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# THE BROCADES OF BANARAS

## AN ANALYSIS OF PATTERN DEVELOPMENT IN THE 19TH & 20TH CENTURIES

By Cynthia R. Cunningham Cort

### INTRODUCTION

Banaras (also called Varanasi or Kashi) is a crowded provincial city. Situated on the river Ganges, about 350 miles west of Calcutta, it is an important pilgrimage site for Hindus and is about 5 miles from Sarnath where the Buddha preached his first sermon after he attained enlightenment. It is said to be the oldest city continuously in existence to the present and it often seems as though, over the years, life has not changed much in its narrow streets.

The great majority of the weavers of Banaras are Muslim men. They stretch out and prepare the warps for their looms in tiny alleys and weave in dark, crowded workshops that have from one to six looms set up side by side, or in tiny huts in villages north of the city. The looms are built about a foot off the floor with a pit underneath for the weaver's feet and the treadles. There is sometimes a wide bladed fan in the ceiling and along the whitewashed walls hang rows of reels holding colored silks. The fabric is woven face down and as the weavers work, they sprinkle water on the tightly stretched warps to keep them from breaking. From these hand-loom come some of the most incredible woven pieces produced today.

"In many contexts the word *brocade* is used generically for richly-patterned fabrics usually characterized by the use of gold or silver thread. In fact in some usage, the use of gold or silver thread is the definitive trait that justifies classifying a fabric as *brocade*. But usage differs widely, and as a 'trade' name, *brocade* often seems to connote nothing more specific about a fabric than that its patterning is 'woven in' and presumably relatively elaborate, while in the nomenclature of hand weaving the word has tended to acquire specific but diverse structural connotations."<sup>1</sup>

The definition of a brocaded fabric is one in which supplementary pattern weft threads are introduced in addition to the structural weft that is necessary to create the ground of the fabric. The pattern wefts are woven in small local areas. Not all of the fabrics woven in Banaras and commonly called brocades fall under this definition because the pattern wefts are not always added in small areas, but rather, may be thrown across the width of the fabric and may even be structural rather than supplementary, thus making whatever patterning there is a part of the basic warp and weft of the fabric ground.

"In French the term *lancé* (literally 'thrown', 'cast', or 'shot') seems to be used effectively to differentiate fabrics patterned by selvedge-to-selvedge extra-weft action from those which are patterned by discontinuous-weft action and are described as *broché*. But there seems to be no English equivalent in fabric terminology for *lancé* nor any English word commonly used to make the same distinction."<sup>2</sup> For this reason, I propose to use the word 'brocade' as it is used in Banaras, for the entire class of patterned silks woven there, and to use the French terms for clarity where necessary.

As is valid about most things in India, when discussing brocades, one can make a generalized statement which is perfectly true but at the same time its opposite is equally true. Most Banaras brocades are composed of gold patterning on a silk ground. It is the gold threads or *kalābattu* that have traditionally characterized the fabrics. However, many of the modern fabrics that are referred to as brocades are all silk, cotton, or rayon with not even imitation gold threads.

Most of the sources available for the development of design in brocades before the 19th century are manuscripts and paintings. There are very few actual textiles still in existence because they were either destroyed by the climate with its alternation between wet and dry heat which is so harmful to textiles, or by the owners who were tired of old fabrics and burned them to reclaim the gold.

In 1903, Sir George Watt used the following classification of Banaras fabrics in his catalogue for the Delhi Exhibition:

1. Pure cloth of gold or silver.
2. Brocade, mostly gold or silver, with small amounts of color showing to emphasize the design. True Khimkhab (brocade). Too heavy for clothing, used for curtains.
3. Bafton or Pot-than, mostly closely-woven silk with selected parts gold or silver.
4. Silk gauzes or (tanzeb) muslins with certain portions gold or silver, or having a gold border and an end piece sewn in.<sup>3</sup>

Brocades in Banaras were originally woven on a kind of drawloom, known as *jalla*, described by Sir George Birdwood in the late 19th century as having ". . . a kind of inverted heddles called *naksh* ('picture', i.e. design) [which] is hung above the warp immediately behind the heddles, the

other ends of the cords being fastened to a horizontal band running below the warp. Like the cords of a heddle, the *naksh* strings where they cross the warps have loops through which certain of the warp threads are passed. But instead of getting an up-and-down motion from the treadles pressed by the weaver's foot, the *naksh* is worked from above by a child seated on a bench over its father's head. The little fellow holds a bar of wood and by giving it a twist, draws up the cords attached to the threads of the warp, which, according to the *naksh* or pattern, are at any time to appear in the surface of the web. The weaver, at the head of the loom, adds variety to his design by working silks of diverse colors into the woof, along with threads of silver and gold, and thus the vision grows in the sight of the young child seated aloft."<sup>4</sup>

In his 1903 catalogue mentioned earlier, Sir George Watt added that the pattern was created with a "small needlelike spool [which] is by the hand carried in and out of the exact number of threads of the warp that may be necessary in the production of the pattern."<sup>5</sup> This method in India was termed "loom embroidery" and was common in the weaving both of Kashmir shawls and patterned Bengal muslins.

The *jalla* drawloom mechanism is difficult to set up and to control, and in the late 19th century, when the Jacquard mechanism was introduced to Banaras, it was quickly appended onto the existing looms. Once set up, this type of loom is simple to operate and much less time-consuming than the older drawlooms, though it requires time and skill to transfer the designer's idea from graph paper to the cards and to set the cards up on the loom. Once the cards are punched and strung together it is difficult to change the design and the weaver does not have the freedom to change the design as he goes along. Jacquard looms are now almost exclusively used in Banaras.

The major limitation to designing for a Jacquard attachment is the size of the repeat, for if each card represents one line of the pattern and the Jacquard attachment is limited in the number of cards it will hold, the design must have no more wefts than the number of cards, or warps than the number of spaces for holes in a card. Thus the maximum size of a repeat is usually 110 warp threads and 5-1/2 inches of weft. This problem can be circumvented by attaching two Jacquard mechanisms to one loom or by putting an inordinately large number of cards on one mechanism, but both these solutions are impractical for all but the most expensive fabrics.

The kind of fabrics one is designing for is also limited by the equipment used. For example, if the fabric is to be worn as a *sārī* or stole with a border, then either two Jacquard mechanisms can be used - one for the pattern in the ground and one for the patterning of the border, or the

cards can be split so that half the spaces on each card control the border threads and half control the pattern warps to be lifted in the ground. The first method is again costly and unwieldy and is used only for the most elaborate *sārīs*; the second severely limits the size of each repeat or motif by limiting the number of spaces available on each card. This problem generally does not arise when one is designing for a piece of fabric to be sold as yard goods, for the pattern will cover the whole field.

The main traditional styles of motif include the *būtā* or isolated floral or geometric shape in gold on a solid ground, the *phūlarī* or wandering floral vine, the *jhāldar* or trellis, and the *śikargah* or hunting scene, incorporating people and animals. There are combinations of these designs and rapidly multiplying variations of traditional motifs and modern materials. There are also stripes and checks, and brocades in which writing appears in the form of devotional or auspicious phrases woven for religious observances, weddings and similar occasions.

When choosing one of these types of design, among the considerations are the specific market the finished piece is intended for, the time allowed in which to finish the piece, the cost of materials and the use for which the piece is designed, as well as its projected retail price.

During the Mughal period, when virtually all of the brocade fabrics produced were for court use, there was much closer communication between the designer and the consumer, and often design ideas were carefully worked out between them.

With the influx of foreign merchants in the 18th century and the growing competition of industrialization in the 19th century, the market for brocades changed drastically and communication was complicated.

In an effort to appeal to western tastes, new patterns were instituted. An example is the famous bouquets tied with ribbons, which were adopted from early 20th century European wallpaper designs. Although they have been much discussed as examples of bad taste in brocade design over the last seventy-five years, it is interesting that neither I, nor the designers and historians whom I interviewed, have ever seen these wallpaper-influenced brocades. The designers and historians felt that the brocades either emanated from Surat or one of the other weaving centers in western India, or that they were an isolated case of one designer who had seen a European pattern book and copied it in an unsuccessful experiment.

There has been less of this obvious, direct influence in the brocade industry than in other of the Indian hand textile industries, such as Kashmir shawls and painted chintz. When chintz became popular in England it was not long before British merchants began sending designs to be copied by

the fabric printers, who then reinterpreted them within an Indian design tradition. This gave the finished fabric an "oriental" flavor, and sometimes rendered it almost unrecognizable as a western-designed piece.

This confusing situation has not been so common in brocade weaving, for, of necessity, there is a particular closeness between the designer and the looms he is designing for. The weaver must maintain a mechanical precision not called for in the freehand painting or carving of printing blocks for chintz. The designer must also be trained in the weaving process, for he must understand the limitations and possibilities of the medium. Instead there has been a gradual change in the designs in an effort to cater to a western market, until we have arrived at a situation where merchants and exporters work with the designers to develop their ideas of what will be popular in the tourist bazaars of India and in the shops in the west, both Europe and the United States.

More than one designer I talked to feels that with the shift in patronage from royal to popular, and especially with the competition from machine-produced textiles in the current century, the quality of brocade designing and weaving has gone sharply downhill. Hardly any real gold or gilded silver is used for the gold thread any more, and the silks are often woven more loosely, without the care and attention to fine detail that tight weaving makes possible. There are, in general, a great many cheap brocades on the market, but there are also a large number of intricate, carefully designed and elaborate pieces, and a wide range in between. Furthermore, Banaras fabrics have been made available to many more Indians and a western market to an extent that was not possible a century ago.

Opinion about color is another area in which western and Indian tastes differ greatly, and it is one in which designers feel there has been a great deal of deterioration in quality. Since the introduction of chemical dyes in the 1860's, there has been a much wider range of brighter dyes available than there had been with vegetable dyes. In the late 19th century some popular chemical dye colors were bright reds and pinks, orange, yellow, purple and dark green.

One designer I talked with felt that in the 1950's taste in color had reached a new low of garishness and bad juxtaposition of colors within one piece. Since then, especially in pieces designed for a western market, there has been a return to traditional muted colors and an emphasis on the subtle coloring technique known as shot weaving, which has warps and wefts of different colors and gives the ground a shifting iridescence that changes with the angle of the light and the direction from which one views the textile.

In general, the modern Banaras brocades woven for the western market have much less emphasis on heavy gold work than the pieces produced

for Indian consumption. Borders on stoles and scarves are narrower and *būtā* are smaller without the heavy *jhāl* or trellis patterns which are so popular in the *sārīs* worn by Indian women.

As Rai Anand Krishna points out in his section of *Banaras Brocades*, "One of the most important factors is the procurement of suitable raw materials specially the silk-yarn and the *kalābattun*. The genuine *kalābattun* has practically disappeared from the market. As the combination of an imitation material or substitute for *kalābattun* with the genuine or real silk-yarn was not found suitable, harmonizing, or appealing, that too was abandoned, with the result that such modern yarns as rayon, chemical fibers, and hempen-yarns crept into the industry and their products captured the market."<sup>6</sup>

Most of the silk woven today is from Japan, although some comes from Kashmir. The climate has never been right for the production of silk locally in Banaras, but cotton has long been produced in the area and is probably why Banaras got a name as a weaving center before the long staple cotton of Bengal took over the market.

The *kalābattun*, or gold thread, was made of a gold or silver wire drawn through holes in a steel plate to make it very fine, flattened and wrapped around a silk thread. In the early 20th century, the wire was electroplated .1% gold on silver plated copper, and since about 1940 there has been no real gold used but only other metals and silk which have been chemically treated.

