

1994

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Levey, Santina and Sunday, Milton, "Contact, Crossover, Continuity: The Emergence and Development of the Two Basic Lace Techniques" (1994). *Textile Society of America Symposium Proceedings*. 1040.
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CONTACT, CROSSOVER, CONTINUITY THE EMERGENCE AND DEVELOPMENT OF THE TWO BASIC LACE TECHNIQUES

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According to the present understanding of the term, lace is a soft pliable fabric, most often white, with a pattern composed of solid and open areas, made either with a needle and thread in a looped structure or with a variable number of threads wound on bobbins and interlaced in a form of braiding. Laces matching that description survive from the mid 17th century onwards, with some needle and bobbin-made examples that at first glance appear indistinguishable. Yet each of these totally unrelated techniques, has its own history. The purpose of our project is to trace how it happened that two such different techniques came to be used to make products that superficially seem identical.

What were the external circumstances that, during the 16th and early 17th centuries, stimulated this development, and why were only two of a wide variety of techniques - sprang, needle-looping, macrame, etc - able to make the technical and stylistic transition into a new form of fabric? We want to examine how these two particular and quite different techniques came into contact, how the exchange or crossover of stylistic ideas influenced them technically, and how they reached a point from which they were to progress together in continual response to the same outside demands.

Given the amount of information we are uncovering, this paper can only be a summary of work in progress but, to give some idea of the sort of detail that is emerging, we shall concentrate on bobbin lace - the older of our two techniques - and on the information contained in the mid 16th century pattern books devoted to it. Even here, we can only occasionally indicate how the contents of pattern books and the development of bobbin techniques reflect pre-occupations of the day, how they relate to other techniques and forms of decorative art and, in particular, how they relate to cutwork, the forerunner of needle lace.

The earliest known pattern books specifically for bobbin lace are as follows. First: Le Pompe published by Giovanni-Battista and Marchio Sessa in Venice in 1557, followed by two reprintings. Second: Le Pompe, Libra Secundo published in Venice by the Sessa brothers in 1560 with one additional printing two years later. Third: Nüw Modelbuch by a woman known only by her initials, R.M., published by Christoph Froschauer in Zürich in about 1561.

These three books give us a total of 347 mid 16th century patterns (including several duplicates) for bobbin lace. All three are jam-packed with patterns that are in no particular order. R.M. has an introductory text with fascinating and valuable documentary and subjective information, but in Le Pompe there are only general comments and, typical of the period, a dedication to beautiful and virtuous ladies.

R.M. suggests that a few of her patterns can be worked in color (presumably dyed silk) and one in gold. There are no such specific suggestions in Le Pompe, but gold and silver are mentioned

in the introductions to all editions. R.M.'s frontispiece has the earliest known illustration of bobbin lace making and all the features of a fully developed working method are shown. Bobbins are wound with a supply of thread, and because they are thick and weighty the threads are neatly lined up and the bobbins are easy to select, pick up, and move. The lace makers may or may not be working on top of a pattern, but, more importantly, the threads of the lace are held in place by pins stuck into a pillow or cushion that is obviously firmly stuffed so pins will stay in place. The woman in the foreground has two bobbins in her left hand that she is pulling so that two threads are at the correct angle so she can pin them into position.

It is worthwhile concentrating on R.M.'s patterns because, as you will see, they demonstrate that the basic principles of bobbin lace making are clearly established, and that some techniques are already becoming obsolete while others exist which will make development possible. All of her patterns are shown horizontally and they are all named. A cross indicates that a lace might be worked in color.

R.M. tells us in her introduction that she is a teacher and has been a lace maker for 12 years. Therefore, it is not surprising that she gives us the number of bobbins needed for each pattern. This information is not provided in Le Pompe. The only other lace patterns specifically identified for bobbin lace appeared around 1600 in books largely devoted to cutwork and lacis (embroidered net). The most important were a series of spidery edgings published by Elizabetta Parasole in 1598 and 1616 for which she too, gives the number of bobbins. There are no more published bobbin lace patterns until the 19th century when the technique was being relearned. Therefore, R.M.'s book is very important because, by giving the number of bobbins for 164 patterns, we have exact requirements for the making of each lace and precise data for analysis.

