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EMBROIDREIES AND THEIR TECHNIQUES PERFORMED IN DIFFERENT STATES OF INDIA - A STUDY

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ABSTRACT
Embroidery is the craft of decorating fabric or other materials using a needle to apply thread or yarn. Embroidery may also incorporate other materials such as pearls, beads, quills, and sequins. Those stitches remain the fundamental techniques of hand embroidery today. Embroidery may also incorporate other materials such as pearls, beads, quills, and sequins. In modern days, embroidery is usually seen on caps, hats, coats, blankets, dress shirts, denim, dresses, stockings, and golf shirts. Embroidery is available with a wide variety of thread or yarn color. Some of the basic techniques or stitches of the earliest embroidery are chain stitch, buttonhole or blanket stitch, running stitch, satin stitch, cross stitch. Those stitches remain the fundamental techniques of hand embroidery today. This research is based upon the study of various techniques that are used with the diversity in most of states of India.

Keywords: Embroidery, Yarn, Stitches.

I.   INTRODUCTION
Depending on time, location and materials available, embroidery could be the domain of a few experts or a widespread, popular technique. This flexibility led to a variety of works, from the royal to the mundane. Elaborately embroidered clothing, religious objects, and household items often were seen as a mark of wealth and status, as in the case of Opus Anglicanum, a technique used by professional workshops and guilds in medieval England. In 18th-century England and its colonies, samplers employing fine silks were produced by the daughters of wealthy families. Embroidery was a skill marking a girl's path into womanhood as well as conveying rank and social standing. Conversely, embroidery is also a folk art, using materials that were accessible to nonprofessionals. Examples include Hardanger from Norway, Merezhka from Ukraine, Mountmellick embroidery from Ireland, Nakshi kantha from Bangladesh and West Bengal, and Brazilian embroidery. Many techniques had a practical use such as Sashiko from Japan, which was used as a way to reinforce clothing.

Figure 1. : Glimpses of Hand Work

The process used to tailor, patch, mend and reinforce cloth fostered the development of sewing techniques, and the decorative possibilities of sewing led to the art of embroidery. Indeed, the remarkable stability of basic embroidery stitches has been noted:

It is a striking fact that in the development of embroidery ... there are no changes of materials or techniques which can be felt or interpreted as advances from a primitive to a later, more refined stage. On the other hand, we often find in early works a technical accomplishment and high standard of craftsmanship rarely attained in later times.

The art of embroidery has been found worldwide and several early examples have been found. Works in China have been dated to the Warring States period (5th–3rd century BC). In a garment from Migration period Sweden, roughly 300–700 AD, the edges of bands of trimming are reinforced with running stitch, back stitch, stem stitch, tailor's buttonhole stitch, and whip-stitching, but it is uncertain whether this work simply reinforced the seams or should be interpreted as decorative embroidery.

Ancient Greek mythology has credited the goddess Athena with passing down the art of embroidery along with weaving, leading to the famed competition between herself and the mortal Arachne.

II.   LITERATURE REVIEW

Before computers were affordable, most machine embroidery was completed by punching designs on paper tape that then ran through an embroidery machine. One error could ruin an entire design, forcing the creator to start over.

Machine embroidery dates back to 1964, when Tajima started to manufacture and sell TAJIMA Multi-head Automatic Embroidery machines.

In 1973 Tajima introduced the TMB Series 6-needle (6 color) full-automatic color-change embroidery machine. A few years later, in 1978, Tajima started manufacturing the TMBE Series Bridge Type Automatic Embroidery machines. These machines introduced electronic 6-needle automatic color change technology.

In 1980 the first computerized embroidery machines were introduced to the home market. Wilcom introduced the first computer graphics embroidery design system to run on a minicomputer. Melco, an international distribution network formed by Randal Melton and Bill Childs, created the first embroidery sample head for use with large Schiffli looms. These looms spanned several feet across and produced lace patches and large embroidery patterns. The sample head allowed embroiderers to avoid manually sewing the design sample and saved production time. Subsequently, it became the first computerized embroidery machine marketed to home sewers.

The economic conditions of the Reagan years, coupled with tax incentives for home businesses, helped propel Melco to the top of the market. At the Show of the Americas in 1980, Melco unveiled the Digitrac, a digitizing system for embroidery machines. The digitized design was composed at six times the size of the embroidered final product. The Digitrac consisted of a small computer, similar in size to a BlackBerry, mounted on an X and Y axis on a large white board. It sold for $30,000. The original single-needle sample head sold for $10,000 and included a 1" paper-tape reader and 2 fonts. The digitizer marked common points in the design to create elaborate fill and satin stitch combinations.

In 1982, Tajima introduced the world's first electronic chenille embroidery machine, called the TMCE Series Multi-head Electronic Chenille Embroidery Machine. In the same year, they developed the automatic frame changer, a dedicated apparatus for rolled textile embroidery. Also in 1982, Pulse Microsystems introduced Stitchworks, the first PC based embroidery software, and the first software based on outlines rather than stitches. This was monumental to decorators, in that it allowed them to scale and change the properties and parts of their designs easily, on the computer. Designs were output to paper tape, which was read by the embroidery machine. Stitchworks was sold worldwide by Macpherson.