Designing for a *sārī* is a rather specialized undertaking. The most elaborate areas are generally the borders and the *pallu* (from *pallav*, the 'vibrating end', also *ānchal*), which is the wide decorative end worn draped over the left shoulder, both shoulders, or the head.

The border of a *sārī* may have a ground of the same color or a contrasting color to the rest of the *sārī*. Borders may vary in width, generally between three and ten inches. Within the last ten years it has become fashionable to wear *sārīs* without borders, but these are not as popular in Banaras *sārīs* as in some of the less traditional styles from other parts of India. This is largely because brocaded borders are an important part of the Banaras design tradition.

The body of a *sārī*, may be patterned with separate spots of gold, or stripes, or any of the other kinds of patterning discussed individually later in this article. The ground is usually a solid color or is shot woven, although occasionally a plaid is used. Ground interest is often achieved with a twill or satin weave for the heavier, more expensive and more elaborate *sārīs*. In the 19th century, most pieces were woven with a twill ground,



and a few, mostly for dress goods or for export, were satins such as the examples in the samplebook compiled by James Forbes Watson in 1873-74. In modern pieces, a plain weave is often used. This is because of the vogue for shot weaving which requires a plain weave to balance the colors of the warp and weft, and because it simplifies the process of setting up the loom.

The *pallu* presents special problems for the designer. He tries to make it as elaborate as possible while maintaining the balance and harmony with the border and the body of the *sārī*.

Traditionally, and throughout the 19th century, "the *pallu* or *ānchal* of *sārīs* usually had, within a compartment or enclosure, a number of *būtā* or the designs of plants, arranged side by side, or a group of *būtā* - shrubs or florets. But under the western influence these motifs were replaced by sprigs or flowers all over the compartment."<sup>7</sup>

Since the 1940's the design of the *pallu* has become much simpler; the borders at top and bottom which enclose it are often missing and the motifs are less intricate. Until about 25 years ago, for example, it was quite common to see a special type of mango design which was on the ground of a *sārī* within the inside border of the *pallu* and which was placed in the corners pointing inward on a diagonal. This type of motif has been almost completely discontinued for the sake of simplicity of design and of production.

Besides the designs intended especially for *sārīs* or scarves, there is also a class of fabrics woven as yard goods and intended to be exported to the west for dress fabrics or to be used within India for men's trousers and coats, and women's *cholis* (a short, tight fitting blouse worn under a *sārī*) or *salwar kameez*. (This is a woman's outfit, worn predominantly in Kashmir and other Muslim areas, consisting of wide trousers gathered at the ankle, and a long tunic. For special occasions, such as weddings, one or both items may be made of brocaded fabric.) These fabrics generally do not have borders and are characterized by all-over designs, often woven rather compactly. In the 19th century the designs, such as the mango and *pān* (betel) leaf, were usually larger than in modern pieces. Currently there is a trend for economy of production in yardage fabrics and they are often woven *lancé* rather than the more time-consuming and expensive *broché*.

\* \* \* \* \*

### *Phūlarī Designs*

In the catalogue for the Delhi Exhibition of 1902-03, entitled *Indian Art at Delhi*, Sir George Watt remarks on a brocade piece that is "woven in gold with an elaborate and minute pattern in pale coloured silk. The stalks and foliage of the scroll are in dull metallic green. The flowers are composit, each floret outlined in gold. There is first one large flower in pale pink, alternately inverted, and between two of these are ten similarly formed but smaller flowers in two or three shades of pale yellow, blue, and brown."<sup>8</sup>

Plate 4 is a traditional example of the style of brocade design which is known as the *phūlarī* (meaning "of flowers"), composed of *bel* (wandering vines) and *būti* (small flowers). *Phūlarī* fabrics are characterized by small leaves, scattered flowers, and complicated twining stems, which may or may not be continuous. The repeat is generally small, two to four inches, and the pattern fairly compact, closely covering the ground.

*Phūlarī* brocades often contain one dominant flower, which, as Sir George Watt points out, may alternate in direction. The most common motif for these larger flowers is sometimes called a marigold and appears in profile, although there are many variations in other styles of design. The petals may be rounded, pointed, or serrated like those of a carnation. The center of the flower is usually a cluster of circles or a wedge shape. This is not a new motif, nor is it indigenous to Banaras. It has appeared repeatedly in European design history since Greek vase painting of the 6th century B.C. It is likely that in Banaras it was derived directly from a Persian or Mughal source or from European textile designs sent to India to be copied in brocades for export back to Europe. I believe the name marigold to be locally applied to this flower and would not be surprised to see it given other appellations elsewhere.

The example of a *phūlarī* brocade described by Sir George Watt is somewhat unusual in the number of colors it incorporates. Most of these brocade pieces have a solid color silk ground and gold flowers, as in plate 4, while Sir George describes a gold ground and multicolored flowers outlined in gold, a technique more common in brocade designs where free-standing flowers predominate.

In the 19th century it seems that white, dark purple, and violet were popular colors for the satin or twill grounds of these brocades, for in my research, all of the *phūlarī* designs from 1870 to 1900 were woven with a ground of one of these colors.

Since individual leaves and flowers are very similar from one piece to the next in this style of design, an effective way of achieving some

variation is to change the basic linear arrangement of the leaves and flowers. While plate 4 has the larger flowers arranged in rows perpendicular to each other, many other brocades have the flowers arranged so that the one in the top row forms a diagonal with the ones below it. This difference requires some variation in the pattern of the stems and surrounding leaves and flowers. In the first arrangement the stem forms an open circle around the main flower with leaves and smaller flowers joining the stem and filling in space. Each circular unit is complete and does not join with other stems all over the ground. The separateness of each motif creates the appearance of a thin vertical line separating sections of the design.

The second arrangement has a stem pattern that is more complicated, though it also is not continuous. The diagonal placement of the main flowers is reminiscent of the Mughal arrangement of individual *butī* on a ground and is probably an extension to the Mughal influence on the tradition of brocade design.

The third type of linear placement is one in which the stem is a continuous vine covering the ground with the flowers at set intervals, either placed diagonally to each other or one above the other as in plate 5. The airiness of this pattern captures some of the feeling of an Indian chintz or crewel embroidery, but the stem is more restrained since it lacks the absolute freedom to meander over the ground that a surface technique offers. It is more difficult and complicated to design and to set up the loom for a pattern with a continuous stem than for one that is broken at regular intervals, and therefore the third type of design for *phūlarī* brocades is done only on the most expensive pieces.

Modern *phūlarī* fabrics often show a marked deterioration of design that accompanies volume production and less precise standards. This includes the use of looser weaving with fewer pattern threads to the inch which produces a much rougher product. Often the flowers are much smaller with random, sketchy sprigs and leaves, no longer joined to the flowers.

Plate 5 is a modern *phūlarī* brocade in which the design has indeed changed, but not merely as a deterioration of old styles; it is, rather, an adaptation of traditional motifs in a new attitude. It is a plain weave and follows the modern predilection for the weave to be less tight, but has camouflaged this fact successfully by spreading the design out. The continuous twining stems are there, and the traditional stylized flower shapes and leaves. The design is as formal as its predecessors but has been lightened and simplified. This is a good example of the return to traditional motifs popular in modern markets but which have been simplified for the sake of easy and fairly fast production. While speed and efficiency are

important, this is a carefully woven piece, intended for export to Europe or the United States, and is a genuine brocade as it has the pattern wefts introduced locally in small areas instead of thrown the entire width of the fabric. This allows the design to be more spread out while retaining a neat, finished look without long, floating threads across the open spaces on the back of the fabric.

Plate 6 is also a very carefully woven modern piece, with silver threads on a twilled white ground. The flowers and scrolls are outlined and accented in pink, as were those of the piece described by Sir George Watt in 1903. The silver, like much modern gold in brocade, is no longer even metal, but a slightly twisted, soft, shiny silk yarn which has been dyed to approximate metal. In a modern context this may be even more satisfactory than fabrics incorporating the genuine metal, for the cost of gold or silver would be prohibitive for the manufacturer and the consumer, and for either Indian or western dress this fabric will be much lighter and more comfortable than its metallic counterpart.

The flowers and scrolls in plate 6 have less of the Mughal precision that marks the 19th century pieces, and the leaves are much larger and closely parallel the feather designs found in the 16th or 17th century European damasks. The pattern is larger than the 19th century example of plate 4, but still follows the conventions of diagonal arrangement and reversal of the direction of the flower. The flower itself is a departure from the earlier and traditional motif.

### *Būtīdar Designs*

The style of brocade known as *būtīdar* shows the strong influence of a continuing tradition in the pattern development of Banaras brocades. Since Mughal times it has been especially popular, and though some of its appeal was lost during the early part of the 20th century, in the last fifteen or twenty years it has enjoyed a tremendous revival of interest.

The word *būtā* means simply "flower" (*būtī* is a small flower), but is used to describe any single, disconnected, repeated motif, whether floral or not. There are a number of categories of these *būtā* or *būtī*, and I shall attempt to compare and illustrate the major ones in the discussion of this most popular form of brocade design.

Varieties of the *būtā* include the motifs of *pān būtī* in the inverted heart shape of a *pān* or betel leaf (plate 9), *canda būtī*, which is round or "moon" shaped, and most often, the disconnected sprig or shrub or the traditional mango shaped motif.

It was the Mughals who first introduced the prescribed lines of the *būtā* with their emphasis on the stylized natural motifs of flowers. The *A'in* manuscript of the period of Akbar (1556 - 1605 A.D.) mentions the importation of Persian masters, particularly one Ghias Nagshaband, to the court to improve the quality of design. In this period, the emphasis was on half-blooming flowers on top of an idealized bunch of leaves attached to an S-curving stem.

The Jahangir period (1605 - 1627 A.D.), emphasized full-blown flowers like the poppy, but still retained the delicately curved stems and leaves.

With the reign of Shah Jahan (1627 - 1658 A.D.) came still more detail in leaves and tiny blossoms, and it is from the late Mughal designers of this period that the prescribed shape for *būtī* originated, with the tiny flowers surrounded by exuberant foliage. It is these prescribed shapes - the circle, the mango, and the oval - that have predominated in the 19th and 20th centuries.

The round *būtī* are generally of a fairly uniform size (1 - 1-1/2" in diameter), and crowded spacing, in rows arranged diagonally to each other, but within the medallions there is a wide variety of motifs. While there are many flowers which I, personally, cannot identify, some of them are flowers on bushes which have been described to me as roses, marigolds, or poppies. In the early 19th century, it was common to employ such central Asian motifs as the lotus, jasmine, and champa flowers, as well as many that the artists were not personally familiar with, such as the iris, tulip, poppy, rose, and narcissus. This lent an imaginative quality to the designs employed that often renders the flower unrecognizable.

The earliest of the round *būtī* involves simply the flower or bush within the circle. The motif may be outlined in a different colored silk from that of the ground, as is done in plate 7, but it was not until the late 19th century that it became common to space the medallions farther apart and fill in the spaces around them with foliage or vine, or unrelated, abstract designs. Often the flowers must be contorted beyond recognition to fit into the enclosing space.

The oval-shaped *būtī* is not as common as the circular, but the same motifs, spacing, and backgrounds are found applying to the oval shape. Often the oval is much larger, up to four inches long, whereas the circular *būtī* is rarely over two inches in diameter.