Patterns in Le Pompe look strikingly different to those of R.M. although in fact they cover much of the same ground. Le Pompe is a more stylish and confident publication and, as we shall see, many of its patterns, particularly in the 1560 edition, show a developed form of bobbin lace not found in R.M. Although published by the Sessa Brothers, the patterns are the work of the designer and printer Matio Pagano who was active in Venice from about 1515.

Pagano produced a series of embroidery pattern books and was the first designer to devote a book to cutwork - Giardinetto novo di punti tagliati of 1542. His work was instrumental in encouraging the crossover between embroidery, cutwork, bobbin lace and other techniques. These included the woven bands which were used to ornament furnishings and clothes that can be seen in late 15th century paintings. Such applied bands relate to early bobbin lace in both their use and their geometric designs, but not in their construction.

Bobbin lace depends on some method of diagonal interlacing. One set of elements can be set up for diagonal interlacing on a flat plane in two ways. First, with both ends fixed, to be worked in ways generally called sprang. Second, with one end fixed and the other end free-hanging, with one of the ways of working generally

called braiding, which is the one that applies to bobbin lace making. Sprang is our first drop-out.

All over-one, under-one diagonal interlacing consists of offset rows of diagonal crossings. In one row, two elements cross either on the S or Z-diagonal. In the next offset row, elements regroup for crossing on the opposite diagonal. Diagonal interlacing can be worked with any number of elements.

A diagonally interlaced structure will often collapse or settle into a configuration that is desirable for bags and caps, but not for a flat lace. A diagonally interlaced fabric can retain its shape if elements are stiff, if it is worked tight, or if the fabric is shrunk or starched. When worked it can be pinned out to almost any width thereby changing the angle of the diagonals along which elements interlace.

For the understanding of bobbin lace it is necessary to interpret over-one, under-one diagonal interlacing as offset rows of single units of the interlace. Two pairs of elements or threads converge on the diagonal, interlace together, and each pair continues on to interlace with another pair. The first organization of basic interlace units we are calling braid cloth because it is fabric-like and has many units of the interlace. The second organization of units of the basic interlace is a vertical alignment that we are calling a linear braid.

When making a 4-element braid, two alternating crossings are repeated one after the other. The critical cross is the one with two pairs because of the force it exerts on the threads that change their diagonal direction. This is called twist - an accurate enough description. Repeats of twist are interrupted by the opposite crossing that simply causes the threads in their just reversed directions (now the two in the middle) to cross each other. This manipulation is called cross. The neutrality of cross allows the force of the two twist manipulations to exert themselves.

That the two manipulations, twist and cross, are taught as rigid rules is due no doubt to the fact that in Europe, from prehistoric times on into the 19th century, linen was plied in the S-direction - normally two Z-spun threads plied S.

Repeats of twist in the Z-direction will undo or relax the S-plied threads and allow the braid to lie flat. Repeats of twist in an S-direction using S-plied threads will gradually add twist to each thread with the result that the braid will not lie flat. Obviously, the former was preferred and taught as a rule.

All bobbin techniques - we emphasize ALL - depend on cross and twist - that is, on the number of times and in what sequence they are repeated.

That braid cloth was made by using groups of four bobbins is confirmed by R.M.'s patterns. Of her 164 patterns, the threads for all but four can be divided into groups of four threads. With the proper number of cross and twist, two pairs of thread will work together as a unit. Working in pairs is a primary principle of bobbin lace making. By adding extra twists between pairs in diagonal cloth, small areas of openwork can be created. This we will call "proto mesh" because it is very close to later finer structures that can better be described as net. It is the earliest method of contrasting two areas of density. Patterns based on this

principle are presented by R.M. Larger holes can be made using linear braids that cross through each other as also seen in patterns by R.M.

