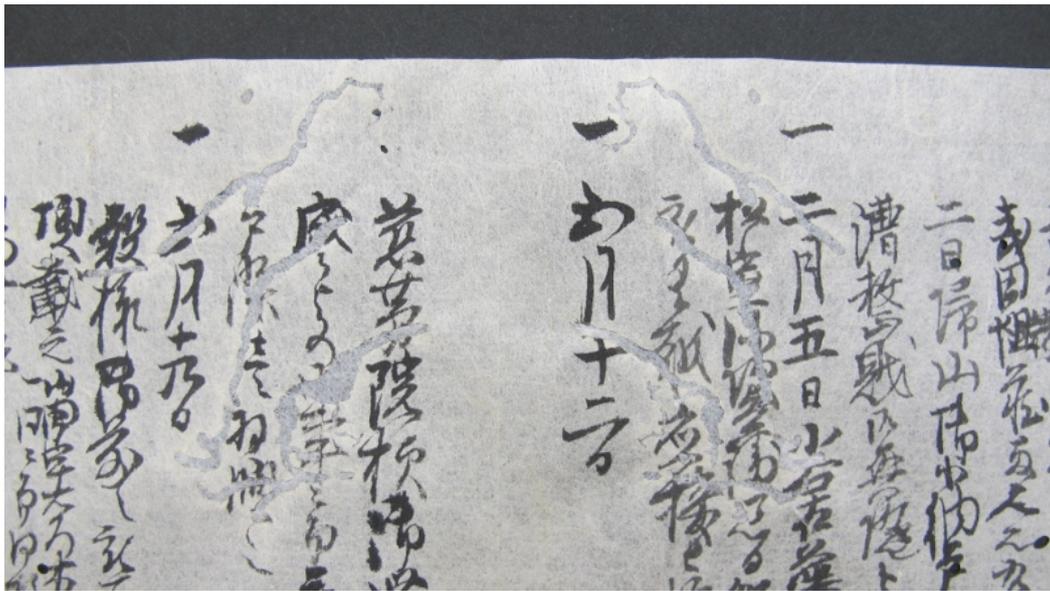
<<Image 2: Various kinds of *washi* used for preservation at the NDL>>

Image 2 is a photo of the various kinds of *washi*. Each kind of *washi* comes in different thicknesses, and we stock several types of thicknesses for each. The majority are hand-made, but for example, the two kinds of paper at the upper left of the photo (*Tenguji*), so thin that words can be read through them, are machine-made. We choose the most appropriate kind of paper depending on the condition of the materials which needs repairing.