The *pān būtā* is an interesting motif. Taking its shape from the betel leaf, it looks like a spade or inverted heart and is often as large as four or five inches long. In nearly every example I found, including the one modern example, the *pān būtā* had a jagged edge and was inhabited by some floral

motif. The spacing of these larger motifs is more open, corresponding with their size, and there is quite often a scroll or flower in between or above *pān būṭā*. These ground-filling designs between the main motifs are called *Jhāl*, which means "trellis" in Hindi, and is used for the latticed or ogival meshes which sometimes predominate in a brocade pattern and which I will discuss in the next section.

The single motif most likely to be associated with Indian design in the minds of most westerners is the cone or mango (commonly called the "paisley" in reference to the town of Paisley, Scotland, which took up the copying of Kashmir shawls in the 19th century). The origin of this design is the subject of much controversy among textile historians, for it is not clearly established whether the motif was imported into India from Persia through Kashmir, or whether it grew independently in the several centers where it was popular as a fabric design. In Banaras it is maintained that no matter where the Kashmiri shawl weavers got their version, the Banarasi weavers developed their own mango design without the influence of others.<sup>9</sup>

I cannot testify to the truth of this assertion, but there are differences between the two styles. The Banaras mango is usually wider at the base than the Kashmir cone, and in general is very similar in shape to the young mango that grows in the area. This is especially true of the older examples of brocade.

The cone is known all over India by various names. In Kashmir it is sometimes referred to as *badām* or "almond," while further north and west into Persia it is compared to a cypress tree. In Banaras it may be called a *kalaṅga* or "plume" in reference to the peacock plume in Lord Krishna's crown, or it may simply be called *keri* or "mango."

In reference to the development of the Kashmir cone in shawl designs, John Irwin in his book *Shawls* makes a comment that is valid to the development of all of the brocade motifs in Banaras, but particularly to the mango, when he says, "As guides to dating, the different stages in the development of the cone must be regarded with caution. Because a certain form came into vogue at a certain period, it did not necessarily follow that earlier types were superseded. In fact, it often happened that the older well-tried motives and patterns outlived the new."<sup>10</sup> Indeed, this is true throughout India; a style of design is rarely completely superseded, but rather, becomes part of a vast artistic tradition that designers draw on at will.

In some of the larger examples, the mango resembles a *pān būṭā* with its point bent to one side. There is the same finial at the point and the

same type of flowers inhabiting the motif, although perhaps not as symmetrically. In succeeding rows the mangoes usually all point in the same direction, although there are examples in which they alternate. As with the smaller, circular *būtī*, it is characteristic for the mangoes to be arranged in a diagonal progression instead of having each row directly above the last.

There is a difference between the mango (or the *pān bātā*) and the geometric *būtī* in that the mango already represents an organic shape and the flowers within it fill up the empty space and are therefore rather abstract or disconnected. With the circle or oval, the plant seems to be the basis for the design and the geometric shape merely its superficial form. Thus the mango seems to emphasize a contained symmetry and rhythm, while the circles have, coupled with an inner grace, an emphasis on the symmetry of the complete pattern of circles on a solid ground. This difference is also shown in the size of these motifs. The smaller designs have more impact on the viewer as a whole rather than as individual units which must be examined closely to make out the plant forms enclosed. The larger mango and *pān bātā* are easier to absorb visually as individual designs. Many of the smaller mangoes are treated as the circle is, which indicates that much of the distinction involves size and not natural vs. geometric outlines.

Within the outer fringe of flowers and/or leaves (though properly these little jagged points are not leaves at all but convention, because the *pān bātā* is a leaf itself and the mango is a smooth-skinned fruit), there is usually a smooth, curved line. In many modern examples the rough outline has been dropped and only the line is left, but more often it is still there or has been transformed into a slight ruffle or more abstract zigzag.

As regards the enclosed motifs of these larger mangoes and *pān bātā*, there is a symmetry and rhythm which are distinctive, the *pān bātā* are the most symmetrical, with flowers branching off from a central stem. Mangoes often have a symmetrical or balanced interior, especially those from before the 20th century or in a traditional style.

There is an adaptation of the mango motif which is fairly new to the Banaras brocade industry (within the last fifteen years), and this I call a double mango. It consists of two mango shapes overlapping and pointing in different directions, one usually a little smaller than the other. (plate 12.) These pairs of mangoes show a definite borrowing from Kashmir of the elongated narrow mangoes so popular in 19th-century shawl patterns. This influence is also seen in some of the modern single mangoes which are more slender and have longer points than previously.

### *Jhāldar Designs*

When speaking of the *jhāldar* or trellis designs, it would be easy to assume that these complicated ogival and diamond-shaped mesh designs developed out of the less precise *būṭī* surroundings - but I think it unlikely that this is the case. While the *būṭī* in the 19th and 20th centuries is really a Mughal-inspired motif, the mesh reflects a medieval style with some Persian influence.

The ogival shape and the meshwork that often surrounds it are characteristic of Byzantine fabrics of the 10th and 11th centuries. The motif became popular in Italian silks and velvets of the 13th to the 16th centuries. Through Turkey it spread to Persia and India. It is unlikely that the pattern grew up independently in Banaras, as there was contact between the weavers of Banaras and those of all of these places. It is interesting that while the brocades of Banaras show a very strong Kashmiri influence in the area of *būṭīdar* designs, particularly the mango, there doesn't seem to be the emphasis on mesh patterning in Kashmir that there is in Banaras. The ogee was more popular in the pieces directly influenced by Persian tastes, the Mughal court brocades, than in those influenced by the patterning of Kashmir shawls.

The mesh itself may have first developed from a simple geometric check or diamond pattern whose sides became vines and were enriched with interspersed flowers. The character of these vines has changed over the years, at first maintaining a strict geometry and later branching out and becoming thicker to more completely fill the space surrounding a *būṭā*. In the early Mughal period, the vines became more sparse, with slender, graceful stems and delicate flowers, but during the 19th century they again solidified to a constant width for any given piece without the rhythmic fluctuation of the more open motifs.

As with the *būṭī* there are particular motifs with appropriate names; the *bulbul chasm*, for example, is a small check with a dot in the center, usually woven so that it is reversible. I found two examples of this pattern, probably both of the same period (late 19th century), and both with a one-half inch check. One was woven in colored silks, while the other was woven so as to be predominantly gold on one side and silver on the reverse.

There is one flower in particular that appears recurrently as a brocade motif, both in *būṭīdar* and other types of design, but especially in the *jhāldar* patterns. This flower is the *rudrākṣa*, sometimes called chrysanthemum, and is composed of teardrop-shaped petals surrounding a round or oval center. It is a symmetrical motif, although it is sometimes round and sometimes flattened at the top and bottom, depending upon which fits best with the surrounding designs. It is equally appropriate whether it



forms the trellis intersections or the center around which the trellis is formed, and it often appears in borders.

Since Mughal times, the *jhāl* has become increasingly popular with those merchants who are interested in reducing production costs, for it is of the type of pattern which allows the weaver to throw the shuttle all the way across the loom rather than using it in small localized areas. The time saved in production more than makes up for the extra imitation gold thread used, and the product is particularly sumptuous, although modern, western markets often consider these designs to be flashy and to lack subtlety.

There are two primary ways to approach the designing of *jhāl* patterns. The first is to begin with a *būtā* and fill in the surrounding spaces with geometry or foliage; the second is to start with the geometric network and to embellish it by making it fuller or by inhabiting it. These are two ways of viewing the breaking up of a flat surface, and the spatial relationships involved are usually quite different, although the emphasis on *būtā* and *jhāl* are sometimes so carefully balanced as to make it difficult to discern the designer's attitude.

In addition there are more unconventional uses of these two basic attitudes. In one modern piece that I saw there was a background of small gold checks with a *pān būtā* superimposed over them at regular intervals. Plate 17 has the ogival center of the mesh in gold, while the vine itself is woven in silks of the background color with tiny silk flowers of a contrasting color sprinkled throughout and gold spots placed at the intersections and in the mesh. This creates the effect of a negative mesh, or outline of the ogival center, and is another interesting approach to the breakup of space into units that can be rhythmically and easily handled by both the designer and the weaver.

### *Śikargah and Jaṅgala Patterns*

In the history of Indian textile design, the *śikargah* and *jaṅgala* patterns are ancient and famous. Both are characterized by tiny animals or people; *śikar* means "hunt" and many brocades represent hunting scenes. *Jaṅgala* means in Hindi simply "wild" or "jungle," and is used to describe any pattern incorporating wild animals. Among the most popular creatures depicted are elephants, tigers, deer, peacocks, and geese. The cave paintings of Ajanta show fabrics patterned with animals, particularly geese. It is impossible to tell if the designs on the fabrics depicted are printed, woven, or embroidered, but they are examples of designs common to all the textile arts of the 7th century A.D. The goose motif was considered especially auspicious when worn by brides. In the *patola* or *ikat* wedding

*sārīs* of Gujarat of the 12th to the 16th centuries it was traditional to find bird motifs inhabiting geometric surrounds of squares or diamonds. These *patola* are now copied all over India, with birds and animals inside squares. While the *ikat* and printing methods may have little to do with brocade weaving, the designs used are closely related, and since Gujarat was also an early brocade center in competition with Banaras, the relationship is closer than might at first be surmised.

"In the woven art of India, the greatest use was made of the human figure, or beasts and birds of various kinds, and more or less vigorous and naturalistic pictures of the chase. These Indian hunting scene fabrics appear to have been popular in ancient Greece. Homer, describing the ornament on a king's robe says:

In the rich woof a hound, mosaic drawn,  
Bore on full stretch, and seized a dappled fawn;  
Deep in his neck his fangs indent their hold;  
They pant and struggle in the moving gold.

--Odyssey, book 19."11

In India animals may often be representations of mythical or religious figures. Each of the gods in the Hindu pantheon is associated with an animal which acts as his vehicle and as a determinant, making the iconographic representation of the deity easier to identify. When one of these animals appears alone, "it embodies, on an inferior plane, the energies of the anthropomorphic god. . ."12 This does not by any means explain each individual appearance of an animal or human figure in brocade weaving, but this symbolism is an important factor in the development of the Indian artistic tradition, of which brocade weaving is a part.

During the rule of the Mughal emperors, *śikargah* scenes lost some of their popularity, for the Mughals brought with them their own Persian floral patterns and their own designers. These new designers added their own influence to the existing Indian motifs, and introduced new styles which were, in turn, influenced by Indian tastes, but since the rulers and court officials were the ones who could afford gold brocades and who commissioned them, their tastes predominated. From the 16th to the 19th centuries, animal motifs were rarely woven in Banaras, though they continued to be produced in the western brocade centers of Gujarat.

In the 19th century, the popularity of the *jaṅgala* and *śikargah* motifs was revived in response to a growing western market. The figures of unfamiliar animals, such as tigers, peacocks, and elephants, and of people hunting were considered to be exotic and oriental and were very well received in Europe.

During the 19th century the *śikargah* motifs were often incorporated into an all-over *phūlayī* pattern on a fabric for a coat or trousers. Many times they were used to inhabit mangoes or in wide and elaborate borders.

More recent use of animals and human figures emphasizes each figure by isolating it somewhat, as individual *būṭī*, or in small groups in narrow borders or oval *būtā* such as the one surrounding the figures of Krishna, Radha, and the cow in plate 19.

The size of the motifs has remained the same, approximately two inches long, but the spacing has changed with the new demands for simple sophistication from western consumers and for inexpensively produced motifs from the producers.

