



*Darkly,
Deeply,
Beautifully
Blue*

Jane Callender explains the history behind the indigo-dyeing and shibori techniques which she uses to create fabulous fabrics.

The Magic of Indigo

Know to man in ancient times, indigo was harvested from plants flourishing in the hot climates of Africa, China, Japan, India and the Americas. We can only speculate as to how the blue dye yielded by many different species, a prolific genus being *Indigofera*, was first revealed to man. Indigo was extracted from the plant thorough fermentation, and because it was able to be stored, it was able to be sold. In the 13th century Marco Polo tells us that plantations were flourishing in India, a major exporter of indigo, which had become very desirable. By the end of the 17th century it was the world's most important dye stuff, 'the king of colours', equal in demand to silk, porcelain and spices. The colour blue became associated with power, magic and divinity, and often used to symbolize authority and spiritualism. The trade routes of the East India companies were well established, with the demand in Europe surpassing that for our own indigo from *Isatis Tinctoria* or woad.

With the production of gas light in the early 1800's came a significant discovery which transformed the world of textiles. A by-product from the production of gas presented a

dilemma, as a means of safe disposal had yet to be found. It was coal tar. In 1830, Berlin chemist Ferdinand Runge sought recycling possibilities from this substance and by 1834 had isolated the compound aniline oil. It was known that natural indigo contained aniline through the work of Adolf von Bayer. Even though Runge made positive advancements into the world of synthetic dye stuffs he was prevented from further research – his amazing discovery was suppressed by management.

A surprise breakthrough came in 1850 when 18 year old assistant chemist, William Perkins, while working at the London Royal College of Chemistry, by chance used an aniline oil base in an experiment to synthesize quinine. On completion of the test he notices a blue/purple mass and further work produced a violet. 1856 is the date given for his invention of the first serviceable aniline or coal tar dye. The world embraced synthetic colour and 'Perkins' Purple' was eventually named mauveine. However it was not until 1897 that the first synthesized indigo dye, pioneered by the German chemist Adolf von Bayer, was sold on the open market.

Both natural and manufactured indigo are available to us today and astonishingly the process of dyeing with either has remained the same. Unique and seemingly magical, it is very different to other methods of dyeing cloth and the key word in understanding the process is oxygen. The prepared fabric is dipped, for a minute or two, in the indigo vat, a golden/green colour, and then allowed to hang in the air. With the introduction of oxygen, absent in the vat, to the fabric, the 'magic' occurs before ones very eyes. The golden liquid on the fabric turns, through green to blue and what a blue! Further dips and periods of oxidization increase the depth of shade.



*The magic at work – fabric
surfacing from the indigo vat.*

Resisting is Easy!

Shibori techniques have one unifying characteristic. Dye procedures usually require cloth to be open and flat, but in shibori preparation, the cloth is worked, as a matter of course, into a three dimensional form, to a greater or lesser extent depending on the technique chosen. It is then secured in its shape by tying, knotting or binding, and then dyed. Shibori actually means to 'wring', 'press', 'squeeze' and is the Japanese word that has come to be accepted as the umbrella term for all the organisational and creative skills found the world over. The method chosen to manipulate and imprison the cloth into its three-dimensional state creates the unique and distinct patternings that are characteristic of shibori. *Bomaki shibori* describes the process of binding fabric to a central core, the threads' tension on the fabric as it is wound tightly round a core or cylinder creates a resisted line. *Arashi shibori* is a specialist form of Bomaki, 'arashi' meaning storm, which the varied resulting patterns suggest. A different dynamic of pattern is achieved by *Itajime* as cloth is folded, then held in bundles with boards and clamps, prior to being dyed.

These resist skills developed in areas where indigo flourished alongside the raw materials with which to construct cloth – cotton and silk, for example. The Indian *bandhani* technique - meaning 'to tie' resulted in fine resisted rings and dots on lovely cottons and exquisite silks. The bold African *Adire* cloths include bound, folded and stitched resists. The Malay term for a specific tie and dye patterning is *plangi*, with *tritik* describing the use of stitches to create a resist.

In stitch resist, cloth is traditionally hand stitched with a running stitch and the threads are pulled up tightly and then tied off. This controls the flow and penetration of the dye, and when dyeing is complete, the threads are cut and removed – the

forgotten embroidery. The fabric is finally opened out to reveal the artist's secret vision.

Stitch resist offers an unlimited range of shapes, pattern and texture. All the techniques, if to be dyed in indigo, are worked on natural fibre fabrics. Here we can find endless variation as different fabrics dye up differently. The contorted shapes of cloth, prior to being dipped, have inspired textile artists and fashion designers to develop the sculptural aspect of shibori. The cloth retains the shapes and forms it has been forced into after the restrictions have been removed – a sculptural memory.

All these fabrics, patterns and textures created by shibori, as well as being beautiful in their own right, offer unique surfaces to work with, and into, with other textile techniques. It is extraordinary what simple stitches can achieve – even when they are no longer there!

Below: An example of itajime with a stitched centre.

Centre left: Bomaki shibori on cotton.

Centre right: Stitch resist on cotton lawn.

Bottom: The combination of stitching and binding on cotton.