Another group of patterns is made by dividing and re-grouping pairs of threads in parallel 4-element braids. Where pairs divide, they re-group to form a row of single units of the interlace and then re-group for another offset row, etc. This is proto-mesh again. In some of the laces of this type, each of the four elements of the braid consists of two parallel threads, which, by R.M.'s numbering would require eight bobbins. By using eight bobbins it is easy to keep two threads parallel and not twist them - a method particularly successful with metallics because the braids, by being wider and flatter, reflect more light.

Proto mesh parallels effects in cutwork of the period. In cutwork, blocks of warps and wefts of a woven fabric are removed leaving a square grid the defining threads of which are over-sewn. The holes are filled in with suspended threads that support wrapping, buttonhole stitches, or looping.

Because the growth of a commercial market was essential for the development of bobbin lace, it is necessary to look at possible areas for its use. The very name, lace, was taken from the narrow ties, made by a variety of techniques, that were used to lace together the detached sections of clothing and furnishings in the late 15th and 16th centuries. Pillows such as that visible on the bed depicted in Ghirlandio's painting 'The Birth of the Virgin' in S.M. Novella in Florence has its open end fastened with a 'lace' secured through eyelets. Bobbin lace became yet another way of making such a narrow 'lace' and eventually, as it grew in importance, it stole the name.

The increasing display of linen both in dress and furnishings is important to our discussion because fine linen was a luxury item and its use and increasing ornamentation reflected the steady growth of disposable income during the 16th century. Much of the linen was elaborated with embroidery and openwork seams which were to be supplemented with or replaced by cutwork and bobbin lace. The relationship between needle-made insertions and bobbin lace are illustrated both by patterns in Le Pompe and in surviving laces.

The earliest known bobbin lace is, in fact, an insertion, made not with linen, but with silk and gold. It decorates a sudarium, or crozier cover, in Uppsala Cathedral in Sweden and is traditionally believed to have been made as a gift for Archbishop Jacob Ulfsson when he visited the Brigistine Convent of Vadstena in 1489, on the occasion of the canonization of the founder of the Order. The convent was renowned for its embroidery and that on the sudarium is worked with the same silk and metal used for the lace. There is no reason to doubt the story, but even if wrong, the early date of the Swedish Reformation and the closure of the convent indicates that the lace can be no later than the 1520s.

The Uppsala insertion is made with eight 3-element braids that cross through each other to make a diamond pattern. The disadvantage of 3-element braids is that there are not enough threads for the subdivisions needed to create the effects achievable with four elements. The fact that the Uppsala lace is made of 3-element braids allows us to confirm its early date,

particularly since the small number of patterns using three element braids that occur in R.M. and Le Pompe, indicate that their use is on their way out.

By the third quarter of the 16th century considerable quantities of gold and silver bobbin lace were being used in the more wealthy areas of Europe to trim both furnishings and dress. Among the New Year gifts made to Queen Mary of England in 1556, for example, was 'a brode bone lace of gold and silver to edge an apron and a towel.' The English used the term "bone lace" because bobbins were made of bone. Many of the references describe the metal thread and often the lace itself as being from Venice. In Italy where lead was used for the manipulation of metallic threads, the term 'merletti a piombini' was applied.

The use of metallic and colored silk bobbin lace as a form of decorative braid is shown in portraits from mid century onwards. The most striking feature of both male and female dress was usually the lavish neck and wrist ruffs, the most valuable of which were decorated with fine cutwork.

The eventual linking of bobbin lace and fine cutwork depended on the use of linen thread and the effects made possible by the versatility of a linear braid. It is easy and fast to make and it can be made to follow sharp angles and curves. Of course, it must be pinned in place as made to maintain such shapes. In order for a zig-zag to be stable it must be attached to something such as a straight line, as in the narrow edging to be made with eight bobbins that is among R.M.'s patterns. It is the ease with which the bobbin lace technique could produce small, delicate edgings, combined with its speed, that lead to its growing use in conjunction with cutwork. Their patterns are sometimes closely related and sometimes in stark contrast to each other.