### *Striped Patterns*

Geometric patterns, and particularly stripes, are among the most ancient of textile designs. They are simple and effective. While vertical (warp) stripes are produced in Banaras, diagonal stripes have long been more common in Banaras weaving. Both of these styles often incorporate the kind of running floral or *bel* that is so common in brocade borders.

The diagonal stripes may run in either direction, and are often combinations of *bel* and wavy or zig-zag outlines spaced with rows of *būṭī*. The width of the stripe is usually between one and two inches. It is common to find a number of colors incorporated into both the striped patterns and similar border designs, but it is equally common to find stripes of gold flowers on a solid colored background.

The influence of the Mughal court on striped patterns is seen most clearly in the patterns that are heavily floral with little background color showing in the spaces between stripes and the same jagged leaf-like edging to each stripe that was observed earlier in the *pān bātā*. This shows the late Mughal emphasis on weight and solidity that is also present in *jhāl* designs continuing into the 19th century, and is an example of the practice of taking a particular shape - in this case a certain width of stripe - and filling it with flowers and foliage. The varieties of flowers and leaves to be found are the same as in the lattice-work designs, and these flowers provide the most consistent link between all of the styles of brocade patterning found in Banaras.

### *Border Designs*

An important consideration in discussing both the patterning and the weaving of Banaras brocades is the border, whether it be the border of a wrapped garment such as a *sārī* or *dhotī* (a traditional garment worn by men), or a border on a stitched garment.

Borders have long been important in Indian patterned weaving, but became especially so with the coming of the Mughals and their subsequent influence on styles of design. Borders in the 19th century greatly reflect this Mughal influence and are almost always floral with patterns similar to those in the *phūlayī* type of brocade. One difference is that the flowers and vines in the borders are confined to a narrower space, and for the most part do not succumb to the exuberance characteristic of the all-over *bel* and *būtī*.

The stem is usually a simple serpentine curve, or a slightly more involved pattern curving around and almost enclosing the flower. This last form is reminiscent of the *būtīdar* patterns in which the floral motif is formed into a circle with the stem curving around its circumference.

The flowers are usually the dominant part of the border design, as the stems are slender and the leaves small. The most common floral shape is the same as that in the *phūlayī* and *būtīdar*, with teardrop shaped petals radiating from a central circle. These may be in profile or head on, and there are often several colors employed.

The width of the borders woven over the last century varies considerably with changes in fashion. The examples dating from before 1900 that I have found are quite narrow, usually two or three inches.

In the early part of the 20th century it was popular to wear wide borders on *sārīs*. (Borders on men's *dhotīs* and trousers had lost their popularity.) These early 20th century examples are usually nine or ten inches wide, which is the widest that can be handled comfortably on the type of loom that the weavers of Banaras use.

In the 1930's and 1940's it became popular to wear a narrower border of three or four inches, for simplicity in dress was a symbol of the growing national movement. This trend continued through the 1950's.

Since 1960 brocade *sārīs* and shawls characteristically have a border of five or six inches in width, which is often woven on a ground of a bright contrasting color to the ground of the *sārī*.

\* \* \* \* \*

### *Conclusion*

It may seem that the Banaras brocade industry is losing its quality of design and weaving and is going the way of the hand-painted calicos that reached the height of their popularity 250 years ago and have been disappearing ever since. I feel this is not the case with the brocades, however. The last fifty years have been a difficult period for the brocade manufacturers because of an enthusiasm within India for machine technology, and a feeling that brocades must keep up in production with other aspects of the Indian textile industry. During the second quarter of this century the industry nearly died out. But since Independence there has been a tremendous revival of interest in the Banaras brocade tradition. This is largely due to the help of organizations such as the All India Handloom Board, which has established the Weaver's Service Center in Banaras, to assist the brocade industry in holding its place and preserving this important handweaving tradition. The Weaver's Service Center functions to support the industry by teaching weaving and related arts, helping manufacturers to obtain necessary materials at a reasonable cost, and by maintaining a staff of designers who work to provide manufacturers with designs at a nominal cost.

Some of these designs are very modern but are drawn from a vast resource of Indian traditional design. An example of this is plate 21, which shows the elephant headed god, Ganeśa, mounted upon an elephant. (This is somewhat unusual as his customary mount is a rat). This design was adapted from a printed or batik fabric from Bihar on the eastern coast of India.

Many of the designs that westerners like because they are "traditionally Indian" are indeed "traditional" and "Indian," but are from sources other than Banaras brocade weaving tradition. Some designers and historians resent the intrusion of designs from other parts of India into western popularity in the form of brocades, but I feel that with the careful understanding of experienced designers the designs can be easily adapted within the design tradition of Banaras itself. The history of design in India is one of growth and the assimilation of ideas from other areas and if this were not true designs would quickly become standardized and rigid.

In contrast, a few young designers, with inadequate training in weaving and weaving design, have been swept up in a current of industrialization and are designing pieces which represent, at best, a misunderstanding of western values and lifestyles. Some of these brocades include such motifs as automobiles and ice cream cones and emphasize garish color schemes reminiscent of a Hindi movie poster.

This type of design is one reason that some people feel that the brocade industry is declining. Another reason is that as silk becomes more expensive and unavailable, the market is flooded by more and more mixtures of silk with cotton, nylon, rayon, and polyester, as well as *kelā* or plantain fiber which is produced in South India. More designs are *lancé* rather than *broché*, and the motifs are simplified with fewer details such as *mīnā* (tiny spots of color highlighting a motif).

The production of brocades is becoming more expensive, and in order to keep up with a widening Indian market (in which a style of brocade will probably only be popular for two or three years instead of the twenty to thirty year popularity of designs that existed in the 19th century) and a growing demand abroad, the manufacturers are trying to speed up design and production while minimizing costs. With this process of commercialization, which has been accelerating since about 1860, there is of necessity some deterioration in the quality of design, materials and weaving.

However, in contrast to this large group of ordinary, inexpensive brocades, there are still being produced some magnificent pieces, which are fitting tributes to the skill and artistry of the designers and weavers of Banaras. These awe-inspiring pieces are quite expensive, but the brocades of Banaras have always been luxury items, and it is encouraging that this tradition of quality has not entirely been relinquished in favor of mass production.

\* \* \* \* \*

All photographs were taken by the author. 19th century examples are in the museums cited. Modern examples, were for the most part, photographed in shops and weavers' workshops. In all cases, the warp is the vertical axis of the photograph.

## FOOTNOTES

1. Irene Emery, THE PRIMARY STRUCTURE OF FABRICS: AN ILLUSTRATED CLASSIFICATION, Washington, D.C., The Textile Museum, 1966, p. 171.
2. IBID., p. 172.
3. Rustram J. Mehta, HANDICRAFTS & INDUSTRIAL ARTS OF INDIA, Bombay, Taraporevala & Sons, 1966, p. 99.
4. IBID., p. 99.  
See also: JOURNAL OF INDIAN TEXTILE HISTORY, Vol VII, for a complete description of the NAKSH patterning process.
5. Rai Anand Krishna, "Historical Background" in Ajit Mookerjee, ed., BANARAS BROCADES, New Delhi, Crafts Museum, 1966, p. 38.
6. Vijay Krishna, "Living Weavers at Work" in Ajit Mookerjee, BANARAS BROCADES, New Delhi, Crafts Museum, 1966, p. 89.
7. IBID., p. 82.
8. Mehta, p. 100.
9. Matthew Blair, THE PAISLEY SHAWL - AND THE MEN WHO PRODUCED IT, Paisley, Alexander Gardener, 1904, p. 30.
10. John Irwin, SHAWLS, A STUDY IN INDO-EUROPEAN INFLUENCES, London, Victoria & Albert Museum, 1955, p. 12.
11. Luther Hooper, PITMAN'S COMMON COMMODITIES AND INDUSTRIES; SILK, ITS PRODUCTION & MANUFACTURE, London, Sir Issac Pitman & Sons, 1924, p. 101.
12. Heinrich Zimmer, MYTHS & SYMBOLS IN INDIAN ART & CIVILIZATION, New York, Harper & Row Publishers, 1946, p. 171.

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Plate 1: Mango design for a sāri. Banaras. 1974.



Plate 2: Jacquard pit loom for weaving sārīs. Banaras.



Plate 3: Detail of Jacquard mechanism on pit loom.

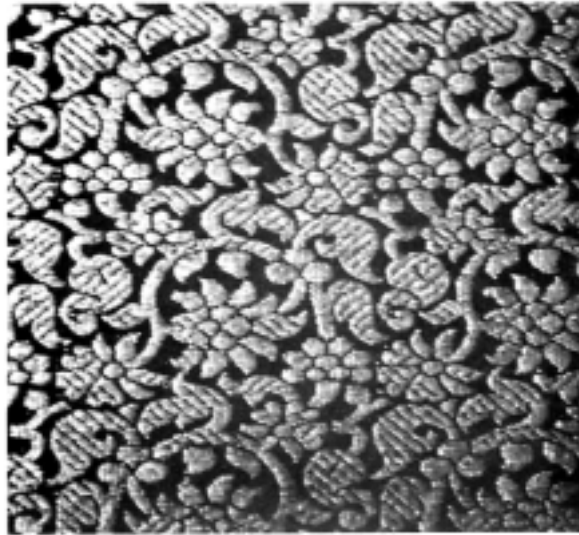


Plate 4: 1873-74. Gold, phūlarī brocade on purple satin ground 1-1/2" vertical repeat, 2" horizontal repeat. From the J. F. Watson sample book, Victoria & Albert Museum.



Plate 5: 1973-74. Gold, broché, phūlarī design on brown, plain woven ground. 4" vertical repeat, 5" border of mangoes.



Plate 6: 1973-74. Lancé woven silver flowers outlined in pink on a twilled white ground. 3" horizontal repeat.



Plate 7: Late 19th c. 1-1/2" round būtā, silver marigold on yellow ground. Flowers are outlined in red silk. Bhārat Kala Bhavan, Banaras.

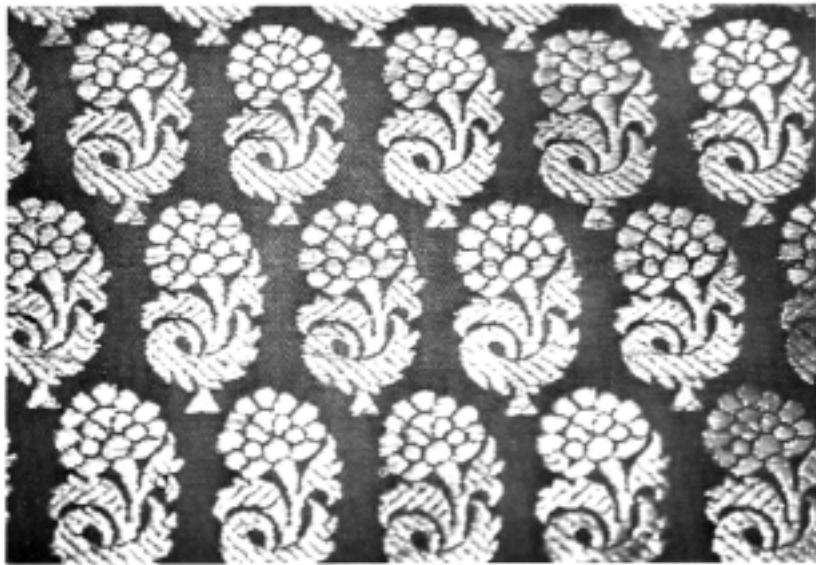


Plate 8: Mid 19th c. 1-1/2" long gold marigold, egg-shaped būṭī on a rose colored silk twill ground. Bharat Kala Bhavan.



