1992

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A WISTERIA GRAIN BAG
and other tree bast fiber textiles of Japan

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Throughout most of Japan’s long prehistory (Jomon period: ca. 8,000–300 B.C.), the hunting and gathering Jomon people stripped the bark of a variety of native trees, shrubs, and grasses and processed it into cordage, baskets, nets, and various twined textiles. Impressions of cloth on the bottom of some of the distinctive cord-patterned pottery for which the period was named, suggests that weaving was not practiced until the very end of the period.

Dislocated by the expansion of central Chinese authority, groups of immigrants from the continent moved to Japan in the third and second centuries B.C. These peoples brought irrigated rice cultivation, metallurgy, and new textile technologies with them. They cultivated the long-stapled ramie plant and wove it into cloth which they pounded smooth and pliant with wooden mallets. A gift of silk worms was sent from the Chinese court ca. 200 A.D., and, in 243, the priestess-ruler Himiko sent an envoy with well-woven bast fiber cloth and rough silk in return, according to records in the Wei Chih, the Chinese dynastic history of the period. Archaeological evidence suggests that silk reeling and weaving remained comparatively crude until the seventh and eighth centuries when a new wave of continental influence brought the sophisticated culture of the Chinese Tang dynasty (618-907) to Japan. Cotton was introduced from Korea in the fifteenth century, but it did not become commonly available throughout the country until the mid eighteenth century.

Although cultivated bast fibers (asa) could be made into much finer cloth than could be produced from processing the inner bark of wild trees and shrubs (juhi) and grasses (sohi), wild materials continued to play a significant role in textile production for many centuries. In tax records included in the early tenth century Engishiki (Documents of the Enki Era), for example, tribute cloth woven of wild materials (nuno as distinguished from asa) provided a significant percentage of the bast fiber cloth received by the court, particularly from the more primitive eastern provinces.

Bast fiber materials, both cultivated and wild, supplied the raw materials for all of the textile needs of the vast majority of the Japanese people until cotton became widely available in the latter half of the eighteenth century.
Associated with the common people, with everyday necessities, and with Japan's native heritage, they also played an important ritual and symbolic role in early poetry, in myth, and in the native Shinto religion. Early records of Shinto belief and practice such as those in the Kojiki and Nihonshoki, official chronicles compiled in 712 and 720 respectively, reveal a rich complex of words and actions involving tree-bast and cultivated bast fiber textiles, often a pairing of mulberry with hemp. The white mulberry paper prayer offerings tied to branches on the precincts of Shinto shrines and around various natural sacred objects, such as rocks and old trees, are direct descendants of ancient offerings of mulberry cloth.

The complex of words associated with bast fiber materials suggests both the antiquity of the use of tree-bast fibers and their central importance in ancient culture. For example, the word yū, designating unwoven mulberry fiber, was related to a homophone meaning "pure" or "sacred"; and the word umu, a homophone for the word "to give birth", describes the process of transforming bast fibers to thread.

The wide-spread availability of cotton from the middle of the eighteenth century diminished the importance of all bast fiber textiles. Comparatively rough and coarse, juhi materials were considered less desirable than either cotton or the cultivated asa fibers, hemp and ramie. As a result, their use became largely restricted to relatively isolated and impoverished mountainous areas, too cold for growing asa or cotton and too poor to trade for these finer materials. In the areas that continued to rely on wild materials, however, juhi fibers remained an important part of the subsistence economy of that region and sometimes provided a meager income as well. Tree-bast fibers are very strong. They became rope and cordage; nets, traps and snares; sacks for carrying and storing heavy grains; and work clothes. In the kitchen, twined mats (shikino) were used under steamy cooked rice to air and cool it as it was being formed into rice balls to pack "dinner boxes", which might then be placed in a wild-bast fiber dinner bag to carry to the fields or mountain forests.

Both mountain wisteria and mulberry were woven into strong narrow bands and sold to edge tatami mats. Dyed indigo blue they were especially valued in public places such as temples where the cloth bindings of the tatami mats receive a great deal of wear. Linden fiber, in the northern part of Japan, was one of a number of tree-bast fibers used to make shikino; these mats probably had a small local market. There was also a limited market for grain bags made of tree-bast fiber. When treated with persimmon juice these sacks were stronger, longer-lasting, and more water repellent than those made from any other material.
The process of selecting, gathering, and preparing the wild material to be made into thread is very similar to that of collecting and preparing material for making baskets. It is easy to imagine that a skilled and inquisitive basketmaker in the Jomon period could simply have pursued each step of the process a little further than was necessary for a basket until she had isolated the pliant inner bark both from its core and from the tough outer bark as well. Today, the process of gathering and preparing tree-bast materials differs slightly according to the exigencies of the particular material and local environment as well as to the annual cycle of work and time-honored practices of a particular community or even family. However, the general procedure is quite similar for all tree-bast fibers.