4. Repairing Japanese-style books



<<Image 3: Holes eaten by insects>>



<<Image 4: Holes repaired using *washi*>>

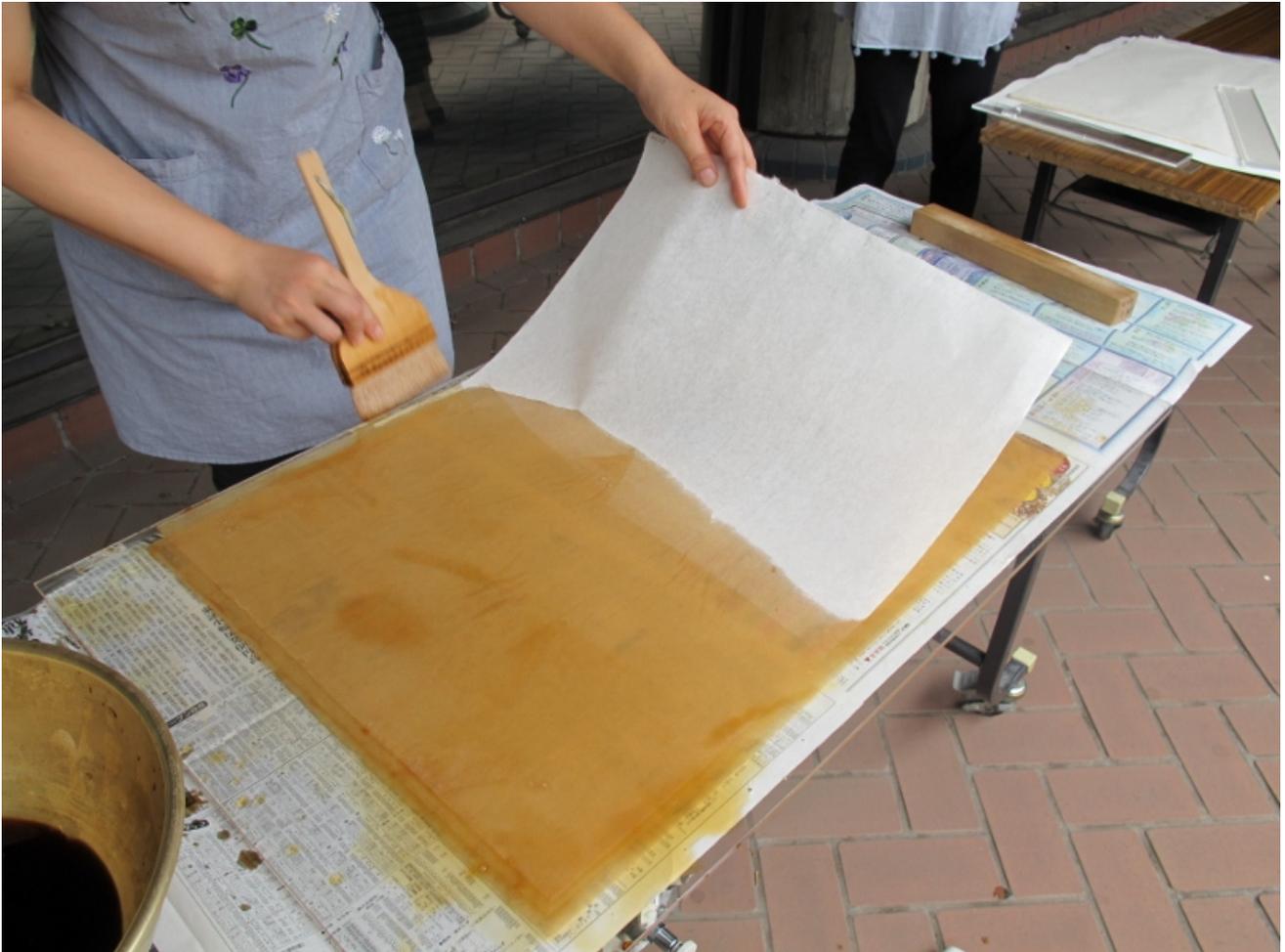
Image 3 is a diary written in the late Edo Era, of which the pages had been eaten by insects. It is written in Indian ink on *washi*. There are some materials that have been eaten by insects, gnawed by mice, torn, or deteriorated before being brought to the NDL. These holes make the materials difficult to read and handle.

In repairing these materials, we first choose a piece of *washi* that is similar in thickness and texture to that of the book. Next, we tear a piece of the *washi*, a little larger than the size of the hole. Then we use starch paste to cover the hole with the *washi*, and mend the gap. Once the hole is fixed, the book could be read and handled without difficulty again.



<<Image 5: *washi* dyed to match the color of the material>>

Paper in old materials becomes discolored and turns brown. There are also some materials such as Buddhist sutras in which paper was dyed yellow in the first place. In these cases, we sometimes dye the *washi* using plant dyes, so that it will match the color of the material. Shown in Image 5 are the dyed *washi*.



<<Image 6: NDL staff dyeing *washi*>>

Dye solutions of various colors can be extracted by boiling *yasha* (a kind of fern), *choji* (cloves), *mateba-shi* (tan oak), etc. We color the *washi* by brushing on these extractions, as shown in Image 6. Since *washi* is tough and flexible, we dry it as shown in Image 7, hanging the sheets of paper like drying laundry.



<<Image 7: Dyed washi being dried>>

5. Conclusion

We hope that this article has given you an idea about the features of *washi* and what kind of attempts we make to restore Japanese-binding books using it. In the next issue of the NDL Newsletter, to be published in February 2016, we would like to introduce how we apply conservation treatments to western-binding books, newspapers and maps using *washi*.

Related articles from the National Diet Library Newsletter:

- Japanese paper in action!! : Conservation treatments using "Washi" (2) (No.204, February 2016)