Plate 9: Mid 19th c. 5" pān būṭā in gold on dark red silk twill ground. Bharat Kala Bhavan.

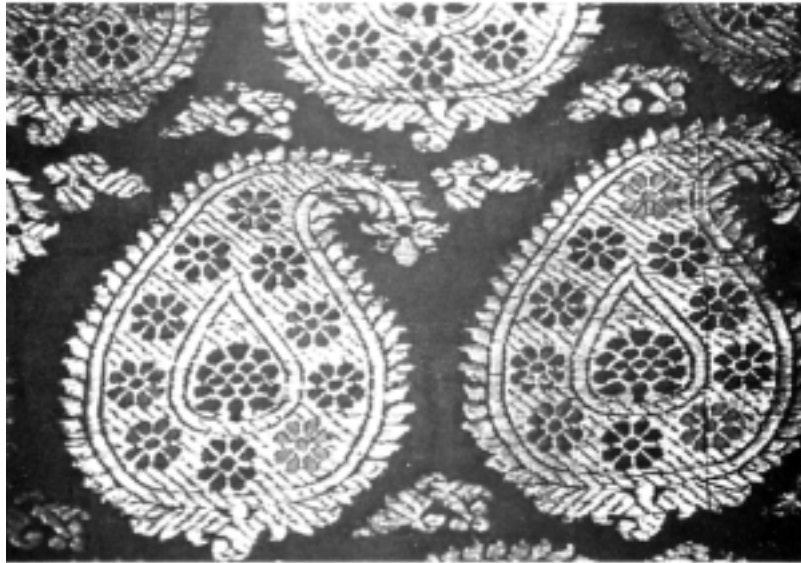


Plate 10: Mid 19th c. 2" mangoes on dark pink silk twill. Flowers of various colors inhabit the mangoes. Bharat Kala Bhavan.

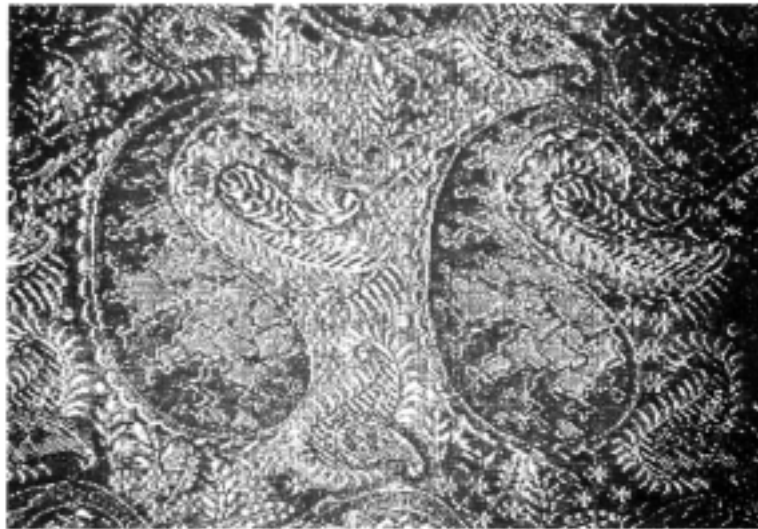


Plate 11: 1973-74. (100 year old design). Gold & dark blue mango surrounded by small mangoes and gold leaves with bright blue highlights (mīna). Lancé woven on satin ground. 3" vertical repeat.



Plate 12: 1973-74. Lancé woven, 4" high double mango in gold, blue & green on a pink ground.



Plate 13: c. 1850. 2-1/2" wide gold foliage diamonds on a dark green, plain woven ground. Silver būta with red mīna highlights. Bharat Kala Bhavan.

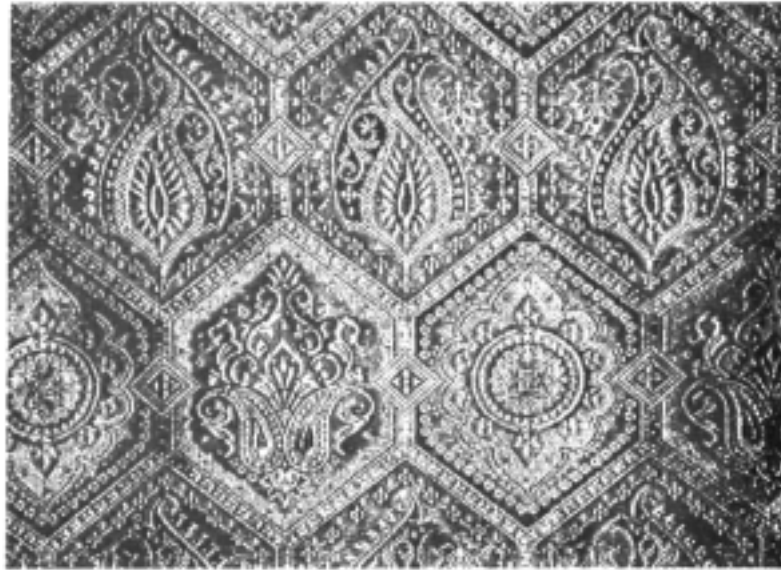


Plate 14: 1973-74. Lancé woven hexagonal mesh patterned gold brocade with mina of blue and green on a dark red satin ground.

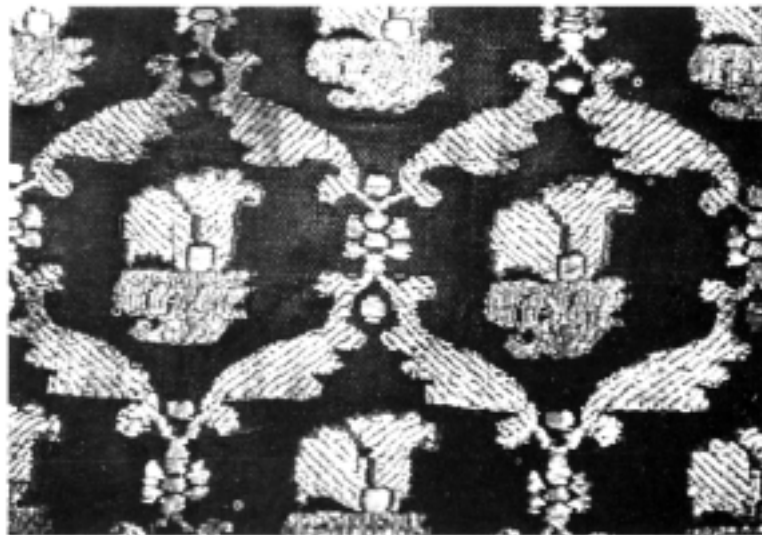


Plate 15: Mid 19th c. Silver & gold flower būtā, outlined in red & green, inhabiting a 2" long gold ogival mesh. Ground is twill woven dark purple silk. Bharat Kala Bhavan.





Plate 16: Mid 19th c. Floral būtā in 2" ogee. Lancé woven in gold & colored silks on a dark pink ground. Bharat Kala Bhaven.

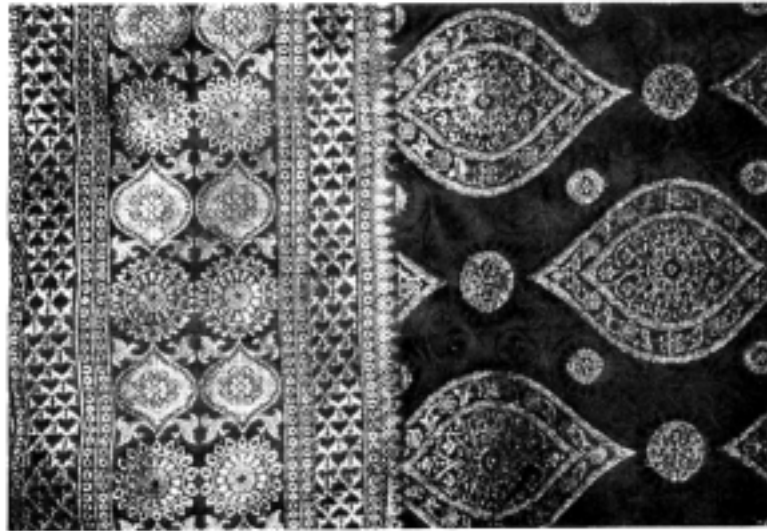


Plate 17: 1973-74. Broché, gold patterned, satin sārī. Blue ground with colored silk patterning in ground. 6" orange & gold border with colored highlights.

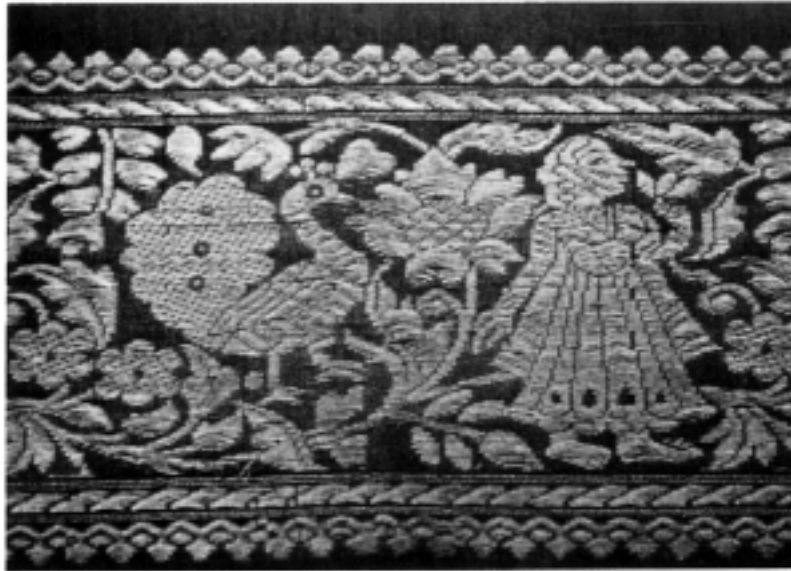


Plate 18: 1960's. Shot woven blue & purple silk stole. 3" lancé woven brocade border with design of peacock and dancing girl.



Plate 19: 1930-35. Design for an oval būtā enclosing Krishna, Radha and a cow.

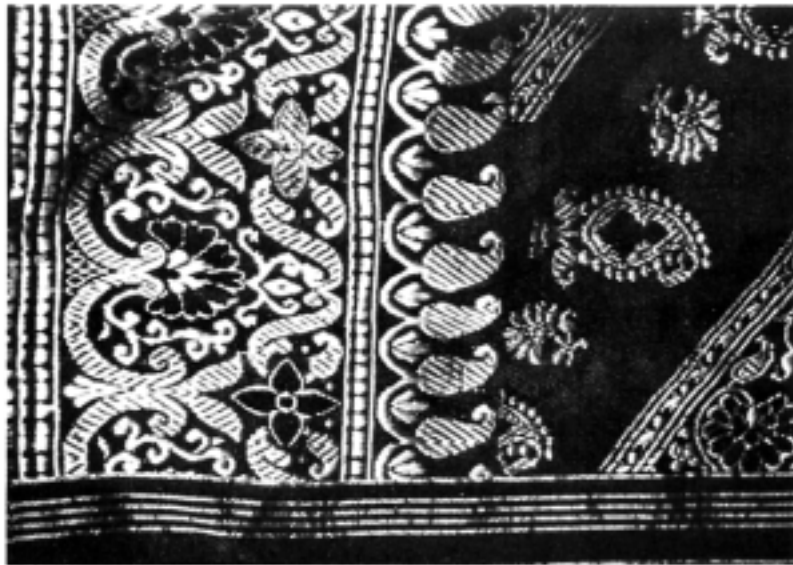


Plate 20: 1973-74. Border & ground of a sārī with a 2" wide diagonal stripe.