Today, for example, in the mountains overlooking the Japan Sea in the nether regions of Kyoto prefecture, wisteria is gathered in the spring after the sap has risen but before the vine becomes old and tough. May, when the blossoms are out, is a good time. Long, straight sections of vine are the most desirable; knots and twists are difficult to work with and produce poor fiber. The vines are cut and carried down steep mountain trails in a basket-backpack to the village. Sometimes they are collected by car, as the forests grow right to the edge of the winding mountain roads. As soon as possible after cutting, while the vines are still fresh and green, the bark is peeled from the core. Sometimes this is done in the mountains right after the vines have been cut. More often they are carried back to the village and perhaps left overnight in the clear mountain stream that runs through the high valley. To remove the bark, the vines are pounded hard with a heavy wooden mallet against a flat stone, such as the large door-stone that marks the entry to the house. The stick is turned away from the body and pounded on all sides from root to tip two or three times. Then, starting from the root end (called the atama, "head", or moto, "base"), the bark is separated from the core with a knife, sickle or cleaver for a few centimeters. It can then be pulled off cleanly, quickly, and easily. Again working from the root end, with a sickle, the worthless outer bark is picked and peeled away to reveal the moist white inner bark. This is coarsely split, its root ends tied together in an overhand knot, and the bundle hung to dry for a few days or longer. This part of the process must be done soon after cutting; it becomes more difficult if the vines are collected later in the season or allowed to sit too long after cutting before they are peeled. At this stage, however, the bundles of fiber can be stored for a while to accommodate spring field work.

Although the outer bark has been roughly peeled off, the fibers still have many bits of outer bark, short fibers, and other miscellany clinging to them which must be cleaned and scraped away. Before the fibers are worked further, they are soaked in water for several days, often in the stream, and
then simmered for a long day in a large pot of water and ash lye on an outdoor fire to soften the fibers and prepare them for scraping and splitting. They are then washed well in the stream, and the ash particles, short fibers, and remaining bits of bark are scraped off with kobashi, a pair of hollow-cored pieces of bamboo that are simply jointed with a bamboo leaf. The kobashi, made to fit exactly between a woman’s palm and the crooked finger of her right hand, are placed on either side of the root end of the flattened length of fiber. Working always from the root end towards the tip, the woman runs the kobashi, hard, down the length of fiber again and again until the outer bark is slowly scraped from the inner and the fibers are loosened so that they can later be split into incereasingly fine strands. Ater being cleaned and scraped, the fibers are wrung out and hung in the shade to dry. Later the whole process is repeated, this time simmering the lengths of fiber for four or five hours with rice hulls added to the water. After a thorough washing and scraping the fibers are dried and put away for winter.

Tree-bast materials, juhi, are always worked from the root or base (moto) to the tip (sue). Thickest at the root, they become progressively thinner toward the tip. Since the fibers grow up and away from the root, they are roughened and become weak if scraped or rubbed in the wrong direction. This directional orientation is an important distinguishing characteristic of these fibers and is respected throughout their processing.

Sometime in the Jomon period, the hunters and gatherers of the Japanese archipelago learned to fashion bast fibers into a strong and continuous strand of the thickness and length that they desired. This must have been a technological innovation of momentous importance. Straw ropes to be used for ceremonial purposes (such as New Year’s decorations), even today, are often made with a process that is closely related to the widely diffused spin-ply method known as "thigh-spinning" in which two or three elements are given an independent twist in one direction (usually "Z" as the palm of the hand rolls the fibers down the thigh away from the body) and then a hard countertwist that plies them together (usually back up towards the body) resulting in a Z-spun, S-ply element. In thigh-spinning and related methods this is done continuously for the whole length of the fibers, resulting in a continuous simultaneously spun and plied thread or rope. The method used to produce a continuous strand of bast fiber, however, the method known as "giving birth to the thread" is quite different and, in fact, appears to be distinctive to East Asia and its environs.4

Neither cultivated nor wild bast fibers in Japan are "spun". In fact, they are given no twist at all as they are made into thread except at the tiny joins where one length is added to the next. No tools are used. Often, today, a twist is added to
the finished thread in a separate process. For this purpose a spindle or low spindle-type wheel is used. The process of adding twist to the "birthed" thread is sometimes called "spinning" (tsumugu) but more often is referred to simply as "putting in twist" (yori kake). The bundle of thread is well wetted in hot water, then wrung, before it is given this final twist.