Decorative effects in bobbin lace, comparable to those in needlework, include small holes in the intersection of the passing through of two 4-element braids, the making of decorative loops or picots on edges, and the forming of raised loops. In addition, bobbin lace could be made in one or more colors (including gold and silver) for lively effects seldom seen in cutwork.

Simple patterns often require more study than those that are complex. Complex patterns are, after all, made up of simple techniques, that if properly mastered, are easy to combine. R.M. and Le Pompe provide copious examples of this truth! The two books illustrate, however, the difference between designs produced in Switzerland, a relatively isolated and conservative area of Europe, and those coming out of Venice which, with its long history of trade with the East, was ideally situated for the introduction and absorption of Eastern design.

Pattern books produced in Venice illustrate a rich mix of styles - scrolling Medieval foliage, Islamic moresques, westernized strapwork, and a revived foliate style combining Medieval art with the scrolling foliage of classical Rome. Patterns in Le Pompe include a representative selection of such designs together with imitations of the increasingly fashionable geometric cutwork.

By the late 1550's the structural grid of cutwork was beginning to increase in size and the filling motifs were correspondingly enlarged and worked as areas of solid 'cloth.'

Following a similar development, the more flowing, bolder tape-like patterns of Le Pompe show bobbin lace also seeking a more solid, cloth-like look for which a new technique had to be found.

In order to understand the principle of cloth tape, we must go back to the concept of a 4-element braid having two pairs of threads. By holding one pair in a vertical position, the other can be made to travel across it as it interlaces. With the elimination of the twists that would make proto mesh and the addition of vertical pairs, a cloth tape can be made that resembles weaving. This is not real weaving, but lace people sometimes refer to it as such. The traveling pair can make decorative loops or not at one side or both as needed.

Cloth tapes are as effective, but in a different way, to the parallel gold and silver threads in a 4-element braid, and they are more versatile. They can easily be made with linen, silk, and metallics whereas the braids with parallel threads can not be made as effectively with linen or silk. The ultimate success of cloth tapes is due to the fact that they can be made to any desired width, can be made to follow a curved shape, and make a bold effect in linen when seen in sharp contrast against dark rich fabric or free standing in air.

Matio Pagano's flowing foliate patterns appeared first in his embroidery books, the complex shapes of which were easily translated into embroidery. But when Pagano transferred such patterns, even in a simplified form, to bobbin lace, he created further problems for lace-makers. The tape-like designs could be made in the clothwork technique, but to hold the component parts together it was necessary to devise a means of 'sewing' or linking them together.

Yet another challenge was posed by the inclusion of large, irregularly shaped motifs such as the mermaid seen in Le Pompe. This was achieved in bobbin lace by adding or taking away some of the threads as the motif was worked. We are not absolutely sure how every detail of these complex patterns was worked, but we think that the part-lace technique, by which some motifs are worked completely separately and then sewn or hooked into place, was probably not yet developed. That the part or pieced-lace technique had been developed by the last decade of the century is demonstrated, however, by a little edging in the Cleveland Museum of Art and also in the Cooper-Hewitt. Foreshadowing developments of the 17th century, it consists of separate S-shaped motifs worked almost entirely in cloth and joined together by a linear structure.

Between the late 1590s and the early 1620s fashion was to undergo a series of changes which would radically alter the relative importance of cutwork and linen bobbin lace. These developments, which would produce dramatic advances in both techniques, are suggested by a portrait at Hampton Court Palace of the Countess of Brunswick, painted in about 1612. She wears a standing collar of cutwork, which is over-sewn with red silk and bordered by an elaborate bobbin lace made with clothwork tapes and hooking. It shows the two techniques at a fleeting point of balance and, for the purposes of this paper, at a point convenient for us to end.

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