Plate 21: 1973-74. Brown raw silk lancé patterning on white raw silk. Ganesa riding on an elephant.

## THE ORIGINS OF KNITTED FABRICS

By Braham Norwick

For at least two hundred years, serious scholars in the textile field have insisted upon the relative novelty of knitting in Western Europe. Back in the 18th century, a supposed anachronism in the poem *Tragedy of Ella* was immediately denounced when Thomas Chatterton published it. He had claimed to have copied it from a manuscript of the mid 15th century, originally written by the monk Thomas Rowley. The lines at issue were:

"She sayde as her whyte hondes whyte hosen was knytinge,  
Whatte pleasure ytt ys to be married!"<sup>1</sup>

Subsequent research<sup>2</sup> has found a slightly earlier reference, dating between 1452 and 1456, to "one knytt gyrdll." This is in a recorded will kept at the church of St. Peter and St. Wilfred in Ripon. So the "whyte hosen" and knytinge" were not anachronisms and the scholars of the late 18th century were wrong.

But that does not push knitting origins back much further than previously admitted. There are other indications of early knitting which, for a similar length of time, have also been scorned by textile scholars. These involve literary translations from the ancients, like Pliny and Ovid.

Pliny's monumental work was translated and published by Louis Poinciset de Sivry between 1771 and 1781. In book VIII are expressions like "scutulato textu" and "scutulis dividere," which the French writer translates as knit fabrics, "tissus à mailles," and even goes further, writing "les etoffes à mailles sont une invention des gaules," that knitted fabrics had been invented by the early French.<sup>3</sup>

Nicholas Desmarest, a well known technical expert of that period disputed the translation. He had investigated gloves and hosiery found at St. Germain des Près in 1799 and at that time attributed to the Bishop Ingon who had died in 1025. The fabrics were a form of network which he compared to Alençon lace. The items are illustrated in one report by Alexandre Lenoir<sup>4</sup> and described in more detail by Desmarest in a publication of 1807.<sup>5</sup> Elisa Maillard<sup>6</sup> and Michelle Beaulieu<sup>7</sup> have both written about these items and have attributed them to Pierre de Courplay, buried in 1334. They are described as "point à l'aiguille," a form of macrame lacework. Michelle Beaulieu has however noted many early gloves which were knit, such as those of Saint Remi at Saint-Sernin of Toulouse, those at the Cathedral of Moutiers-Tarentaise in Savoie, and of Saint Bertrand of Comminges. She notes they are listed in the church inventories as gloves "faits à l'aiguille," and translators should note the singular form, that they were made with a needle. Michelle Beaulieu also refers to the

descriptions of episcopal gloves by the Hermit Honorius about 1120 and Guillaume Durand in the second half of the same century as being "inconsutiles," without seams. This she takes as evidence the gloves had to be knitted. However, three dimensional textile structures without seams can be produced by macramé network or even by braiding as with maypole systems.

In a more recent version of Pliny, in the Loeb Classical Library, H. Rackham<sup>8</sup> translates the Latin as a "check pattern." But it seems significant that the special material came from only a few places, Salacia in Lusitania, a fishing area of Narbonne, and also in Egypt. Moreover, worn out textiles, made of it can, according to various translations, be "darned," "redyed" or otherwise handled to restore it as good as new. So why not translate it as deknit and reknit?

Another translation, this time from Ovid's *Art of Love*, by H. Montgomery Hyde<sup>9</sup> reads:

"I hate her who gives because she must, and who, herself unmoved, thinks of her knitting while she's making love."

The Loeb Classical Library translation by J. H. Mozley<sup>10</sup> has her merely "thinking of her wool."

Henry Yule<sup>11</sup> in the last century, translated medieval manuscripts of the 13th-century travellers as mentioning knitting. He has Marco Polo describing the monks of St. Barsamo in the Taurus area as "continually knitting woolen girdles." In his *Cathay and the Way Thither*<sup>12</sup>, he has Odoric of Pordenone stating that in Huz, a Persian city, "'tis the custom for the men to knit and spin." Eileen Power<sup>13</sup> translating the Latin of Eudes Rigaud, Archbishop of Rouen in the mid-13th century, has him referring to the knitting by the local nuns.

Understanding one's contemporaries is not always easy. Early English is more of a problem. Translating from one language to another is an art and not a science. Our serious textile scholars have possibly rightly tended to ignore all such references, however appropriate they may appear. Translations are hard to make as perfect and scientific equations.

However, textile scholars have also been largely ignoring the existence of quite solid evidence for early knitting. With awakening interest in archaeology in Great Britain during the latter part of the 18th century, gold and silver artifacts of the past, when found, began to be preserved rather than being melted down. Clubs of amateurs were formed, museums established. So we have today, mostly hidden away in the basements or back rooms, a wealth of important crafts information. Most of it has not yet been studied

by textile experts. But the objects are there, awaiting careful study by people who really know the difference between a twist, braid, knot, link or a knit structure. The decisions, in many cases, cannot be done by simple visual inspection, even by an expert. It often takes a stereomicroscope, and in some cases may even require judicious cutting, since much early work is so fine and so tightly closed that external inspection alone cannot determine internal structure.

A group of professional knitters has been working for several years on definitions for knitted fabrics. This is under the auspices of the International Standardization Organization, and multi-lingual glossaries have been prepared.<sup>14</sup> The group early concluded knitted fabrics must be defined on the basis of structure. They do not want to define knitted fabrics on the basis of mechanical details in manufacture. So knitted fabrics are still knitted fabrics whether they have been formed from a single or many threads, by single, double or many needles (or no needle at all). A purely topological description of a unit structure for a yarn, a weave, a twist, braid, loop, knit or knot can be made. In twisting, braiding, or what Irene Emery<sup>15</sup> classes as simple linking, an individual yarn in an individual structure unit, when seen in projection, two-dimensionally, makes only two changes of direction. In a woven fabric, ignoring the selvage, the yarn makes no change in direction. In a knitted fabric, it must make four.

When knitting is classed as a structure and not a technique, the view of textile history is automatically changed. The question of a specific technique employed to obtain a knitted structure becomes a secondary question.

Some years ago, after following false leads to so called "wire knits" which had always led to mistranslations of "cotte de mailles," I came across an "antique" Tibetan gong attached to a bone striker by means of a silver wire knit chain. It resembled in structure the small tubular knitted fabrics made with pinned spools, and it had open stitches and four wales. Similar chains are currently being made in Nepal in many of the craft shops. In a series of stalls and shops in various places, like Saigon, Marrakesh, the souks in the middle east, and of course London and New York, one can still find old but undatable wire belts, necklaces and bracelets of knitted wire construction. Modern pieces are being made in many parts of the world.<sup>16</sup> The Yemenite Jews, before they were airlifted to Israel, made tubular knitted wire jewelry and decorative pieces.<sup>17</sup> But none of such material is readily dated. More important for the textile scholar is that reasonably datable archaeological pieces in reputable museum collections have already been identified as being knit.

The outstanding items are the earliest known examples of flat knitting in the British Isles. They are two intricately knit wire decorations set

into the base of the Ardagh Chalice. Ever since the remarkable photographs published by Robert M. Organ have been available <sup>18</sup>, no expert can deny that knitting was known in Ireland in the 8th century. For the Ardagh Chalice was not imported. The writing on the chalice is like that in the Book of Kells.

L. S. Gogan <sup>19</sup> discusses these pieces we now know are knit and describes them as "trichinopoli chain. . .cut and flattened." He also mentions "trichinopoli" chain in the Brighter Hoard, a guard chain on the Tara Brooch, the Clonmacnoise hinge pin, and a scourge in the Trehiddle Hoard. From the photographs published by Robert Organ which show these panels from the Ardagh Chalice clearly, it is obvious that while they may be a form of what is called trichinopoly work, they were not originally tubular, then cut and flattened. But this comment by L. S. Gogan does give us a clue as to what he at least thought trichinopoly work was. Despite considerable searching, no technical definition has yet been found. Gogan seems to have thought it a form of spool knitting or maypole type braiding.

While the archaeologists did not recognize the insets on the Ardagh Chalice as knit, many of them did recognize knitting in numerous other pieces. It is, of course a stroke of luck when this has happened. Robert Organ, despite his clear photographs of the Ardagh Chalice knitted structures, and the presence of his many colleagues at the British and other Museums involved, labelled them "woven-wire work."

The first to recognize knit wire as such is Edward Hawkins <sup>20</sup> in his 1847 "Account of Coins and Treasure Found in Cuerdale." He describes an item which "is probably a portion of an armlet, in the collection of Mr. Assheton, and it may be included amongst the chains; it is composed of fine wire knitted precisely in the same manner as a modern stocking; it is hollow, so that a large pencil may easily be passed within it; one end is inserted into a flat piece of silver, bent, the sides riveted together, to contain the silver ring by which the two ends were united to fix it on the arm." The Cuerdale Hoard is dated ca. 900 a.d. Hawkins continues in the same journal <sup>21</sup> some months later: "In this the article is produced from one continuous wire knitted precisely as a modern stocking is made, as will be perceived by examining accurately the forms of the stitches both on the inside and the outside." Immediately after this description, J. J. Worsaae of Copenhagen wishes to attribute the silver work to oriental origin. R. Dundas <sup>22</sup> reported in the same journal two years later a find at Norrie's Law, Largo, Fife (on the northern shore of the Firth of Forth), one which had been made thirty years before. He describes "a fragment of fine, interlaced (sic) chain, of silver, bearing resemblance in workmanship to the portions of chain found with Saxon coins and remains in Cuerdale."

A series of similar Scottish finds are described in various issues of the *Proceedings of the Society of Antiquaries of Scotland*. The first item of interest was discovered in 1858 and published in 1862.<sup>23</sup> It indicated "a small fragment of silver chain, of a flat knitted pattern." It was part of the "inventory of ancient silver ornaments and found buried between the parish church and the Burn of 'Rin', and a short distance from the shore of the bay of Skail, in the parish of Sandwick, mainland of Orkney." With it were coins of Aethelstan Rex and Cufic coins of Nasr ben Ahmed. Both date to the 10th century. J. Anderson<sup>24</sup> in the same journal but published several years later, in 1876, detailed the Croy Hoard with which was found a "band of knitted work of fine Silver-Wire, knitted with the ordinary knitting stitch, which resembles the modern trichinopoly work, and connects this find with those of Cuerdale and Largo." The Croy hoard was found with a coin of Coenwulf, King of Mercia (8-9th century). In Anderson's book, *Scotland in Pagan Times*<sup>25</sup>, he describes a length of chain from a Viking grave at Islay, Ballinaby. It is appropriate to quote the description of both this chain and that from Croy given by Helen Bennett of the National Museum of Antiquities of Scotland:

"I find them to be of identical looped structure, made from long lengths of wire, which at first sight strongly resembles stocking stitch. Both are in the form of flattened tubes, that from Croy having 16 'stitches' per round (7 stitches and 6 rows per cm) and that from Ballinaby having 6 'stitches' per round (6-2/3 'stitches' and 7-1/2 rows per cm). Although the fabrics strongly resemble knitting, on examining them under the microscope I found the structure to be different. Whereas in knitting the loops are usually drawn through those of the preceding row, in these cases the loops have been drawn through the two preceding rows. . ."<sup>26</sup>

From the *Proceedings of the Society of Antiquaries of Scotland* for 1880 there are still other reports<sup>27</sup> of knitted wires. Joseph Anderson refers to them at Islay, Croy, Skail in Orkney, Cuerdale and from the Isle of Inchkenneth. In addition to the confirmation of knitted structures from Helen Bennett, we have from Katherine East of the British Museum assurance that both the Trewiddle and the Inchkenneth pieces are really knit.