There are many different methods of joining the fibers, methods which differ primarily according to the particular qualities and intended use of the material being processed. These methods, however, are closely related. All leave most of the length of the fiber untwisted, working only the point of join. The finest joins, reserved for the finest hemp and ramie threads, are designed to be very strong yet hardly visible, and to increase the diameter of the thread as little as possible. Sometimes fibers are simply knotted together, as even the finest basho fibers are in Okinawa today. Usually, however, this reflects inferior workmanship, as even the tiniest knots in most materials are slightly rough, easy to spot in a finished textile, and subject to wear.

Let us return, for a moment, to the Kyoto mountains, this time in winter when the snow lies deep against the low-roofed houses and wisps of smoke curl up from the little pit fires. Women gather in one of the houses around the open fire with a large pot of tea and settle in to transform unruly bundles of tangled fibers into strong, tough, and well-disciplined thread.

Working, as always, from the root end of the fiber towards the tip, the fiber is split as it begins to narrow, and the root end of a new length is laid in. Working between the thumb and fingers of her left hand, a right-handed woman then gives the lower, and longer, split end of the old fiber and the new length a tight S twist by rolling them sharply towards herself from her first finger towards her middle finger. Simultaneously, she gives the upper split end a similar S twist. She then has two sets of S-twisted elements, the top split of the old fiber and new, laid-in fiber S twisted together. Deftly pinching the outer edges of the section that will be the join to keep the twist from travelling and hence loosening, she gives both sets of elements a sharp countertwist resulting in a Z ply as her thumb rolls back up her fingers. She may then give the join a quick sharp tug to help set the twist and also check its strength. Her action is so quick that hardly an instant elapses as waving strands of unruly fibers are transformed into a strong continuous strand. As progressive joins are made, the thread winds its way down from her right hand to swirl into a coil in the persimmon-tanned paper-covered basket at her side. The coil of thread in the basket lies flat and untwisted except for the tiny, very tight, spin-ply joins.
In a high valley in the mountains rising from the Japan Sea coast in Kyoto prefecture, the use of wisteria has continued to the present although its uses have changed over the years. As young men, villagers now in their seventies and eighties worked in the forests and rice fields in sturdy wisteria work jackets edged with scraps of blue and white stenciled or kasuri patterned cotton. These jackets were made from mountain wisteria vines gathered, stripped, split, "birthed", woven, and sewn by their wives. I have a jacket in my tiny study collection, probably from the same general area, in which unjoined wisteria fibers lie full and flat in the weft, held snugly in place by a commercial string warp.Probably the maker of the jacket did not have the considerable skill necessary to prepare a wisteria warp, which would have been much stronger than the cotton she used, or even to join the weft fibers. Yet she made a very serviceable jacket, sturdy, thick and, now, almost paper-soft with use. The jacket stands in sharp contrast to an old grain storage bag I was given with fine, tightly-twisted warp and weft. The two textiles, both wisteria and both of a wonderful strength and vitality, are yet so dissimilar that they hardly appear to have been made of the same fiber.

The sight of men working in the fields in wisteria work jackets belongs to the past. Although wisteria fiber was used for grain bags and for cordage longer than it was for clothing, that use also has almost completely disappeared. The few bolts of fujifu (wisteria cloth) that are produced each winter are sent to the cities where they hang in doorways and cover summer zabuton (sitting mats). They are particularly sought after by restaurants that serve the small but sophisticated clientele that appreciates the strength and beauty of juhi textiles as well as the rural heritage that they represent.

In 1992, in the post-industrial, competitive and highly commercial nation that is modern Japan, the production of tree-bast fiber textiles for local use is only a memory in the minds of the very old. Today, it is Japan’s wealth and the interest of an educated urban clientele that support the production of wild bast fiber textiles. In the 1970’s, it seemed as if the use of juhi materials would die out with the few elderly women who still possessed the knowledge to work with them. Since that time, in several areas, these women have grouped together to form preservation societies and to pass their skills on to a new generation of people, some of whom come from the community, some from distant cities. The dedication of these women and their willingness to share their knowledge, coupled with public interest, urban patronage and, in some cases, government recognition, make the survival of juhi textiles seem more promising now than it did a decade ago.
1. see: Wada Kiyoshi and Ishihara Michihiro, ed. Gishi Wajin Den... (Wei Chih), Iwanami Shoten, Tokyo, 1974

2. see L. Cort (1983, p. 152.)

