## "Shibori" and "Kasuri"

Two Forms of Indigo Dyeing in Japan

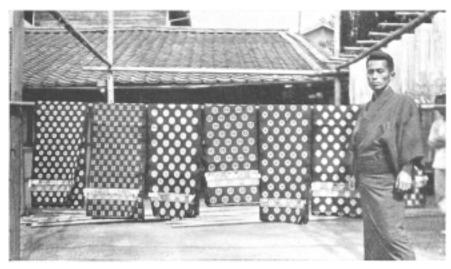
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Two types of indigo dyeing distinctive of Japan are "Shibori" and "Kasuri," which are forms of "resist" dyeing.

In "Shibori" bleached cotton piece goods are tied with knots or bound with bamboo skins where large areas are to be "resisted," and then immersed in a weak vat. After seven to eight dips, each one in a fresher and stronger vat, the goods are squeezed, without rinsing, in a straw bag. The knots are then usually removed by children who earn a small amount for this after school hours. A slightly irregular and very artistic design is the result. ting it with string to make intricate designs which consist of eccentric circles, checks and flowers.

"Shibori" dyed cloth is used for women's summer kimonos and obis.

"Kasuri" is yarn dyed with "resists" made by binding at regular intervals with string. The yarn is dyed in the same manner as above but is squeezed by twisting on a bamboo rod. The "Kasuri" cloth is then woven from the dyed yarn. The uniqueness of "Kasuri" lies in the fact that the weft and the warp have been dyed separately with the resists so skill-



Finished Kasuri Cloth

Another method of making "Shibori" which may be seen especially in the summer season is to wrap the cloth around a log about one foot in diameter and fifteen feet long. The cloth is tightly bound with string and compressed as much as possible. The log is then dipped in a vat and the dyeing proceeds with the usual number of dips.

One of the attractive features of "Shibori" is the crinkled effect caused by the knotting. If properly made, successive washings will not destroy this crepe effect. Great skill is shown in gathering up portions of the cloth and knotfully spaced that when woven they fit according to design and resemble a print, though the lines are softer than those obtainable with machine work.

In the districts of Yamato and Ohmi, a peculiar method of making Kasuri is still used. Boards about thirty inches square and onequarter inch in thickness are cut with grooves. The yarn is then laid evenly over a board at right angles to the grooves. A second board is placed on top and the yarn folded back over it. This is repeated until a depth of ten to twelve boards is attained. These are held tightly in place with iron bars and the pile immersed in the fermentation vat. The indigo liquor penetrates through the grooves and dyes the yarn in bands. The portion pressed tightly between the boards remains white.



White Cotton Cloth, Prepared for Resist Pattern, Ready for Dyeing

After eight to ten dips the boards are removed and the yarn washed and dried.

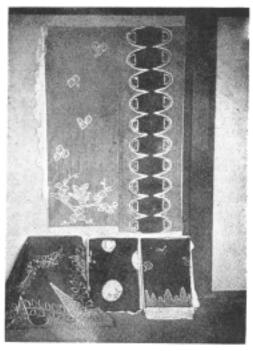
The indigo fermentation vat has been used in Japan for over three hundred years. In 1885 Indian natural indigo became known and for a period of years was used extensively in combination with native indigo.



Indigo Fermentation Vats
The dyed cloth is squeezed in a straw rope bag.

Synthetic indigo was introduced in 1900, and from then on it has always been used in combination with the natural.

The indigotine content of Indian natural indigo is high, ranging from 50 per cent in the cheapest grade of Madras to 75 per cent in the finest Java product. This indigo was shipped in lump form with all stems and vegetable waste removed. It successfully competed with the early synthetic indigo, until improved production caused the latter to undersell the natural product by a wide margin. Indian indigo is now far too expensive to be used in Japan, even in competition with Japanese natural indigo.



Samples of Shibori

The common type of vat is earthen, with a capacity of two hundred liters, though some modern dye houses here have vats containing sixteen thousand liters. The vats are sunk in the ground with the tops flush with a platform one foot high. The number of two hundred liter vats ranges from eight to twelve, in small dye houses, to as many as three hundred in large ones. They are placed in squares of four, with one slow burning fire in the middle. From five days to a week are required to complete the fermentation of a vat and ordinary use completely exhausts it in two weeks. Goods to be dyed are dipped first in

the oldest and weakest vat, and each succeeding dip is made in a fresher one.

A general formula for making up the two hundred liter vat is as follows:

- 50 lbs. native indigo
- 2-3 lbs. artificial indigo
- 2 lbs. caustic soda, soda ash or crystal soda
- 3-5 lbs. lime
- 5 liters fermented liquor

2-3 lbs. wheat bran, sweet potatoes or molasses.

Water is added to bring the total to 80 per cent of the vat's capacity. The temperature is kept at 20 to 25° C. by means of a slow burning sawdust fire. During the summer months the temperature is high enough to permit fermentation without artificial heat.

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