There are undoubtedly many similar pieces on the continent of Europe awaiting recognition. Michele Beaulieu has drawn to attention a chain kept at the cathedral of Uppsala, which had belonged to Caterina Jagellonica.<sup>28</sup> A book of photographs, *Early Finnish Art*<sup>29</sup> shows a 12th century piece from the area of Sipilänmäki, Sakkila. In the same book is an earlier



chain from the Låmsä treasure trove which may well be another of the knits, but the picture is not clear enough to be sure.

At Yale are some of the artifacts from Dura Europus. The textile knits have long been recognized as such.<sup>30</sup> However, there is a silver necklace, now in small fragments, which was described by Phyllis Ackerman<sup>31</sup>, and it too is a knit tubular structure, though she described it as "composed of braided silver wires. . ." She considered that a gold necklace was similarly, though more finely made, but it is almost certainly a link construction, like the majority of existing chains. Link chains are inherently more flexible, but most important, permit division of labor. Knit chains do not. Division of labor is like bad money in Gresham's law; it tends to drive out the solitary craftsman.

There are large numbers of wire-worked pieces in many museums where there has been no satisfactory effort to unlock the mystery of structure or technique. There seems little doubt that, just as it is now certain there was considerable knitting going on in the British Isles long before the 15th century, similar discoveries will be made elsewhere. The material merely has to be looked for by knowledgeable people having not only the funds, the time and equipment, but also the permission and cooperation of the museum authorities to examine the pieces as closely as needed. Really important work needs to be done in many places, examining Scythian, Etruscan, Greek and Roman wire work, before assigning any dates to the origins of knitting in the west. Enough solid evidence is already around to make the conjectures worth putting to test.

In an initial publication on the origins of knitting, I foresaw<sup>32</sup> that more vigorous searching was bound to uncover the kind of information presented in the latter part of this short paper. It now seems probable that the next ten years will see a similar growth in our knowledge of knitting on the continent of Europe. Most sincere thanks must go to the many colleagues who have helped and encouraged the work so far, Professor Stuart Piggott, Michele Beaulieu, Katherine East, Helen Bennett, Jean Mailey, Leopold Wallach, Susan B. Matheson, to name only those whose help has already borne fruit.

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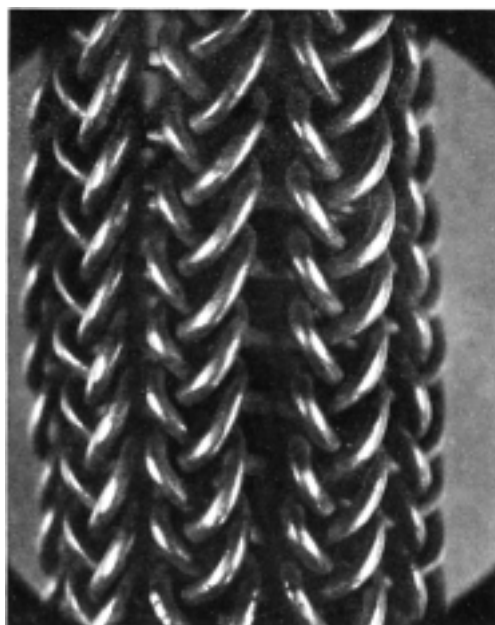
piscinas provinciae Narbonensis, similis et in Aegypto, ex qua vestis detrita usu pingitur rursusque aevo durat." "Plurimus vero licis texere quae polymita appellant Alexandria instituit. Scutulis dividere Gallia."

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Plate 1: "Antique" Tibetan gong attached to bone striker by silver knitted wire chain.



**Plate 2: Details of old but undatable knitted wire chains in the author's collection.**

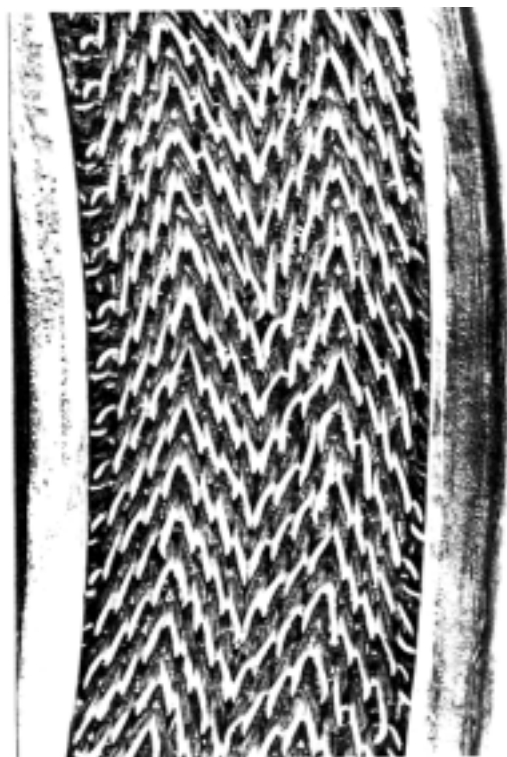


Plate 3: Herringbone knitted wire fabric set into base of Ardagh Chalice.

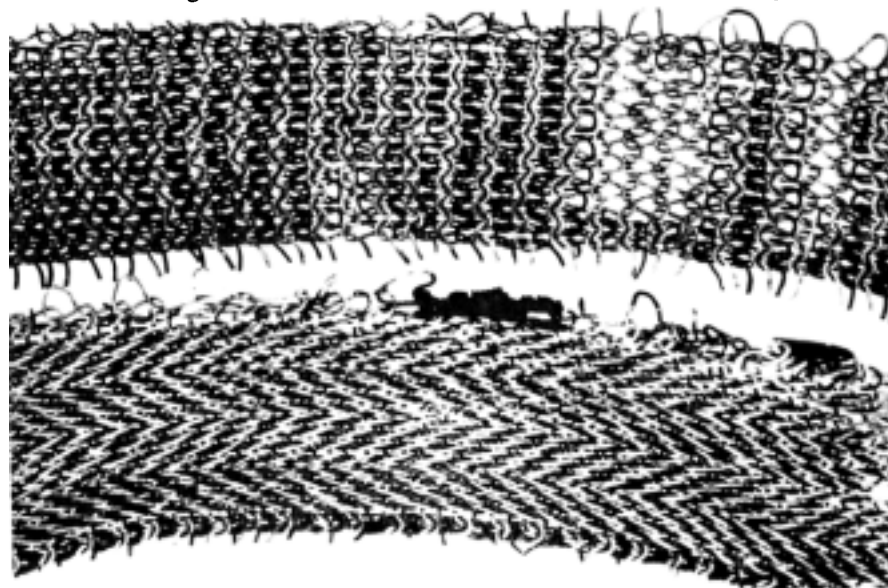


Plate 3A: Sections of the two knitted bands set in the base of the Ardagh Chalice (removed for cleaning).



Plate 4: Detail of chain on a scourge in the Trewhiddle Hoard.





Plate 5: Silver wire knitted Band from Ballinaby.



Plate 6: Dura-Europas silver chains.

## NOTES ON AUTHORS

Cynthia R. Cunningham, now Mrs. Cort, has studied her subject at length in India and is now back there again working on patola ikat weaving in Gujerat.

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Braham Norwick, a long-time student of textile history, especially knitting, is also a well-known collector of Lamaist manuscripts and art objects.

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## BOOK NOTES

ACTS OF THE TAPESTRY SYMPOSIUM NOVEMBER 1976 (San Francisco, The Fine Arts Museums, 1979)

The papers read at the tapestry symposium in San Francisco in 1976 have now been published, with additional articles by Wendy Hefford and Geneviève Souchal. The authors' names will many of them be familiar to members of the Needle and Bobbin Club. Christa C. M. Thurman has written on tapestry as a medium, and Harold P. Lundgren and Liliane Masschelein-Kleiner on wool and dyes. Nobuko Kajitani's detailed instructions on the preservation of tapestries will be most valuable to everyone who has charge of these delicate works of art. Larry Salmon, Guy Delmarcel, Madeleine Jarry, Bertrand Jestaz, and Edith A. Standen have contributed articles on tapestry series represented in the Fine Arts Museums of San Francisco; their subjects are various Flemish and French tapestries of the 15th, 16th, and 17th centuries. The handsome volume is richly illustrated and can be recommended to everyone interested in tapestries.

--Edith Appleton Standen

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Thomasina Beck, EMBROIDERED GARDENS. A Studio Book, The Viking Press, New York, 1979

It is the thesis of this delightful book that gardens and embroidery followed a parallel course in the history of England. A lovely illustration of this thesis is quoted from "The Retir'd Gardener" written by George London, one of the foremost nurserymen and garden designers during the time of William and Mary, and published in 1710:

"Before I proceed to speak further of Parterres it will be requisite for the information of the Reader to explain what I mean by Imbroidery, cut-work and turfs, or green plots. Imbroidery is those Draughts which represent in Effect those we have on our Cloaths, and that look like foliage, and these Sorts of Figures in Gardener's language we call Branchwork. Below this certain Flowers seem to be drawn which is that part of the Imbroidery which we call Flourishings."

Does George London speak of gardens or embroidery?

One is unable in a short review to convey the intimate relationship between gardens and embroidery so carefully drawn by the author. From Elizabethan embroidery which duplicated the coiling stems on which grew roses, honeysuckle and pinks with parrots, butterflies and snails to the lace

ruffs which mirrored the shimmering water from fountain jets through the canvaswork which pictured the gardens and "carpenter's work" (trellises and arbors to provide privacy), through the centuries of change we follow the author to today's embroidered gardens which grow in a freer fashion, as in the gardens of Gertrude Jekyll who both embroidered and gardened. In the middle of this history is the lovely discussion of raised work and the "cabinets of curiosity" and the vogue for verdant sculpture in topiary and needlework.

This beautifully illustrated book full of fascinating parallels and garden lore can serve only to increase our appreciation of the ordering of flowering plants and their replication in skilled embroidery.

-- Frieda Halpern

\* \* \* \* \*

Eric Broudy, *THE BOOK OF LOOMS*. Van Nostrand Reinhold Company, New York, 1979

The author's wife is a weaver. In assembling various looms for her, he became curious about this tool, its possible origins, and its changes to create more fabric more quickly. And so he starts with the derivation of the word from the old English *geloma* which meant tool or utensil. Using the three basic operations of the weaving process as a guide, i.e. keeping the warp under tension, opening and changing the shed, and inserting and beating up the weft; he describes the changes in the loom that make it possible to weave the thread into a textile.