The word "nuno" can be used generically to refer to cloth of any kind. More generally it refers to vegetal fiber cloth as opposed to silk. Yet more specifically, it refers to bast fiber material as opposed to cotton. In the period in question, however, it was used to refer to bast fiber cloth woven from wild materials as opposed to that woven from cultivated materials. See Genshoku Senshoku Daijiten (Fundamental Encyclopedia of Textiles), Tankosha, Kyoto, 1977.

3. For a provocative analysis of the pairing of [old/native] tree-bast fiber textiles and [new/continental] cultivated bast fiber textiles to symbolize a harmonization of old and new, native and continental, in the Daijosai accession ceremony of the Emperor, see Louise A. Cort (1989, pp 383-386).

4. I have examined textiles from Korea, China, northern Thailand and Burma and found similar methods of making the thread. Examining these textiles takes a long time. Many are given a twist after they are made into thread, so they may well appear at first glance to have been spun. Sometimes the joins are so tiny that they are almost invisible to the naked eye. This is particularly true of the finest ramie textiles. I am curious about the extent of this method of "birthing" the threads and would welcome any correspondence from others on the subject.

5. Several years ago Nobuko Hiroi suggested that the highest quality pre-war bashōfu textiles were probably not made of knotted thread. Recently she has reported seeing a very fine old garment with spin-ply joins.

Yoshiko Wada has reported that the spin-ply join, not a knot, is used for bashō fiber on Taketomi Island today (public comment after this paper at TSA, Seattle, 9/26/92).
BAST FIBER MATERIALS USED IN JAPAN

ASA: cultivated, grass-bast fiber

hemp (\textit{taima/honasa, Cannabis sativa})
ramie (\textit{karamushi/choma, Boehmeria nivea}) [also called in English "China grass],

\textit{Asa} has often been translated generically as linen. This is misleading when referring to traditional Japanese textiles as flax was not grown in Japan until modern times. Linen is sometimes referred to as \textit{seiyo}, or "Western asa".

JUHI and SOHI: tree-bast and wild grass-bast fiber

\textit{yamafuji} (mountain wisteria; \textit{Wisteria brachybotrys Seib. et Zus.})
\textit{shina} (linden; \textit{Tilia japonica Simk.})
\textit{kozo} and \textit{kaji} (mulberry; \textit{Broussonetia kazinoki Siebold} and \textit{Broussonetia papyrifera Ventenat}).
\textit{irakusa} (nettle; \textit{Urtica dioica})
\textit{kuzu} (arrowroot; \textit{Pueraria hirsuta Matsumoto})

These wild bast fiber materials are found in the main Japanese islands. On Hokkaido and Sakhalin, the Ainu, a non-Japanese people probably of Paleoasiatic stock, used \textit{elm} (\textit{atsushi}; \ldots) as well as linden and nettles; on Okinawan the Ryukyuan people used a leaf fiber from the thread banana (\textit{bashō}; \textit{Musa liukiuensis}).
Selected References:

Adrosko, Rita J.

Cort, Louise Allison.


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Ellwood, Robert S.


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Philippi, Donald L.

Takahashi Yuji, ed.
Bag for carrying grain, Kyoto prefecture, 20th century, wisteria fiber warp and weft.
Man's work jacket, Kyoto prefecture (?), 20th century, commercial cotton string warp, wisteria fiber weft.
This paper is part of an on-going collaborative project on the study of the processing of both wild and cultivated bast fibers within Japan. The preliminary field work on wisteria fiber on which this paper is based was done by the author and her husband, Jerry Dusenbury, in 1979. This was followed by field work done in collaboration with Japanese colleague Nobuko Hiroi and her husband, Goro Nagano, which the Naganos then continued and expanded. Dusenbury, Hiroi and Nagano collaborated on an exhibition of Japanese bast fiber textiles at the San Francisco Craft and Folk Art Museum in 1985 and co-authored the accompanying catalogue.

The project includes the documentation of processes specific to each region and/or fiber, especially the execution of the spin-ply join, as well as differences in tools and in textile related terminology. We would like to hear from others interested in the use of wild bast fiber materials, particularly anyone working in other parts of Asia.

Parts of this paper were presented in an article in Spin-Off "Tree-Bast Fiber Textiles of Japan" (1986. Vol. X, no. 3:35-39) and are reprinted here with permission from the publisher.

Diagram by Nobuko Hiroi and Goro Nagano