Melco patented the ability to sew circles with a satin stitch, as well as arched lettering generated from a keyboard. An operator digitized the design using similar techniques to punching, transferring the results to a 1" paper tape or later to a floppy disk. This design would then be run on the embroidery machine, which stitched

out the pattern. Wilcom enhanced this technology in 1982 with the introduction of the first multi-user system, which allowed more than one person to work on the embroidery process, streamlining production times.

In 1983 Tajima created the TMLE Series Multi-Head Electronic Lock Stitch Chenille Embroidery machine, followed by the TMEF Series 9-needle Type Electronic Embroidery Machine in 1984.

In 1986 Tajima introduced the world's first sequin embroidery machine, enabling designers to combine sequin Embroidery with plain embroidery.

In 1987 Pulse Microsystems introduced a digital asset management application called DDS, which was a design librarian for embroidery machines. This made it more efficient for machine operators to access their designs. In 1988 Tajima designed the TMLE-D5 series embroidery machines, with a pair arrangement of lock-stitch-handle embroidery heads, which were capable of sewing multiple threads.

Brother Industries entered the embroidery industry after several computerized embroidery companies contracted it to provide sewing heads. Pulse Microsystems developed a software for them called PG1. PG1 had a tight integration with the embroidery machine using high level protocol, enabling the machine to pull designs from software, rather than having the software push designs to the machine. This approach is still used today. Singer failed to remain competitive during this time. Melco was acquired by Saurer in 1989.

The early 1990s were quiet for machine embroidery, but Tajima introduced a 12 needle machine into their series along with a noise reduction mechanism.

In 1995, Tajima added a multi-color (6-color) type to chenille embroidery machines, and announced the ability to mix embroidery machines with plain chenille embroidery. They also began sales of the TLFD Series Laser-cut Embroidery Machines. In 1996, Pulse Microsystems introduced the computational geometry based simulation of hand created chenille using a spiral effect. Following this in 1997, Tajima introduced 15-needle machines, in response to the "multi-color-age".

In the late 1990s, Pulse Microsystems introduced networking to embroidery machines. It added a box, which allowed them to network and then pull designs from a central server. It also provided machine feedback, and allowed machines to be optically isolated to protect machines in an industrial environment. Since then, computerized machine embroidery has grown in popularity as costs have fallen for computers, software, and embroidery machines. Many machine manufacturers sell their own lines of embroidery patterns. In addition, many individuals and independent companies also sell embroidery designs, and there are free designs available on the internet.

III.   CLASSIFICATIONS

Embroidery can be classified according to what degree the design takes into account the nature of the base material and by the relationship of stitch placement to the fabric. The main categories are free or surface embroidery, counted embroidery, and needlepoint or canvas work.

In free or surface embroidery, designs are applied without regard to the weave of the underlying fabric. Examples include crewel and traditional Chinese and Japanese embroidery.

Counted-thread embroidery patterns are created by making stitches over a predetermined number of threads in the foundation fabric. Counted-thread embroidery is more easily worked on an even-weave foundation fabric such as embroidery canvas, aida cloth, or specially woven cotton and linen fabrics . Examples include cross-stitch and some forms of blackwork embroidery.

While similar to counted thread in regards to technique, in canvas work or needlepoint, threads are stitched through a fabric mesh to create a dense pattern that completely covers the foundation fabric. Examples of canvas work include bargelloand Berlin wool work.

Embroidery can also be classified by the similarity of appearance. In drawn thread work and cutwork, the foundation fabric is deformed or cut away to create holes that are then embellished with embroidery, often with thread in the same color as the foundation fabric. When created with white thread on white linen or cotton, this

work is collectively referred to as whitework. However, whitework can either be counted or free. Hardanger embroidery is a counted embroidery and the designs are often geometric. Conversely, styles such as Broderie anglaise are similar to free embroidery, with floral or abstract designs that are not dependent on the weave of the fabric.
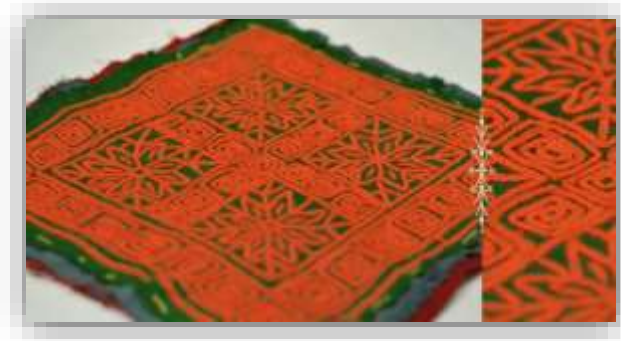
Hand embroidery

Machine embroidery

Mand-Machine embroidery

IV. STATEWISE STUDY

Embroidery in India includes dozens of embroidery styles that vary by region and clothing styles. Designs in Indian embroidery are formed on the basis of the texture and the design of the fabric and the stitch. The dot and the alternate dot, the circle, the square, the triangle, and permutations and combinations of these constitute the design.