By introducing the nature of the warp fiber used--linen, wool, cotton and/or silk and then describing the tool appropriate to its characteristics, Mr. Broudy leads us through every country, and every variation from 5000 B.C. in the Near East to the power-driven machine in today's textile factories. From the earliest basketry in Peru c. 8600-8000 B.C. based on twining, to the Peruvian backstrap; the warp-weighted loom of the Greeks (and elsewhere); the two-bar loom of the Egyptians, the nomads, the American Indians and the Africans; the treadle loom, the drawloom and the modern loom, we come down through the history of man as the tool becomes more and more mechanical, and the weaver less and less a factor.

And so inevitably, we come to the counter-movement--from the Arts and Crafts Movement to the Bauhaus to today's revival of hand-weaving as a craft. While the author assures us that the developments and variations he describes with such knowledge and care did not go as smoothly as set forth in these pages, he makes it abundantly clear that while the basic

structure of the loom has not changed in 5000 years, its influence on society and trade up to and after the twelfth century in Europe, when it became a truly commercial enterprise, has been a major factor in historical development.

For the weaver or historian this book is a fascinating overview. For the general reader, it tells a fascinating story of adapting nature to man's purposes.

-- Frieda Halpern

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Constance Howard, editor, **TEXTILE CRAFTS**. Charles Scribner's Sons, New York, 1978

If it's made with a thread, one or many, it's in this book. **TEXTILE CRAFTS** describes for us what can be done with fibers from spinning to their various uses.

Each aspect of these various crafts, spinning, embroidery, sprang, weaving, crochet, knitting, bobbin lace, macramé and coiled basketry is described by specialists in each field, and tells us the history, the materials and the technique in creating the product.

From the original definition of the word "thread" as given in the Introduction, which comes from *thraíwan*, to twist or throw, to the extremely knowledgeable discussion of the principles involved in the craft, each section is a lucid analysis of the fibers, their content and method of manufacture, if grown or processed, and their handling at each stage.

The authors of each section are leading specialists, workers and writers in each field. Margaret Seagrott, who writes on spinning, is a Lecturer on Industrial Therapy and Creative Textiles in Liverpool; Peter Collingwood, who started as a physician, is now an international authority on sprang; Enid Russ (weaving) is Principal Lecturer in charge of Woven and Knitted Textiles at Liverpool Polytechnic; Eve de Negri was a free-lance designer and lecturer at the Fashion Department at St. Martin's School of Art, and her knitting and crochet has been exhibited in many countries; the section on bobbin lace is written by Dorothea Nield who was head teacher at the Royal School of Needlework; Zoë de Negri designs macramé from her studio, Silver Image; Helen Richards, who writes on coiled basketry, is a free-lance teacher and lecturer whose work has been included in many exhibits. The editor of this series by contemporary artists is Constance Howard. She also writes the section on embroidery

which, as do the other sections, starts as far back as one can go, and discusses threads, techniques, and design with easy mastery.

This collection of essays on methods of contemporary work in thread as well as its bibliography has a place in every student's library.

-- Frieda Halpern

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Gillian Moss and Milton Sondag, **WESTERN EUROPEAN EMBROIDERY IN THE COLLECTION OF THE COOPER-HEWITT MUSEUM.** Smithsonian Institution, 1978

The authors are to be complimented on this highly ingenious and knowledgeable presentation of highlights from the embroidery collection at Cooper-Hewitt.

They begin with a discussion of stitch techniques, move into a history and discussion of embroidery from the 14th century, covering developments in France, Italy, Germany, England and America, including Mariska Karasz of our own century. All this is clearly written and continuously illustrated with carefully chosen photographs (alas! only in black and white) of embroideries from the Museum's collection.

The book is a basic primer or a comprehensive, quick review for ready reference, depending on the reader's knowledge and interest in pursuing the study of embroidery further.

-- Frieda Halpern

\* \* \* \* \*

Kax Wilson, **A HISTORY OF TEXTILES.** Westview Press, Boulder, Colorado, 1979

This workmanlike text, designed for college study and as a reference work for researchers, brings together in compact and readable form a tremendous amount of information concerning textiles, their raw materials, their historical setting, and their method of manufacture.

The author has been an assistant professor at Colorado State University and the book carries an academic imprint through its careful organization of historical and regional material. Each chapter, whether on

threads, fabric construction, finishing and dyeing, patterned textiles, of the Middle Ages, the Far East, northern Europe, or colonial and native textiles of North and South America, is followed by its own extensive bibliography and with a glossary and comprehensive index for the book as a whole. It is a pity that printing costs are so high that the copious illustrations, at least some of them, are not in color.

--Frieda Halpern

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## CLUB NOTES

Mrs. Robert Barnes, Mrs. James P. Gallatin, Mrs. Robert L. Foshay and Mrs. G. Norman Robinson invited the members of the Needle and Bobbin Club to the Lotos Club on Thursday afternoon, January eighteenth, at three o'clock, to hear Mrs. Frieda Halpern give a stimulating talk illustrated with slides on "The permanence of Embroidery." A delightful tea followed in the style of this favorite meeting place.

\* \* \* \* \*

Through the hospitality of Mrs. John Christensen, Mrs. Carl C. Dauterman, Mrs. Leopold R. Gellert, Miss Louise Gilder and Mrs. Andrew B. Weir, the members enjoyed a meeting at the Institute of Fine Arts of N. Y. U. at 2:45 p.m. on Tuesday, March twenty-seventh, when Mr. Michael Auclair spoke on "Laces," illustrated by slides and actual pieces. A fine tea followed, to which all were cordially welcomed by the director of the Institute, Dr. Jonathan Brown.

\* \* \* \* \*

Mr. and Mrs. Rudolph von Fluegge most graciously welcomed members to their home at 563 Park Avenue, on Thursday afternoon, April fifth, at three o'clock, to hear Miss Joan Edwards of London speak on "English Embroidery, 1840-1940." The sumptuous tea following was enjoyed by all.

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The Club was privileged to attend as a group a special viewing of the King Tut exhibition on Monday, April ninth, at ten o'clock. All who attended were deeply appreciative of this unusual opportunity at a time when tickets were long unavailable.

\* \* \* \* \*

The Club's annual Spring Safari was a trip to the Hammond Museum in North Salem, New York, on Wednesday, May sixteenth. The bus left the Colony Club at eleven-thirty in the morning and returned to the city at five-

o'clock. The members attending tremendously enjoyed viewing this Museum's famous Japanese garden in its springtime beauty and eating luncheon in the sunshine on the terrace.

\* \* \* \* \*

The Fall Safari was a visit to the Conservatory of the New York Botanical Gardens on Tuesday, October sixteenth, followed by luncheon at the Snuff Mill Restaurant, cafeteria style, and very good indeed.

\* \* \* \* \*

The members enjoyed a lecture by two collectors of Chinese costume, Mr. J. Fyle Edberg and Mr. Paul Foote at a meeting on Thursday, November fifteenth, at two-thirty, at the Cosmopolitan Club. These old friends, who have collected together for many years, spoke on "Costumes of the Ch'ing Dynasty" and illustrated their lecture with their own costumes and by slides which included some robes from Mrs. Grant's collection (recently given to the Denver Art Museum). Mrs. William F. Lamb, Mrs. Derrick A. Lee, Mrs. Hermann L. Filene, Mrs. John Hammond, Mrs. James Mc Kinley Rose and Mrs. Paul C. Guth were the generous hostesses for this very interesting event which also included a delicious tea.

\* \* \* \* \*

A festive Christmas cocktail party for members and their escorts offered by Mr. and Mrs. Paul C. Guth at their home on Fifth Avenue on Friday evening, December twenty-first, at six o'clock, was the high point of the season and filled all who attended with holiday spirits.

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## IN MEMORIAM

The Needle and Bobbin Club cherishes the memory  
of members who have died during the year.

*Mrs. E. R. Gay*

*Mrs. Flagler Matthews*

*Mrs. Hebard Morris*

*Miss Mary Parsons*

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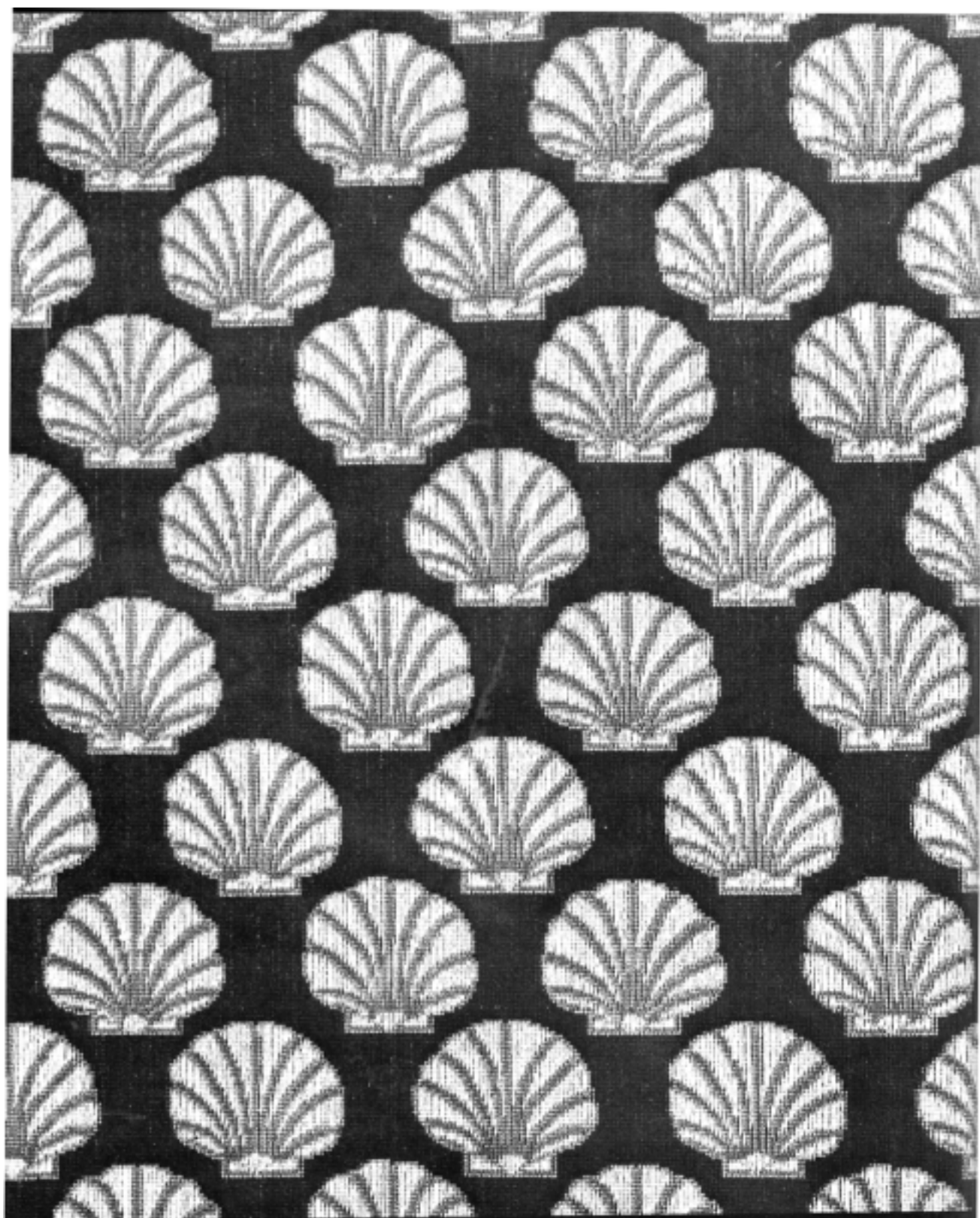
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