Aari work involves a hook, plied from the top but fed by silk thread from below with the material spread out on a frame. This movement creates loops, and repeats of these lead to a line of chain stitches. The fabric is stretched on a frame and stitching is done with a long needle ending with a hook such as a crewel, tambour (a needle similar to a very fine crochet hook but with a sharp point) or Luneville work. The other hand feeds the thread from the underside, and the hook brings it up, making a chainstitch, but it is much quicker than chainstitch done in the usual way: looks like machine-made and can also be embellished with sequins and beads - which are kept on the right side, and the needle goes inside their holes before plunging below, thus securing them to the fabric.

Chamba Rumal (Himachal Pradesh)

Figure2: Hand Embroidery of Himachal Pradesh

This embroidery flourished in the princely hill states of Kangra, Chamba, Basholi, and other neighbouring provinces. Chamba region has highly skilled craftsmen.

Chikan or Chikankari (Uttar Pradesh)

The present form of chikan (meaning elegant patterns on fabric) work is associated with the city of Lucknow, in Uttar Pradesh. Chikan embroidery on silk is Lucknow's own innovation. The other chikan styles are that of Calcutta and Dacca. However, characteristic forms of stitch were developed in Lucknow: phanda and murri.

Chikan embroidery is believed to have been introduced by Nur Jahan, the wife of Jahangir. Chikan embroidery involves the use of white thread on white muslin (tanzeb), fine cotton (mulmul), or voile, fine almost sheer fabrics which showcases shadow work embroidery the best. Other colours can also be used.

Figure3: Chikan embroidery

Gota (Jaipur, Rajasthan)
It is a form of appliqué in gold thread, used for women's formal attire. Small pieces of zari ribbon are applied onto the fabric with the edges sewn down to create elaborate patterns. Lengths of wider golden ribbons are stitched on the edges of the fabric to create an effect of gold zari work. Khandela in Shekhawati is famous for its manufacture. The Muslim community uses Kinari or edging, a fringed border decoration. Gota-kinari practiced mainly in Jaipur, utilising fine shapes of bird, animals, human figures which are cut and sewn on to the material.

Figure4: Gota-Kinari embroidery

Kashmiri embroidery (J&K)
Kashmiri embroidery(also Kashida) is used for phirans (woollen kurtas) and namdahs (woollen rugs)as well as stoles. It draws inspiration from nature. Birds, blossoms and flowers, creepers, chinar leaves, ghobi, mangoes, lotus, and trees are the most common themes.

The entire pattern is made with one or two embroidery stitches, and mainly chain stitch on a base of silk, wool and cotton: the colour is usually white, off-white or cream but nowadays one can find stoles and salwar-kameez sets in many other colours such as brown, deep blue, sky blue, maroon and rani pink. Kashida is primarily done on canvas with crystal threads, but Kashida also employs pashmina and leather threads. Apart from clothes, it's found on home furnishings like bed spreads, sofa and floor cushions, and pillow covers. The base cloth, whether wool or cotton, is generally white or cream or a similar shade. Pastel colors are also often used.

Figure5: Kashmiri embroidery

The craftsmen use shades that blend with the background. Thread colors are inspired by local flowers. Only one or two stitches are employed on one fabric. Kashmiri embroidery is known for the skilled execution of a single stitch, which is often called the Kashmiri stitch and which may comprise the chain stitch, the satin stitch, the slanted darn stitch, the stem stitch, and the herringbone stitch. Sometimes, the doori (knot) stitches are used but not more than one or two at a time.

Punjabi embroidery (Phulkari)
The fabrics and yarns used in traditional embroidery vary from place to place. Wool, linen, and silk have been in use for thousands of years for both fabric and yarn. Today, embroidery thread is manufactured in cotton, rayon, and novelty yarns as well as in traditional wool, linen, and silk. Ribbon embroidery uses narrow ribbon in silk or silk/organza blend ribbon, most commonly to create floral motifs.

Surface embroidery techniques such as chain stitch and couching or laid-work are the most economical of expensive yarns; couching is generally used for goldwork. Canvas work techniques, in which large amounts of yarn are buried on the back of the work, use more materials but provide a sturdier and more substantial finished textile.

Figure6: A Phulkari

In both canvas work and surface embroidery an embroidery hoop or frame can be used to stretch the material and ensure even stitching tension that prevents pattern distortion. Modern canvas work tends to follow symmetrical counted stitching patterns with designs emerging from the repetition of one or just a few similar

stitches in a variety of hues. In contrast, many forms of surface embroidery make use of a wide range of stitching patterns in a single piece of work.

V. CONCLUSIONS

It is seen in the study that although there are various methodologies, techniques and raw material used in different categories of embroidery used to make fashionable and rich in culture. Embroidery may also incorporate other materials such as pearls, beads, quills, and sequins. In modern days, embroidery is usually seen on caps, hats, coats, blankets, dress shirts, denim, dresses, stockings, and golf shirts. Embroidery is available with a wide variety of thread or yarn color. Some of the basic techniques or stitches of the earliest embroidery are chain stitch, buttonhole or blanket stitch, running stitch, satin stitch, cross stitch. Those stitches remain the fundamental techniques of hand embroidery today.

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